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CHALLENGES AND INNOVATIONS IN EDUCATION: SCIENTIFIC PERSPECTIVES

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Those impacted on the indigenous education of the *Asuriní* of the Xingu: Material cultural heritage x Belo Monte hydroelectric power plant

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ABSTRACT
The Asuriní of the Xingu are Indians of Tupi-Guarani origin and inhabit the Koatinemo Indigenous Land in the state of Pará. The investigation aims to understand the impacts on the Asuriní indigenous education, especially on their material cultural heritage, from the oppressions that came along with the construction of the Belo Monte Hydroelectric Power Plant – Belo Monte HPP. To this end, a qualitative study is developed, to enable the achievement of the objective set, using the bibliographic survey and the realization of semi-structured interviews in the field. For the analysis of the results, the method of Content Analysis is used. The results showed that after the unification of the indigenous peoples in a growing movement in search of their rights in the regional and national scenario with the riverside dwellers, fishermen, rural workers and residents of Altamira, they achieved the elaboration of a program, called Basic Environmental Plan of the Indigenous Component – PBA - CI. It is concluded that despite the elaboration of the plan by the Norte Energia Consortium and execution by the company hired by the consortium to work with the Program of Material and Intangible Cultural Heritage of PBA-CI, there were changes in the way of making the objects that are part of its material cultural heritage, due to external interventions and the demands of commerce.

Keywords: Indigenous Education, Material Cultural Heritage, Asuriní Indigenous People of the Xingu, Belo Monte Hydroelectric Power Plant.

1 INTRODUCTION

This work is the result of dialogues built in a Master's research of the Graduate Program in Languages and Knowledge in the Amazon – PPLSA, as well as reflections with the Research Group on Education, Interculturality and Ethnic-Racial Relations (UNIFAP/CNPq) of the Federal University of Amapá - UNIFAP. It is proposed to understand the impacts on the *Asuriní indigenous education,* especially on their material cultural heritage, from the oppressions that came along with the construction of the Belo Monte Hydroelectric Power Plant – Belo Monte HPP.

The work instigates the fight against indigenous inequality and invisibility, as well as encourages the appreciation of cultural heritage, the importance of indigenous education and respect for diversity. In this sense, a qualitative study was developed, according to the contributions of Minayo

(2008), using the bibliographic survey and semi-structured interviews in the field with the *Asuriní*, FUNAI employees and employees of the company contracted by the Norte Energia Consortium, after sending the necessary documents to FUNAI, for authorization of data collection in *the Koatinemo* Indigenous Land and to the Ethics Committee, through Plataforma Brasil, for the authorization of interviews and images.

2 THEORETICAL BACKGROUND

The Belo Monte Hydroelectric Power Plant is located on the Trans-Amazonian Highway, Km 52, s/n Sítio Belo Monte, in the Municipality of Vitória do Xingu – PA, near the Municipality of Altamira / PA, and was built in the Xingu River basin, in the southwest of the State of Pará.

According to Sevá Filho (2005), the environmental impacts caused by its construction occurred not only in the localities where the dam of the plant and the channel that diverted the course of the Xingu River are located, but also in the various indigenous lands, which were impacted in different ways, according to the different stages of the work, because, more than half of the area of the Xingu River basin is made up of indigenous lands and conservation units.

Thus, the Koatinemo *Indigenous Land*, located in the state of Pará, approximately 100 km from Altamira/PA, more specifically in the municipality of Senador José Porfírio, in the state of Pará, on the right bank of the Xingu River, where the three villages of the Asuriní do Xingu, *Kwatinemo, Itaaka* and *Muyjrina* ethnic groups are located, *also suffered from the impacts of its construction.*

The *Asuriní* From the Xingu they are currently bilingual indigenous people, originally speaking the Tupi-Guarani language, and recently the Portuguese language. This fact occurs especially from the contact, which began in the 70s, and intensified after the construction of the Belo Monte Hydroelectric Power Plant in 2011.

Indigenous education *Asuriní* It stands out in the scope of its cultural heritage, both tangible and intangible, defined by orality, demonstration, and everyday practices. According to Müller (1992), the *Asuriní* From the Xingu they make canoes, benches, baskets, body adornments, weapons - bows and arrows, flutes, fabric, helmets, rope and ceramics. Müller (1992) clarifies that canoes are for transport; the bench to sit on; utilitarian objects such as baskets and ceramic items, for transporting, depositing and serving food; weapons for hunting and fishing; adornments for body decoration, such as earrings, bracelets, rings, and necklaces; the flutes for rituals; the fabric for the blouses and canvases; the helmet, for rituals, festivals and body ornamentation; and the rope for the nets.

In the case of intangible heritage, there are the *rituals TURÉ,* the ritual of the flutes*, and MARAKÁ*, the shamanistic ritual; and the practice of body painting. Müller (1992) states that body painting can be used by everyone, regardless of age and gender, the only division between the sexes is

related to the position of the painting. Horizontally for men and vertically for women, marking the womb and the phases of biological and social development.

3 RESULTS ACHIEVED

In order to highlight the impacts caused in the aforementioned *Asuriní villages, a survey was carried out based on the oral narratives* of the Asuriní indigenous people of the Xingu. And in his exhibitions, one can perceive his discontent motivated by the construction of the dam, related to the river, due to the lack of fish; food insecurity, because they now buy food in the city that they do not grow; and to material and immaterial culture, for engaging with different cultures.

In addition to these implications, there were also restructurings in the *Koatinemo* Indigenous Land, in this way, where we saw a scenario with mud and straw houses before the dam, built by the indigenous people themselves, today we can see a scenario with houses, schools and health centers in masonry, built by the Norte Energia Consortium. Therefore, the villages located in the *Koatinemo* Indigenous Territory were transformed physically and culturally with the arrival of the Belo Monte HPP, causing a highly relevant impact on these communities due to the intense contact.

In view of the above, the indigenous people of the Xingu basin conquered, after the unification of the indigenous people in a growing movement in search of their rights in the regional and national scenario with the riverside dwellers, fishermen, rural workers and residents of Altamira, the elaboration of a program, called the Basic Environmental Plan of the Indigenous Component – PBA-CI.

The PBA-CI is composed of 10 programs, namely: Institutional Strengthening Program, Communication Program for Non-Indigenous People, Indigenous Territorial Management Program, Indigenous School Education Program, Integrated Indigenous Health Program, Productive Activities Program, Infrastructure Program, Relocation and Resettlement Program for Indians living in Altamira and Volta Grande do Xingu, Environmental Supervision Program of the Physical and Biotic Environment and the Program of Material and Intangible Cultural Heritage.

In this work, only the Material and Intangible Cultural Heritage Program will be highlighted, which aims to strengthen and protect the cultural heritage of indigenous peoples who had their physical and cultural reproduction bases affected by the Belo Monte HPP. However, despite the fact that the Material and Intangible Cultural Heritage Program was created with the objective of valuing the cultural artistic expressions of indigenous peoples, its actions ended up modifying the ways of making the objects constituting the material cultural heritage of the *Asuriní* of the Xingu, since, it was found, in the face of the interference of the company hired by the Consortium, the insertion of new elements in the way of making art. An example is fabric, which is used to make blouses and fabrics; industrialized paints, for the painting of these fabrics, as well as for the painting of the bench and body

painting in the exhibitions, thus reducing the use of the juice of the juice of the genipap fruit, together with charcoal; beads, for the making of body adornments, thus reducing the use of fish scales, monkey seeds and teeth.

These elements were inserted by the company possibly due to the practicality and agility that beads, nylon, and industrialized paints provide, causing an increase in production, and, therefore, profit for the company, thus meeting the demands of commerce and exhibitions at events and museums.

Thus, according to RIMA (2009), the Belo Monte Hydroelectric Power Plant can bring some misunderstandings between generations, as well as the search for other types of income and demotivation with cultural activities, which can hinder the transfer of traditional knowledge to new generations.

4 CONCLUSIONS

It is concluded that despite the elaboration of the PBA-CI by the Norte Energia Consortium and execution by the company contracted to work with the Material and Intangible Cultural Heritage Program, during the construction of the Belo Monte HPP, there were changes in the forms of making the objects constituting the material cultural heritage of the *Asuriní* do Xingu indigenous people, now made with a wide variety of natural and industrial elements, due to external interventions. In addition to the intensification of the rhythm of its confections, especially ceramics, body adornments and painting, to meet the demands of commerce and exhibitions at events and museums. It is important to emphasize, in this context, that even with the modifications, the *Asuriní* cultural heritage serves as a testimony of their ways of life and their ideology, making indigenous education a way of keeping the ethnic uniqueness alive over the generations.

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Competency-based curriculum from the perspective of undergraduate nursing students

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ABSTRACT
Objective: analyze the curriculum by competencies from nursing graduates. Methods: This is a descriptive research with a qualitative approach, carried out with undergraduate nursing students at a public university in the state of Pernambuco-Brazil. For data collection, a questionnaire with discursive questions was used. The speeches were analyzed according to Bardin's content analysis technique (2016). Results: After analyzing the data, three thematic categories emerged, namely: curriculum by competence, assessment, competences, and skills. We can highlight as a positive point evidenced in the study, the curriculum proposal, the development of competences and skills and involvement of academics in extracurricular activities. As some points that need improvement, we can emphasize, the evaluation method, the theoretical / practical relationship, organization of time and adaptation of the teacher. Conclusion: The results from this study, allowed to evaluate the students' knowledge about the integrated curriculum and to analyze its applicability in the educational institution, considering its strengths and weaknesses.

Keywords: Nursing Education, Higher Education, Nursing Students, Qualitative Research, Competency-based education.

1 INTRODUCTION

Professional nursing in Brazil began in 1923, marked by an initial historical context of teaching that envisaged education centered only on the disease, with a predominance of the medical-hospital model in undergraduate education. Despite some changes that occurred over the years in the curricular structure of the nursing course, which reflected the changes in the Brazilian historical-social context, it was still based on the hospital-centered model1-3.

In the 1990s, an articulation began between the Brazilian Nursing Association (ABEn), professional associations, and health and teaching institutions to formulate a new curricular proposal, highlighting a holistic education and the necessary condition for students to develop skills to act in

four areas: care, management, teaching, and research4.

On the other hand, the enactment of the Law of Guidelines and Bases of National Education (LDB) No. 9,394 of December 20, 19965, sought to restructure and organize national education in all its modalities, levels of education and teaching, from basic education, through professional and technological education, special education to higher education6. Among the requirements for higher education, the LDB highlights generalist professional training and proposes, among other measures, the replacement of minimum curricula by the incorporation of specific curricular guidelines for each course7.

The curricular guidelines of the undergraduate course in Nursing (DCNs/ENF) guided by Resolution No. 3/20018 at the time of the present study, were updated by Resolution 573/20189, and maintained many of its principles and have as one of its foundations, a Pedagogical Course Project (PPC) created, collectively, contemplating contents indispensable to education, integral human formation, interdisciplinary, association between theory and practice, inseparability between teaching, research and extension/care, among other aspects.

This training perspective envisions a competency-oriented curriculum, which has been a frequent option in the attempt to incorporate the DCNs into the PPC, according to Oliveira and Cutolo10, and is based on the possibility of dissolving the opposition between theory and practice, in a teaching that contemplates the contextualization of knowledge, in the problematization and association between teaching, service and community. Therefore, it consists of a favorable method for the professional training of a graduate capable of working in the Unified Health System.

In the integrated curriculum, the disciplines are related to each other, assuming an interdisciplinary aspect. Knowledge has become the main objective, where education supersedes information11. Many positive points can be observed in the integrated curriculum, which aims to meet the DCNs/NFE, but, like any teaching-learning method, it also has weaknesses.

In an attempt to adopt strategies to know the potentialities and weaknesses of the implementation of the curriculum in practice, it was decided to know the opinion of those who experience the organization of this teaching method on a daily basis. The student of the course, as a parameter to identify the points that need to be readjusted and rectify and expand those that are already on the right track, will contribute to the improvement of the modular teaching structure, in addition to offering subsidies for the training of the faculty. Thus, the general objective of the study was to analyze the curriculum by competencies from the perspective of undergraduate nursing students.

2 METHOD

This is a descriptive study with a qualitative approach. The study was carried out in a public and state Higher Education Institution (HEI) that offers undergraduate courses in nursing, located in

the city of Recife, Pernambuco, Brazil. The Pedagogical Project of the Course, divides the graduation into 10 modules, each module in a semester, totaling 5 years of full-time duration.

Students from the following periods participated in the research: 2nd, 4th, 5th, 6th and 9th. The inclusion criteria were as follows: students who studied at the college and who entered after the implementation of the new curriculum. Exclusion criteria were: students absent during the data collection period.

Data collection was carried out in November 2015, during which time the students were approached individually during the interval where the research was explained and the questionnaire and consent forms were delivered to those students who wished to participate.

The instrument used for data collection was a questionnaire previously prepared by the researchers with questions for qualitative analysis. The questionnaire contained two discursive questions. The first one aimed to find out the student's understanding of the integrated curriculum, with the following question: *"What do you mean by competency-based curriculum?"* The second question had the purpose of knowing the student's opinion about the positive and negative points of the integrated curriculum, with the following question: *"What is your opinion about the competency-based curriculum? (Free space for comments, criticism and suggestions)".*

The sample size was established according to the criterion of data saturation, which totaled 37 students. The data were collected, transcribed and recorded in a standardized form in Microsoft Word 2007 and analyzed by means of Content Analysis of Bardin12.As phases of content analysis are organized around three chronological poles: the pre-analysis and exploration of the material, the treatment of the results, the inference and the interpretation12.

This study was submitted to the Research Ethics Committee of the HUOC/PROCAPE-UPE Hospital Complex, and was approved with Opinion No. 675,330 in compliance with Resolution 466/12 of the National Health Council (CNS). Out of respect for ethics in research with human beings, participants were guaranteed total confidentiality of all information that could identify them during and after the research.

In addition, data collection was initiated only after obtaining the favorable opinion of the CEP, and during data collection only those adult participants who signed the informed consent form and minors who brought the informed consent form signed by their guardian and who signed the TALE during data collection were included. To ensure the anonymity of the participants, they were identified by the letter R, which refers to respondents followed by the Arabic number in the order of the transcription.

3 FINDINGS

A total of 37 nursing students participated in the sample. As a result of the content analysis, 03 thematic categories emerged, namely: 1 - Curriculum by competencies; 2 - Evaluation; 3 - Competencies and skills.

3.1 THEMATIC CATEGORY - 1: COMPETENCY-BASED CURRICULUM

In the statements below, the students present their perceptions about the competency-based curriculum, making it clear that they were able to glimpse one of the main characteristics of the integrated curriculum, which is interdisciplinarity.

> "Competency-based curriculum is the redefinition of the meaning of teaching content, in order to give practical meaning to knowledge". R1
> "Where several subjects are separated for students, gathered in a single module. In such a way that the subjects are interconnected." R2
> "It is a new curricular structure, which seeks to integrate the disciplines for a better understanding of the students." R3
> "It is a new curriculum that aims to integrate the contents so that there is a better understanding for the student." R4

3.2 THEMATIC CATEGORY 2 - EVALUATION

Regarding evaluation, it was possible to identify that the competency-based curriculum still undergoes adjustments to build a continuous and contextualized evaluation process, as can be evidenced in the following statements.

> "A curriculum where the thematic units do not have separate assessment, but together. This way the student does not separate a unit, but can fail the entire module." R8
> "In general, the competency-based curriculum has a good ideology, but it is quite flawed. The method of assessment is inadequate for what we learn. The races should be separated by chairs. IP as a valuation method leaves a lot to be desired." R28
> "I think it's very good, the negative side I see are the integrated tests that in my view do not evaluate effectively, since it studies a large number of subjects for a single test and often does not cover all the thematic units. In addition, I believe that the student does not get a qualified study due to the range of subjects per IP." R39

3.3 THEMATIC CATEGORY 3- COMPETENCIES AND SKILLS

In the statements below, the students recognize that the course, by adopting the integrated curriculum, contemplates the curricular guidelines, when it emphasizes the development of the student's competencies and skills, during the course of the graduation, favoring the construction of a graduate able to deal with the various situations that arise during their professional practice.

> "Curriculum that highlights professional skills and abilities, where it is related to practice with theoretical knowledge". R17
> "Curriculum that covers the competencies, Child Health module, which is related to the child". R20

3.4 HOLISTIC VIEW

Nursing education is based on the process of caring for human beings, so a holistic view is considered. Once again, the importance of interdisciplinarity can be observed in the students' discourses, which, by integrating the contents, contributes to a holistic view of the patient.

> "A curriculum that aims to see the patient in a holistic view and not shared when it was by chairs. In which it was studied by subjects, e.g.: anatomy, mycology, histology. Breaking the patient into blocks. The integrated curriculum, on the other hand, aims to train future professionals to see the patient not only in a part, but in a whole, as it will be in professional practice." R21
> "It is an innovation in academic content, which is intended to associate the disciplines taught during the course, and which will contribute to a more complete and effective learning for the professional future. In this way, there is an academic training with a more holistic look." R25

3.5 EXTRACURRICULAR ACTIVITIES

Extracurricular activities are necessary for the completion of the undergraduate course and enable the student to experience extra-classroom activities, contributing to a more robust education that contemplates the Pedagogical Project of the Course and, consequently, the DCNs, by envisioning the teaching-research-extension tripod and the importance of complementary activities8-9.

> "A curriculum that puts everything you did during graduation, including courses, short courses, lectures, congresses and extracurricular internships, as well as extension and research projects". R26

3.6 GREEN HOUR

The "Green Hour" is a term used by the college to refer to the free time that is made available to students to carry out other activities, whether personal or academic. The PPC includes free hours for study and activities such as research, university extension and courses that can contribute to student training.

It can be seen in the discourses below that the students claim that the free hours are not respected, which hurts the PPC, showing that the same does not happen totally in practice.

> "I think there are a lot of gaps to be adjusted. A different look at the student, in which real opportunities were offered and not just observational. Or, for example, a module in which the green hour is preserved, the student has a life outside of college as well. A lot of things still harm the student and hinder their education." R30
> "Which is a curriculum with integrated periods with several thematic units. With classes in the morning and afternoon and with few green hours." R12

3.7 THEORY/PRACTICE

The theoretical/practical integration is one of the main characteristics of the competency-based curriculum, however, it represents a challenge in nursing education in the institution, since the fields used for such purposes present difficulties due to the health situation in the country with few

investments for health, in addition to being observed in the statements of the students, the need to create strategies for organizing the modules in such a way that they can occur to praxis.

We can see in the discourses below that praxis is hindered at times.

> "Effectively relate theory to practice. In which the practice rotations (internships) sometimes do not match the thematic unit studied. For example, the practice in rooming-in, about the puerperium ended and it was only a week later that we had the class on physiology of the puerperium." R31

> "I think it's very good, but there are skills that can be more addressed and others added. I think that the division of modules ends up excluding some populations such as indigenous, black, etc. that end up not being addressed in the undergraduate program." R37

3.8 TIME AVAILABILITY

The time to perform other activities as well as to take care of their health has been a challenge in the training of nurses, since the dynamics in practical and theoretical classes demand a lot of time, causing free time to be reduced.

> "College consumes all of our time. We don't have time to contemplate all the subjects, because they often do a lot of seminars, few green hours, classes that could be taught in just one shift. In practice, we often go unprepared, because we have not yet seen the subject present in practice." R32
> "Heavy workload: We don't have time to take extra and enriching courses because our time is short to handle classes, practices, seminars, etc. Poorly planned practicums: Students have no technical preparation in the practice room at the college {...} They encourage students to go to conferences, seminars, etc., without knowing how to "justify" or "excuse" the faults they have committed." R33

3.9 TEACHERS

The faculty of an institution, even with the necessary degree, needs a continuous didactic-pedagogical training to develop its activities in a way that can keep up with the changes that occur constantly and with the passage of time, it is possible to detach from old teaching-learning processes, which was represented as a difficulty of the faculty, as can be observed in the speech of the academic, down:

> "The curriculum proposal is extremely timely, now that the process of implementing it should be evaluated, because the curriculum allows for misinterpretations, as is currently the case. Where the methodology applied does not match the proposal preached. This problem is rooted in the old ideas of most teachers." R3

4 DISCUSSION

Through this study, it was possible to visualize what nursing students conceive by integrated curriculum, and it was possible to observe that their discourses are close to the real meaning of the curriculum, and the need for reflections for a greater conceptual deepening can also be perceived.

The elaboration of the integrated curriculum that works on competencies, guided by the DCNs, in addition to other objectives, aims at the early insertion of the student in the practice scenarios, through specific programs. This process provides an opportunity for a better articulation between teaching, service and community, promoting the student's first contacts with the singular and plural challenges of the profession in order to make him more apt to develop essential competencies and skills in the field of the labor market13.

The competency-based curriculum proposes to dilute the dichotomy between theory and practice; it promotes teaching based on contextualization and problematization, contemplating the teaching-research-extension tripod in its theoretical-practical articulation, in the integration of teaching and service with social participation and the diversification of teaching scenarios, structured in an interdisciplinary way, favoring the understanding and union of diverse knowledge8-9,14-15.

Knowledge has become the main objective and the disciplines are no longer isolated11, separated by "chairs". By proposing the articulation between the contents, which characterizes interdisciplinarity, it is possible to build a critical-reflective thinking, a holistic view, which associated with practice, can be glimpsed a more complete learning, which contributes to the construction of knowledge.

The students expressed their criticism about the implementation of the integrated curriculum, which brings a very effective teaching-learning proposal, as long as it is well planned and practiced in all aspects. With this, it was possible to observe that it is precisely in the implementation of the curriculum that the main challenge lies.

With regard to the "evaluation" item, we observed the students' dissatisfaction and non-adaptation to the integrated curriculum, which suggests an interdisciplinary format. In this regard, there was divergence in what was evidenced in the study by Pascom, Otrenti, Mira16, which sought, among other aspects, to evaluate the perception of nursing students regarding evaluation in active methodologies. The study was carried out in the Nursing course of the Pontifical Catholic University of São Paulo (PUCSP), which has as its main characteristic, an integrated curriculum that uses Problem-Based Learning (PBL) as a learning strategy, in which a progression test was specifically evaluated, obtaining good evaluations from students, with only some criticisms related to the length of the test.

In the integrated curriculum, the evaluations of nursing students should be based on the knowledge, skills, attitudes and values necessary for the specificities of the scenarios related to the contents worked, with reference to the DCNs/NFS, through diversified instruments that enable the formative evaluation of the student's progression throughout the course, allowing the monitoring of the development of competencies. skills and achievement of technical-scientific autonomy during training8-9.

It is the responsibility of the coordination of each institution, together with the faculty, to analyze the best methods and assessment instruments for learning for students17. In this way, based on the dialogue between the academic community, attentive listening to the students' complaints, it will be possible to better plan and improve the evaluation process, structuring it in a way that meets the DCNs/ENF and the students' individualities.

With regard to the issue of competencies and skills, we observed positive points, which corroborates a study that was not conducted with nursing students, but with graduates. In a study18 conducted with graduates of the Nursing course at the State University of Londrina (UEL), with an integrated curriculum since 2000, it was shown that about 52.2% of the participants highlighted the proactive posture in the search for knowledge, communication, autonomy and critical and clinical reasoning, showing a positive point of the curriculum regarding collaboration for the development of competencies and skills.

Still dealing with the development of skills and competencies, it was evidenced in the study by Dalcól, Guaranhani, Fonseca, Carvalho19, carried out in a nursing course of a public university in southern Brazil that has been using the Integrated Curriculum for 15 years, that the teaching-learning process of communication in the perception of the students of the Integrated Curriculum is occurring in a transversal way, through active strategies and methodologies, however, it needs adjustments.

"Competencies" are understood as a universe of skills, knowledge, attitudes and values that are interdependent on each other and necessary for the execution of actions, with the purpose of efficient performance in the exercise of professional activity20-21.

In health courses, specifically in nursing education, competencies go beyond psychomotor skills, expanding to the development of cognitive, emotional and social skills that are aimed at decision-making and problem-solving in the various problems encountered in the day-to-day of health services20-22.

Regarding the correlation between theory and practice, as seen in our study, the students refer to some flaws that compromise the realization of praxis in their training, which differs from a study23 carried out with students from a public university in the southern region of Brazil, who have been working with the integrated curriculum since the year 2000 and used the PBE (Evidence-Based Practice) technique to promote the theoretical-practical relationship. obtaining good evaluations from the students, however, we have to consider that it was a punctual evaluation.

Praxis enables the student to have a more complete view of the possibilities of action, of the possible solutions in situations that require quick and effective decision-making. By relying on theoretical assumptions, scientific evidence and associating them with the development of skills such as proactivity, empathy, leadership capacity, problem-solving, and also combining them with a continuous experience in health services, nursing students have in their hands precious tools to become

a professional capable of transforming the health environment/service in which they will work. This will contribute to the improvement of the care provided to the patient and, consequently, to the strengthening of the health system as a whole.

Regarding extracurricular activities, it was mentioned by the students that the curriculum includes them. Examples of complementary activities include tutoring, extracurricular internships, scientific initiation projects, courses, participation and/or organization of events, participation in political activities of the profession and the SUS, the student movement, cultural and sports activities, among many others8-9.

These activities should contemplate the individual needs and expectations of the students' education and consider the development of the regional health sector and, in order to make better use of these complementary activities, there must be a balance in the workload that is required for care, teaching, research and extension activities8, in addition to free hours for them to be carried out.

In the statements of the students in this study, a certain indignation was perceived with regard to the disrespect of free hours, the so-called "green hours", which compromises the little time available to the students, causing a lot of difficulty to divide the time between study, complementary activities and personal life.

It is essential that free time is really respected, in practice, so that students can have more time for individual study, development of extracurricular activities and activities of their personal and daily life such as leisure, sports, culture24 and care for their own health, which consequently could contribute a lot to a better performance of the student in studies.

For the effective establishment of these free hours, it is important to avoid very short intervals between curricular activities, which could hinder the planning of these actions by the students, in addition to the involvement of the students' representative entities (academic centers or directories)[25], which could assist in the process of a new reorganization.

Regarding the role of the professor, in the view of the nursing student, there is a difficulty in the implementation of the integrated curriculum due to the possible resistance of the professor to detach himself from the traditional curriculum to the detriment of the current one.

The students' opinion corroborates some studies26-27, which were carried out with teachers of the integrated curriculum, in which it was found that the teachers, even recognizing the curricular foundations and the potentialities of the integrated curriculum, do not start from these understandings to conduct their classes, since they take up elements of the traditional curriculum, by valuing the transmission of information. Another study28 also showed that some teachers, even teaching in innovative curricula, develop their professional practice linked to the old models and the way they learned.

In the study carried out by Franco, Soares and Bethony29, they came to the conclusion that, although the discourses given by the teachers are close to the concepts and characteristics that make up the teaching and health policies, it does not allow the conclusion that their particularities are understood by them.

In an integrated curriculum, based on the DCNs/ENF8-9, the teacher should be a facilitator and mediator of the teaching-learning process, and should use innovative means, strategies and techniques to contribute to the development of competencies and skills that should be achieved by the student.

In order for the effective implementation of the integrated curriculum to occur, it is necessary to build environments that enable the instrumentalization/preparation of teachers for the exercise of their practices from the perspective of the integrated curriculum, considering that they are primary elements in the implementation of a curricular proposal29.

5 CONCLUSION

The results of this study allowed us to better analyze the applicability of the curriculum by competencies in the educational institution, in addition to the knowledge of the students about the curriculum, as they are key pieces in this process, since they are the target of the implemented curriculum. From this perspective, the students demonstrated their understanding of the proposal of the integrated curriculum. With regard to the analysis of the positive points of the curriculum, it was possible to highlight in the discourses of the students, the integration of contents, the development of skills and the involvement of the students in extracurricular activities.

Some weak points in the curriculum were also highlighted by the students, being seen as gaps that need to be adjusted, such as: difficulty in uniting theory and practice, little availability of time offered to students and lack of integration of content in the evaluations, as well as the excess of content to carry out the same, resistance of the faculty to detach themselves from old teaching methods.

As for the difficulties related to the teaching staff, it is important to emphasize that all of them have been going through a process of learning new teaching methodologies in order to better qualify them to effectively meet the integrated curriculum.

The results found here will serve as a subsidy for the reorganization of the PPC in the institution, since it is not permanent. This study brings the reality of the applicability of the competency-based curriculum in an educational institution stimulates the elaboration of other studies involving the applicability of the competency-based curriculum, so that the teaching-learning process of higher education institutions can be better discussed and improved, through scientific evidence.

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SEVEN
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The influence of the social project "Ponto de Leitura Marista Sul" (Reading Point South Marist) for adolescents' quality of life

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ABSTRACT
Social projects may produce positive changes in socially vulnerable communities. The social project named "Ponto de Leitura Marista Sul" inspired this research on the evaluation of potential benefits reading and debating on the quality of life of teenagers. This research investigates the quality of life of the teenagers using the WHOQOL-bref test to provide an objective assessment on quality of life. In addition to that, this research also exploits a socio-demographic background questionnaire and interviews with teenegers who participated in the project, as well as their family members. The quantitative evaluation using WHOQOL-bref presented limited results on the objective of providing evidence to the benefits of social projects on teeneagers. On the other side, the quantitative analysis provided relevant data such as advances in language and expansion of critical sense that may inspire new debates and longitudinal studies.

Keywords: Social projects, Teenagers, Quality of life.

1 INTRODUCTION

The theme of this research aims to investigate the quality of life of adolescents who are integrated in social projects, especially the Social Project Ponto de Leitura Marista Sul. To delimit the theme of this project, the National Social Assistance Policy (PNAS) (BRASIL, 2005) was taken as a reference. Koga (2003, p. 25) states that:

> The direction of public policies is intrinsically linked to the quality of life of citizens themselves. It is in the relational clash of public policy between government and society that the ongoing process of social exclusion will be ratified or combated.

It is understood that it is of vital importance for the development of a healthy society to ensure the quality of life of the population. In view of the growth of social projects – often governed by non-governmental organizations (NGOs) – aimed at adolescents and whose objective is to impact in some way the thinking as well as the attitudes of the participants, the hypothesis arises that social projects

promote quality of life to the public served. Therefore, it was necessary to investigate the influences that such projects have on social demands.

In the current context of communities, the problematic attitudes and behaviors of adolescents towards social norms are noticeable. The relevance of this research was precisely linked to the levels of influence that the South Marist Social Project exerted on the thinking of adolescents, promoting quality of life, as well as on the comparison between groups of adolescents who participate in social projects and groups that do not, through the application of the scale for quality of life. WHOQOL-bref.

The research also relied on the qualitative analysis of data collected in interviews. The interviews were applied to adolescents and families who attend the Marist South Reading Point Social Project, bringing important subjective data. Regarding its purpose, the applied research was experimental in nature, with quantitative and qualitative approaches.

2 LITERATURE REVIEW

There are many social projects aimed at young people, with a view to improving their living conditions and providing their autonomy and protagonism in the face of social demands. Saviani (2005, p. 28) also considers that institutions are naturally social and that "to satisfy human needs, institutions are created as units of action". And it continues to bring some meanings arising from the originality of the word "institution". The author mentions the idea of ordering and articulating what was dispersed, as well as the very practice of educating and teaching.

The social project points out that one of the human needs is to express feelings and emotions, bringing to light the conceptions of investigative spaces and the way in which such an institution executes this need, through actions that enable the handling of discussions, art, literature, music, among others (ROCHA; KASTRUP, 2008). The Marist South Reading Point Social Project promotes debates based on readings in the face of the experiences of the adolescents served. Reading and debates compose a social scenario, whose objective is to give voice to readers, not as spectators in the act of reading, but as subjects of rights.

For Freire (2008), the literacy student is a creative subject in the act of reading, as he actively participates in a process. For the author, the act of reading a word in a text is dynamically linked to the reading of the world that surrounds the reader, which promotes critical awareness and critical attitude, objectives of the Project.

2.1 ADOLESCENCE

Adolescence is a period of transition from childhood to adulthood and this transition is marked by major changes in the physical, cognitive, social and emotional domain of the subject

(EISENSTEIN, 2005). According to the World Health Organization (WHO, 1989), the age group between 10 and 19 years is called adolescence. Adolescence "is a time of discovery that is characterized by profound and comprehensive changes in physical and psychological aspects, with individual, family and social repercussions" (LIRA; DIMENSTEIN, 2004, p. 37-45).

According to Knobel (1991), during adolescence the individual must reformulate concepts about himself, seeking to establish an adult identity. To do this, he will experiment with different roles and perform different symbolic mournings (child body, bisexuality, parental separation). As a result, some psychological characteristics may appear more markedly in adolescent behavior, such as impulsivity, immediacy, omnipotence and losses resulting from the symbolic mourning to be performed.

Brêtas *et al*. (2008), in their work with adolescents in the city of Embu, São Paulo, say that among the experiences lived by the adolescence process, the elaboration of grief is certainly the most lived. According to the authors, we have: grief for the child's body, for childhood parents, for bisexuality, which is reflected in the exit from parental dependence to adult independence. Thus, the adolescent will also seek identity outside the family environment, which requires a lot of elaboration on their part, culminating in the definition of their role in society.

Normal adolescence, according to Aberastury and Knobel (1981), is a culturally recognized moment of life, physically marked by changes that are even neurological and influence their behavior, in addition to being a very distressing moment for parents. It adds a certain degree of pathology according to the authors, because the stabilization of the personality is not an easy path, considering the demands and demands that the adolescent goes through.

According to Papalia and Feldman (2013), adolescents enter the developmental stage that Piaget called *formal operative*. At this point in their development, they are able to develop skills to think in abstract terms. The authors point out that adolescents are not always able to enter this stage of development, and through questions and strategies this reasoning can be taught and learned.

In Rego (1995) we have that social interaction occupies a very important place in human development. The author points out that development is intimately related to the historical and cultural context of the individual through a dynamic and dialectical process. Rego (1995) elaborates his conceptions supported by Vygotsky, who discusses the use of language present in the relationships between individuals, stating that it promotes the insertion of the child (including the adolescent) in historically constructed social practices and incorporates forms of behavior consolidated by human experience.

The role of interactions in the development of child and adolescent subjects is developed by Vygotsky (1999) when he elaborated the concept of *zone of proximal development.* In this sense,

speaking, reading and writing are instruments both to stimulate logical reasoning and to exercise a political attitude when affirming one's own word, as Freire (2008) states.

For the author, with more experienced partners and through social interactions, the child advances from his or her actual level of development to the level of potential development, when learning is mediated by the most capable partner, through language. Language is a cultural and human practice and through it concepts are elaborated and increasingly complex abstractions are made, because:

Senna and Dessen (2012), when discussing contemporary adolescence, recognize the importance of social interactions in the development of adolescents, which, in the bioecological and holistic perspective proposed by Bronfrenbrenner, can produce both competencies and dysfunctions to the development of the adolescent subject, who is an active subject and producer of his own development.

Observing adolescence beyond the biological and environmental aspects, bringing up cultural and social aspects is to ensure that this moment of the life cycle is not reduced to a class or culture, since when talking about adolescence it should be considered that it is necessary, therefore, the presence of more experienced partners in the adolescent's life who question and instigate him. including moral aspects, promoting mediation, social learning and cognitive development.

Coutinho (2005) points out contemporary and Western adolescence as a moment consolidated by the ideals of individualism, that is, a moment of life that takes place in the individualistic sociocultural scenario, where each subject is responsible for managing his destiny and finding his role within society, which does not happen in tribes that mark this period by rites of passage.

For the author, adolescence in our current society can be a symptom of society, in which hyper-individualism and the maxim of freedom are valued, which end up weakening relationships and strengthening consumerism in order to exclude a portion of society that experiences this moment of life.

2.2 ADOLESCENT QUALITY OF LIFE

Eisenstein (2005) points out that quality of life is the individual perception that the subject has of himself in the context in which he is inserted, considering the culture and social values of his environment in relation to his goals, expectations, standards and concerns (SOARES et al., 2011).

Fleck *et al.* (2008) conceptualize quality of life based on broad observations about the individual, recalling that attribution of quality and well-being had models underlying the ideas of satisfaction and functionalism. The satisfaction model would be related to satisfaction with the domains of life that are important to this individual, and the functionalist model would be related to

the meaning of the word; Individuals with quality of life would need to perform their social and functional activities satisfactorily.

According to these authors, quality of life "is the ability of an individual to perform activities of daily living, considering their age and social role" (p. 22). In this sense, the quality highlighted by them is a broad concept, which, even though it is related to health conditions, is not limited to it, as it encompasses the way in which physical health, psychological state, independence, social life and individual beliefs interfere with the subject's perception of the environment.

Soares *et al.* (2011) also state that quality of life involves multidirectional patterns, since they vary according to history and culture, as it reflects the way society appropriates experiences throughout history. Fleck *et al.* (2008) contribute by stating that the World Health Organization (WHO) considers quality of life as a complete state of physical, mental and social well-being, overcoming the idea of quality of life as the absence of disease.

Regarding quality of life, Campos *et al.* (2014) conclude that this is greatly influenced by human values of love, happiness, solidarity, as well as by the fact that the individual is inserted in society and has professional fulfillment. In his study, the author demonstrated that the best scores he obtained using instruments such as WHOQOL (*Word Helth Organization Quality of Life Measures*) were for adolescents with greater empowerment assisted by a philanthropic institution. In this sense, Campos (2014, p. 245) corroborates:

> Young people need to be encouraged to have a critical view of themselves and the world, because naturally this is a phase marked by conflicts. Often this means fighting against a social stereotype that they don't know what they're talking about (...) knowledge can be a tool for transforming structures (CAMPOS, 2014, p. 245).

Cruz (2010) explains that Fleck (2008) proposed some models that explain quality of life. The satisfaction model considers life characteristics, personal goals, and your satisfaction in its various domains. The combined model for importance and satisfaction emphasizes that the same domain of life will have different importance for different people, so instruments that assess this domain can ensure the choice of weight for the scores. The occupational model states that happiness and satisfaction are related to environmental and social circumstances for the fulfillment of basic needs. The dynamic model emphasizes that, even under adverse conditions, the individual is able to maintain a stable level of satisfaction considered through cognitive and conative activities.

According to Cruz (2010), quality of life models express the multidimensional nature of the definition and measurement of quality of life. For Fleck *et al.* (2008) the best accepted definition of quality of life is that of the WHO. The author also affirms three fundamental aspects for ensuring quality of life: subjectivity, which varies according to each person's judgment; multidimensionality,

considering that quality of life is composed of several dimensions and the presence of positive and negative dimensions of life.

According to the WHO, regarding the link between quality of life, health and physical activity, it is possible to conclude that not all subjects have quality of life, and that it is necessary to make an effort to obtain it.

Pires *et al. (*2012), in a study conducted in professional and non-model adolescents with the WHOQOL instrument, presented compatible data for a similar quality of life between model and non-model adolescents.

Bueno, Strelbov and Câmara (2010) present, through studies carried out in a cross-sectional sample of adolescents, the relationship between quality of life, sex, self-esteem, satisfaction and formal groups. In their research, they demonstrated how participation in formal groups can be a positive indicator in the sense of promoting health and quality of life for adolescents who benefit from them.

3 METHODOLOGY

An exploratory research was carried out with the objective of identifying evidence about the importance of social projects in locations of social vulnerability. To identify this evidence, tools were used for quantitative and qualitative analysis through interview analysis, bibliographic and field research. The databases used were *Scielo, Virtual Health Library VHL* and Google Scholar. The universe of the research was a group of adolescents from the South Marist Sector, in Aparecida de Goiânia. The population is young people who participate in social projects in the same region. The sample included eighteen adolescents, ten participants of the Marist South Reading Point project and eight adolescents who did not participate as a control group. The period was between August 12 and October 25, 2017.

To achieve the objectives of the research, the techniques and instruments used were a sociodemographic questionnaire and the application of the WHOQOL-bref. The research did not pose risks to the adolescents, did not offend, did not harm their emotional, physical, psychic, moral, intellectual and spiritual integrity. The benefits included the understanding of the importance that the Social Project has in relation to the development of adolescents in different aspects, as well as the preparation for adult life.

4 RESULTS AND DISCUSSION

The data were recorded in a Microsoft *Excel* spreadsheet. A single database was created and analyzed using the IBM *Statistical Package for Social Sciences* (SPSS), version 23. The characterization of the intervention and control groups was performed by means of contingency tables using the chi-square test. The parametricity of the data was performed using the Shapiro-Wilk test. The

reliability of the WHOQOL-bref questionnaire was tested by calculating Cronbach's alpha coefficient (α) to verify the internal consistency of the instrument for the sample studied (CRONBACH, 1996). The comparison of the WHOQOL-bref domains between the groups was performed using the Student*'s t-test*, while the analysis considering the items individually was performed using the non-parametric Mann-Whitney test.

Table 1. Characterization of the sociodemographic profile of the intervention and control groups.

	Groups n (%)		Total	*P*
Group Profile	Intervention 10 (55.6)	Control 8 (44.4)		
Age	15.2 ± 2.4	13.6 ± 1.5	14.5 ± 2.2	0,12*
Gender				
Female	5 (50,0)	3 (37,5)	8 (44,4)	0,59**
Male	5 (50,0)	5 (62,5)	10 (55,6)	
Color/Race				
White	2 (20,0)	0 (0,0)	2 (11,1)	0,36**
Black	4 (40,0)	5 (62,5)	9 (50,0)	
Curtain	4 (40,0)	3 (37,5)	7 (38,9)	
Religion				
No	3 (30,0)	4 (50,0)	7 (38,9)	0,39**
Yes	7 (70,0)	4 (50,0)	11 (61,1)	
Which religion				
Catholic	4 (66,7)	2 (66,7)	6 (66,7)	0,99**
Evangelical	2 (33,3)	1 (33,3)	3 (33,3)	
Schooling				
Elementary School	4 (50,0)	2 (28,6)	6 (40,0)	0,45**
Middle school	4 (50,0)	4 (57,1)	8 (53,3)	
Higher education	0 (0,0)	1 (14,3)	1 (6,7)	
Household income				
Up to a salary	3 (30,0)	3 (37,5)	6 (33,3)	0,89**
Up to two salaries	5 (50,0)	4 (50,0)	9 (50,0)	
Above three salaries	2 (20,0)	1 (12,5)	3 (16,7)	
Practice physical activity				
No	7 (70,0)	2 (25,0)	9 (50,0)	0,06**
Yes	3 (30,0)	6 (75,0)	9 (50,0)	
Do you have any illness				
No	9 (90,0)	8 (100,0)	17 (94,4)	0,35**
Yes	1 (10,0)	0 (0,0)	1 (5,6)	
Project contributed				
No	0 (0,0)	0 (0,0)	0 (0,0)	On
Yes	10 (100,0)	0 (0,0)	10 (100,0)	
*t-test; **Chi-square; na = not applicable				

The table above describes the sociodemographic questionnaire applied to the group of adolescents, most of whom study in public schools. The objective of this study was to characterize the sample as well as to verify its homogenization, showing that there is no discrepancy, i.e., a significant difference between the control group and the intervention group with regard to sociodemographic data.

Assuming the p-value<0.01 (i.e., 99% significance[1]) it is possible to consider that there is no difference between the control and intervention groups.

However, the significance of 80% is commonly used in studies that evaluate human behavior due to the high variability and scarcity of samples, as in Schneider and Andretta (2017) and Brunes, Gudmundsdottir and Augestad (2015). Assuming a significance of 80%, it is considered that there was a discrepancy between the intervention group and the control group in terms of age and sports practice. In particular, these characteristics may be related to the profile of the adolescents who decided to join the project, given that the sample of the control group was randomly selected among adolescents.

Table 2.Results of the comparison of the WHOQOL-bref domains between the intervention and control groups.

WHOQOL-bref domains	Groups (Mean ± SD)		Total	*p**
	Intervention	Control		
Physical	65.71 ± 11.33	73.65 ± 10.62	69.24 ± 11.44	0,15
Psychological	61.26 ± 11.63	79.70 ± 7.19	69.46 ± 13.48	**0,001**
Social	50.84 ± 23.05	66.68 ± 18.38	57.88 ± 22.04	0,13
Environment	53.76 ± 14.65	65.23 ± 11.49	58.86 ± 14.23	0,08
Overall score	57.91 ± 12.40	71.31 ± 7.90	63.87 ± 12.41	**0,02**
**Student's* Test				

Table 2 describes the comparison of the WHOQOL-bref domains between the intervention and control groups. Physical, psychological, social, environmental and general score profiles were evaluated. This instrument is able to position quality of life in relation to the two traditions of its conceptualization: the internal biopsychological mechanisms related to the responses of satisfaction and gratitude with life and the external mechanism that triggers the reactions of the internal mechanism, and the perception of quality of life is variable for each individual. The literature evaluates that regarding the psychological domain and the general score, there were some significant differences between the samples.

[1] The 99% significance means that assuming that there is no difference between the control group and the intervention group, the observed (or greater) difference would be obtained in 1% of the studies due to sampling errors.

Figure 1. Bar graph comparing the WHOQOL-bref domains between the intervention and control groups.

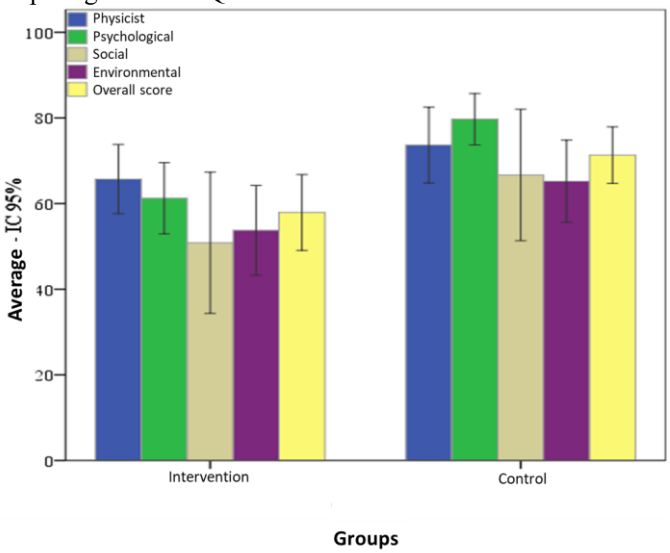


Table 2 shows that there was a significant difference between the results of the control and intervention groups, since the control group answered 79.11% regarding psychological well-being, compared to 61.26% in the intervention group, assuming a significance of 80%. It is necessary to consider that the randomly chosen sample of the control group is younger and also practices more physical activities than the intervention group, which may have directly altered the results collected.

Table 3. Results of the comparison of general quality of life and satisfaction with one's own health between the intervention and control groups.

	Groups n (%)		Total	*p**
	Intervention 10 (55.6)	Control 8 (44.4)		
Quality of life in general				
Neither good nor bad	2 (20,0)	0 (0,0)	2 (11,1)	0,18
Boa	6 (60,0)	4 (50,0)	10 (55,6)	0,64
Very good	2 (20,0)	4 (50,0)	6 (33,3)	0,18
Satisfaction with one's own health				
Neither satisfied nor dissatisfied	3 (30,0)	1 (12,5)	4 (22,2)	0,37
Satisfied	5 (50,0)	3 (37,5)	8 (44,4)	0,60
Very satisfied	2 (20,0)	4 (50,0)	6 (33,3)	0,18
*PostHoc Chi-square				

Table 3 describes the comparison of overall quality of life and satisfaction with one's own health between the intervention and control groups. Regarding quality of life in general, Fleck *et al*. (2008) emphasizes quality of life not as the absence of disease, but as a state of physical, psychological and social well-being. "(...) It is a reflection of the way the patient perceives and reacts to his or her health status and other non-medical aspects of his or her life (FLECK et al., 2008, p. 22)."

There is similarity between the results of tables 2 and 3 regarding the scores obtained, giving evidence that the control group performed better than the intervention group. Considering the hypotheses depression in older adolescents, physical activity and cognitive abilities for abstraction, it is observed that the objective test seemed insufficient to measure the benefits of the Social Project. In this sense, interviews were conducted with adolescents and their families to enable the collection of more subjective data. The **interview with the adolescents** provided data for the construction of the categories of significance, as follows:

Category 1: Saturday activities before the project

Ad. 1	- I watched movies, didn't do anything, and it was repetitive, which made me bored.
Ad. 2	- I would stay at home watching TV, and go to my aunt's house. There weren't many benefits, and the detriments were sedentary lifestyle and alienation.
Ad. 3	- Stayed at home. It had no benefits and the losses were sedentary lifestyle and alienation.
Ad. 4	- I usually went to some rehearsals and after I finished I stayed home
Ad. 5	- I was on my phone.

It can be noted that the teenagers before the project stayed at home watching TV without having much to do on Saturdays. According to Hanaver (2005), "people are going from leaving the house to have fun with friends to being in front of the computer typing with other people". Thus, we realize that technology subtly replaces traditional habits such as social interaction, creating a dependence on technology, given that electronic devices have quick and easy accessibility. This indiscriminate use potentiates the isolation of the individual through a sedentary lifestyle, preventing full physical and psychological development.

Mattoso (2010) clarifies that technology and its advances compromise people's health, as they assume a sedentary life, based on the speed of information, since convenience reduces the interest and commitment of individuals in seeking other possibilities of entertainment, occupation, studies and work.

Category 2: Activities as a project participant

Ad. 1	- I read books that interest me, participate in the groups giving my opinion and listening to the opinion of others and helping with the organization of the project.
Ad. 2	- We discuss controversial issues that most of the time require acceptance from society. I only see benefits, since I joined the group I see the world in a different way (a different good).
Ad. 3	- We discuss subjects that help a lot, both in relation to everyday life and at school.
Ad. 4	- I participate in the project, I go back home, if I have a book to read, I read it. If I don't watch some humorous videos.
Ad. 5	- I go to groups and read books.

The adolescents, after they started participating in the project, began to read more about subjects of interest to them and to participate in the groups. It is known, according to Freire (2008), that it is by exercising the act of reading that one learns to be a good reader, since "if it is by practicing

that one learns to swim, if it is by practicing that one learns to work, it is also by practicing that one learns to read and write. Let's practice to understand AND learn to practice better (FREIRE, 2008, p. 47)".

Reading is more than an individual process, it is also a social practice, as reading is very important so that young people can have a different view of the world. It is worth mentioning that the formation of a critical reader is made from the moment the individual feels the pleasure of reading, which can be done individually or in a group and contributes to the development of the human being, to the transformation of society and the expansion of interpersonal relationships. When young people practice the habit of reading, their senses and the values they have about the facts of the world, about life and people, come into contact with the values and meanings conveyed in the texts. And this broad reasoning enables him to express and hear opinions on various subjects with other individuals.

Freire (2008) shows that when reading, one must think right, that is, know how to argue and have one's own opinion. He says: "When we learn to read and write, the important thing is to learn to think right. [...] Learning to read and write is not about memorizing 'pieces' of words and then repeating them" (FREIRE, 2008, p. 56).

In this way, the young person who reads and interprets creates a taste for reading, because he can argue and understand what is written. With this habit you will reveal a better performance, because you will be able to position yourself in the face of facts, events and will be able to select the texts that meet your needs, to better interpret and produce.

Martins (1986, p. 84) argues that "man is a thinking being by nature, but his reasoning capacity needs as much training as his physique does, for example, to become an athlete". For the author, cognitive abilities need stimulation. The reading and the debates carried out in the Social Project Ponto de Leitura Marista Sul have promoted the exercise of reading not only within the project, which can be seen in the answers of the adolescents. This attitude reflects a critical attitude of those who learned to say their own word, which was proposed by Freire (2008), as well as promoted training and daily exercise to expand the reasoning capacities of the researched group.

Each individual must initially figure out what they like to read, because regardless of what they are reading, reading offers challenges to the brain. If the individual reads what he likes, he will later create a reading habit and will have an easier time with varied genres. According to Paulino (2001, p. 156): "readings, in their diversity, mobilize emotions, incite reflections, transmit knowledge, involving, as we have seen, different types of knowledge".

Category 3: Importance of project activities

Ad. 1	- Yes, I'm open-minded about things that I didn't care about or liked to talk about before.
Ad. 2	- Yes, it helped to expand my mind, and to see that not everything is as we think, so it is very important.
Ad. 3	- Yes, I believe that I have developed methods for interpersonal relationships and not being so shy. I became more empathetic. And of course, I started to read 100% more than I did.
Ad. 4	- Yes, the activities have been important as I have started to read more, and this has influenced and improved my writing and reading. I started to communicate more and that helped me a lot of public speaking as I started to use formal language more.
Ad. 5	- Interaction and communication.

Adolescents 1 and 2 present in their answers indicators of the appearance of critical thinking and judgment capacity, through the terms: "open mind" and "expand my mind". In Papalia and Feldman (2013) we have that brain maturation is not yet complete in adolescence, it still goes through growth spurts until the beginning of adulthood. The adolescent tends to use more of the amygdala to make decisions and make judgments, as the frontal area responsible for planning and judging is not yet ready, but it can be stimulated through challenges. According to the authors

> Cognitive stimulation in adolescence makes a critical difference in brain development. The process is bidirectional: the activities and experiences of adolescents determine which neuronal connections will be maintained and strengthened, and this development serves as the basis for cognitive growth in those areas (PAPALIA; FELDMAN, 2013, p. 394).

Aberastury and Knobel (1981) affirm that intellectualization can be a path taken by adolescents in understanding their dilemmas regarding identity, as if they were looking for a safe place. The author argues that the presence of groups can be welcoming, because in this situation the adolescent feels that he is not so alone and realizes that others live the same dilemmas as him.

Bee & Boyd (2011) point out that friendships between adolescents become increasingly intimate and true, the adolescent feels safe in friendships to share secrets and inner feelings. The role of peer groups in adolescence, according to the authors, is to assist as a vehicle for the transition from third childhood, a phase of protection and family care, to adulthood full of responsibilities. It is possible that the adolescent trusts his peers more than his parents. In this sense, the Marist South Reading Point Social Project appears as a place of meeting of peers, of problematization and intellectualization of the anxieties experienced by these adolescents, as well as of welcoming them.

Sifuentes, Dessen and Oliveira (2007) talk about the dynamic character between human development and the socialization process that involves relationships, in this sense, the members of a culture influence it and are influenced by it. Rego (1995) defends Vygotsky's point of view by postulating that development is a process that must consider biological aspects and that these are transformed into cultural ones. The adolescent, therefore, constitutes himself as an interactive subject and, in this process, uses speech as an instrument to organize thought.

> (...) The development of the human subject takes place from the constant interactions with the social environment in which he lives, since the most sophisticated psychological forms emerge from social life. Thus, the development of the human psyche is always mediated by the other (REGO, 1995, p. 61).

The Marist South Reading Point Social Project sought, through culturally significant activities that value the experiences of the adolescent culture itself, to give it a new meaning. In fact, with the use of literature and debate, it promoted critical thinking, broadening, complexifying and diversifying the knowledge of these adolescents.

The statements "I started to read more" and "I started to read 100% more than I used to", reflect the interaction of adolescent culture with knowledge that is historical heritage of humanity and is possible thanks to the socially interactive and relational environment that is the Social Project.

In Freire (2008) we see that dialogue is an educator. In the rupture with verticality, the adolescent who attends the Ponto de Leitura Social Project can problematize their anxieties through the readings and debates promoted, since*:* "no one educates himself (...), men educate themselves mediated by the world" (FREIRE, 2008, p. 9).

Another important aspect to note is that the quality of the reading that takes place in the Project is different, as it is always being mediated by the more experienced partner. In Papalia and Feldman (2013) we have that the habit of reading promotes vocabulary, stimulates imagination and induces problem-solving skills.

Category 4 – Acquired human values

Ad. 1	- Wisdom, empathy, reciprocity.
Ad. 2	- Willpower, self-confidence, responsibility and especially empathy.
Ad. 3	- Empathy, gratitude, respect for others... positivity.
Ad. 4	- Knowledge, because many words I didn't know, respect, I started to respect the difference of others, and, finally, I became more responsible, because the books I borrow are lent to other people as well.
Ad. 5	- Respect, humility.

In the table of answers about Human Values, it can be seen that empathy was expressed by all adolescents who attend the Project. The answer: "(...) I began to respect the difference of others (...), it also reflects in a simple way the empathetic attitude that was developed throughout the experiences in the Social Project".

Bee and Boyd (2011) state that empathy involves two aspects: the understanding of the other's emotions and the combination of one's own emotional state.

The encouragement of altruistic attitudes promoted by the South Marist Reading Point Project is reflected both through logical and moral reasoning. In Papalia and Fedman (2013) we see that the peer group, through debates about moral conflicts, also influences the appearance of moral reasoning,

including at a higher level. Another aspect observed is that educational environments can serve adolescents as a place to broaden intellectual and social horizons.

Sifuentes, Dessem and Oliveira (2011) clarify that the subject's choices can be made within socio-historical patterns, they cite the teaching character of relationships. Bringing it to adolescence, it is observed that talking about moral values through reading and debate promotes this advanced moral reasoning, as observed in the adolescents' answers, contradicting the expectation that adolescents from the periphery tend to repeat the violent behaviors of that environment.

In the **Questionnaire to Parents**, the following categories were analyzed:

Category 1: Moving after participating in the project

P. 1	Yes. More affectionate, always in a good mood at home, likes to read, a friend of the group, waits for the time to get another book.
P. 2	Yes, I didn't like to leave the house, now she goes to the project with a lot of joy. He likes to help at parties, he likes to read, he likes to participate in the group, he is excited about his studies.
P. 3	Yes. He is an affectionate son and has greatly improved his attention to his brother and parents, he is very communicative, at school he likes to participate in everything and is a good student.

The answers of the parents who agreed to participate in the questionnaire reflect the joy of the adolescents and the taste for reading, pointing out once again how important the presence of the parents, their involvement with intellectualization and friendship is.

The tendency to intellectualization in adolescents can happen as a way to overcome the incapacity for action that remained after leaving the place of child that childhood provided. Intellectualization can even overcome the fanciful omnipotence of childhood parents. For the adolescent, the theoretical solution is a path to the problems he will soon face: love, work, freedom, marriage, philosophy, religion.

Aberastury and Knobel (1981) also point out that interest groups are places where adolescents will be able to realize that they are not alone. In this sense, these groups enable a welcome that adolescents do not always find in their family environment. Such groups provide pleasure and learning.

Papalia and Feldman (2013) state that friendships occupy an important place in adolescence and the amount of time spent with friends, according to the authors, is greater than in any other phase of the life cycle, in fact, friendships can become more reciprocal and true.

Category 2: What would you like to talk about the project

P. 1	Every teenager should participate
P. 2	I recommend all teenagers to participate. It helps in formation, in respect for others.
P. 3	It is a very good project, it encourages the teenager to study.

We noticed, then, that the parents of the young people encourage the project, because they believe that it helps in the formation, studies and knowledge of their children. They emphasize

established relationships, respect for others. Vygotsky points out that: "man's behavior is formed by peculiarities and biological and social conditions of his growth" (2001, p. 63). Social interaction plays a very important role in individual formation, so we must admit that the learning process needs interactive processes.

It can be said that from the moment a child is born, he is already relating and becoming familiar with the environment in which he is inserted. Thus, learning does not happen in isolation, because from the moment the individual lives with other people, he exchanges information and this interaction plays a very important role in his development.

5 FINAL THOUGHTS

The results of the quantitative research presented data that were initially negative for the quality of life of the adolescents who attend the Marist South Reading Point Social Project in the case of the control group, if we consider the confidence interval = 80%. The following hypotheses were raised based on data analysis: the control group had higher rates for the practice of physical activities and also had a younger age group than the intervention group. Another aspect that can be listed is the maturity that the intervention group demonstrated in responding to the qualitative questionnaire, which may suggest greater awareness of the intervention group to answer the quality of life questionnaire (WHOQOL-bref).

Regarding the qualitative analysis, it was observed the importance of the work carried out with the adolescents of the South Marist Sector in Aparecida de Goiânia. The data suggest that the adolescents have advanced language for their maturational moment, giving indications that both the reading and the debates promoted by the Project's educator provided stimuli to the skills of abstraction, logical and moral reasoning. In addition, the project participants expanded their vocabularies and fostered their critical perceptions about themselves and the reality that surrounds them.

The habit of reading mentioned by the adolescents and confirmed by the parents in an interview proved to be a possible path to intellectualization, which can help the youngsters to problematize their experiences, as well as stimulate creativity and logical reasoning.

There is a possibility that further studies will offer more data on the work carried out by the Social Project Ponto de Leitura Marista Sul, because with few data collected in the interview, a certain subjective richness was observed that objective tests would prove insufficient to measure. Longitudinal studies in the field can contribute to further research, ensuring the place and importance that Social Projects have in involving adolescents who are in a situation of social vulnerability.

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Imagery language and system of equations: Semiotic representations and contextualization as theoretical contributions

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ABSTRACT
To address the difficulties involving algebraic knowledge, such as equations and systems of equations, it is important that studies and research be developed to propose ways to support the teaching and learning of Algebra and Mathematics. One of the difficulties is related to language, and the use of images can be a resource to facilitate the understanding of algebraic language. However, it is necessary for visual language to be supported by theories that can justify its use. Given the above, this work aims to present and highlight Multiple Representations, the Theory of Semiotic Representation Registers, and Contextualization as theoretical foundations for the use of visual language in the teaching and learning of mathematics and systems of equations. To achieve this, four chapters are developed, presenting, discussing, and interweaving these theories with visual language. Finally, it is inferred that these theories provide a foundation for the use of visual language in the teaching and learning of equations and systems of equations, where images can be valuable resources for learning Algebra and understanding algebraic concepts such as unknowns and variables.

Keywords: Learning and Teaching, Multiple Representations, Semiotic Registers.

1 INTRODUCTION

For many students, learning mathematics is considered difficult (GOULART *et al.*, 2018; PACHECO; ANDREIS, 2018), as well as Algebra (COSTA *et al.*, 2016; PEREIRA, 2017). In this area we find System of Equations, which uses algebraic language to solve problems. Studies have already pointed out that algebraic language can be the cause of students' difficulty in understanding and developing mathematical activities involving Algebra (ESTEVÃO, 2021; GIL, 2008) and, therefore, it is necessary to develop studies and research that can detect possibilities to overcome this difficulty, such as the use of different representations and languages, for example (OLIVEIRA; ROEHRS, 2023).

According to Pereira (2017), it is important that students, at first, are able to generalize and model situations, using natural language and pictorial representations to later use a more formal symbolic language. In this sense, even if still in an incipient way, potentialities are identified in a specific language, imagery, as a resource for a better understanding of algebraic language, which can facilitate the learning of Mathematics with regard to equations and systems of equations (OLIVEIRA;

ROEHRS, 2023). The language of imagery can be understood as the "communication made through images" (LÍNGUA IMAGÉTICA, 2013, n.p.) and that, as a symbolic capacity of the human being, is used to understand the world (OLIVEIRA; ROEHRS, 2023).

However, in addition to perceptions and indications of the potentiality of different representations and languages, it is necessary that studies and research have a theoretical basis that can sustain the intention of their use, that an approach is made that presents and relates theories that contribute their uses in Mathematics, with emphasis (for the purpose of this work) on the use of imagery language.

In this sense, two very fertile theoretical fields are identified that support the use of imagery language in Mathematics and for the study of equations and systems of equations: semiotic representations and contextualization.

Given the above, this work aims to present and signal the Multiple Representations, the Theory of Registers of Semiotic Representation and Contextualization as theoretical contributions for the use of imagery language in the teaching and learning of mathematics and system of equations.

To this end, three sub-chapters will be developed dealing with the theoretical bases, followed by a chapter that makes connections between the theories and the imagery language. Finally, some considerations are brought to reaffirm the inferences about this proposed relationship between theories and imagery language.

2 DEVELOPMENT

2.1 MULTIPLE REPRESENTATIONS: CONNECTING LANGUAGES

To address Multiple Representations, it is important to mention the theory that is understood, as well as Laburú, Zompero and Barros (2013), as a support for multimodes and multiplicity of representations, which is Semiotics. For Santaella (2017), Semiotics is the science of languages, which has as its object of investigation all possible languages, whose objective is to analyze the modes of constitution of phenomena regarding the production of meanings and meaning. In line with this concept, Semiotics is also defined by Nöth and Santaella (2017, p. 7) as "the science of systems and sign processes in culture and nature", presenting as an object of study types and systems of signs and their effects, as well as the definition given by Melo and Melo (2015, p. 11), who mention Charles Sanders Peirce in the title of their work, adjectivating semiotics, and presenting it as the "science of the sign, whose object of investigation is all possible languages".

By these definitions, Semiotics is understood as a basis for the study of languages. However, it is identified as a very broad theory that could direct the discussion to different directions, such as philosophical, linguistic, etc., taking the focus away from the involvement of languages and representations with the line of study of intentionality of this work, which is teaching and learning.

In this way, Multiple Representations are seen as a path more aligned with this writing proposal. According to Bica, Mello-Carpes and Roehrs (2018, p. 1), the Multiple Representations line of research works with the use of different forms of communication and languages in the teaching and learning process. Furthermore, Klein and Laburú (2012, p 138) cite that multiple modes of representation

> It refers to the practice of re-presenting the same concept in various ways or in different languages, whether descriptive (verbal, graphic, tabular, diagrammatic, photographic, map or chart), experimental and mathematical, figurative (pictorial, analogical and metaphorical), gestural or corporeal.

When analyzing everyday life, the world is composed of several stimuli, such as sounds, images, texts, games, sports, etc. And each one of them reaches people carrying meanings, which are sometimes associated with the same concept. Distinct languages, sound, imagery, textual, many of which are inseparable as a form of communication, compose communication. Therefore, understanding that there is a contribution in which these multiple representations exist and are effective in the cognitive process is important in understanding the world.

In academic and school environments, where scientific language is very present, it is perceived that the appropriation of this language by the student is much more complex than one thinks. According to Lahore (2018, p. 9), apprehending scientific language "implies the acquisition not only of a new semantic system, but a new way of thinking and seeing reality."

However, it is notorious that in the dialogic process between the subjects of education, teachers and students, different skills are highlighted, such as cognitive, emotional, social, physical, and moral (CAMPOS, 2010). With them, the different forms of organization and expression, which make up language, also stand out and should be taken advantage of, "in the educational environment, in order to enhance individual cognitive skills and abilities" (BICA; MELLO-CARPES; ROEHRS, 2018, p. 2).

However, problems are identified related to the students' lack of appropriation and interpretation of these different languages, scientific, mathematical, among others, in addition to the lack of knowledge of the correlations of the representations and how to transform this into a scientific discourse (LABURÚ; BARROS; SILVA, 2011). This is where the role of the teacher becomes fundamental, as he will have the function of preparing his students to overcome these difficulties, presenting and working with them different signs and symbologies, through the use of more than one language in multiple representations. Teaching, from this perspective, can be more comprehensible, since both in Science and in Mathematics there is an understanding of the need for different ways of representing this scientific knowledge. (BICA; ROEHRS, 2015).

For Multiple Representations, a new form of representation can help to complement, rectify or ratify previous knowledge, and can limit and even refine its interpretation. New representations can enable students to be reexposed to information, but with other signs, which can generate new meanings

to these previously formed concepts (BICA; MELLO-CARPES; ROEHRS, 2018), which are not necessarily dichotomous. For this reason, Multiple Representations "allow the formation of bridges between the subject's previous knowledge and new concepts, enabling the structuring of meanings and argumentative relations" (LABURÚ; BARROS; SILVA, 2011, p. 481) and, in this way, they can collaborate for the development of Meaningful Learning.

It is noticed, when relating previous and new knowledge, that there is an association of Multiple Representations with Meaningful Learning. Moreira (2016) describes that Meaningful Learning happens when the meaning of new knowledge is produced by the learner when he is able to relate it to specifically relevant knowledge pre-existing in his cognitive structure. This prior knowledge, the subsumers, are defined as "prior organizers that serve as a bridge between what the learner knows and what should be learned by him" (SILVA *et al.*, 2017, p. 48), and must already be present with a certain "degree of clarity, stability and differentiation" (MOREIRA, 2012, p. 5), serving as a kind of anchorage.

By highlighting the importance of subsumers in Meaningful Learning and that they depend directly on the student, Moreira (2016) emphasizes the student's protagonism in the process, not disregarding the relevance of the teacher's role, as it is up to the latter to organize the learning environment for the development of the subsumers' relationship with new knowledge.

Another aspect related to Meaningful Learning is the relationship between meanings and feelings pointed out in Joseph Donald Novak's theory of education, since "any educational event is [...] an action to exchange *meanings* (thinking) *and feelings* between the learner and the teacher. In other words, an educational event is always accompanied by affective experiences" (MOREIRA, 2016, p. 56, emphasis added). It is understood that the contact with a multiplicity of representations, associated with the different teaching methodologies that can be adopted by teachers, can generate these experiences and, from them, promote a predisposition to learning, which is a condition for Meaningful Learning (MOREIRA, 2016).

Specifying a little the imagery language in the context of Multiple Representations, for Bica, Mello-Carpes and Roehrs (2018, p. 13), "A change that has been occurring over time is the presence and use of images as a form of conceptual representation, consolidating itself as a conceptual facilitator". The visual elements of the images, with their colors, shapes, depth, planes, effect of textures, etc., collaborate in the understanding of meanings as they help in the construction of meanings (SCOPARO, 2018).

In the case of texts involving written language and imagery, Luyten (2011, p. 6) points out that "images support the text and give students contextual clues to the meaning of the word". This is corroborated by the considerable presence of images in books to improve the understanding of the concepts covered, especially in the sciences (MARTINS; GOUVÊA; PICCININI, 2005).

In this perspective of indicating the benefits of Multiple Representations, Ainsworth (1999) mentions three main functions of Multiple Representations in learning situations: *to complement* previous knowledge, either by complementing information or cognitive processes*; to restrict interpretations* and improve them, through familiar representations or by exploring properties of a representation; and to *deepen knowledge*, being the sense of deepening given by an intention to seek abstraction, generalization and the relationship between representations.

From all the above, according to Bica and Roehrs (2015, p. 3), it can be said that multiple representations appear as "an instrument that facilitates and expands the teaching and learning process that occurs in the classroom".

Even though it is still incipient that it is possible to visualize multiple representations as a basis for imagery language, there is a theory that is more specific to Mathematics, within a multiplicity of representations, which is the Theory of Registers of Semiotic Representations, to be developed in the next chapter.

2.2 REGISTERS OF SEMIOTIC REPRESENTATIONS: A MATHEMATIZED LOOK AT SEMIOTIC REPRESENTATIONS

Although Multiple Representations are a good contribution to the use of imagery language, it is interesting to have a more specific look at the relationship between different languages and representations, and the teaching and learning of mathematics. This association is found in Raymond Duval's Theory of Registers of Semiotic Representation.

Due to its specificity, mathematics depends essentially on semiotic representations, which are generally considered "as a simple means of externalizing mental representations for communication purposes" (DUVAL; MORETTI, 2012, p. 269). However, they are "essential to the cognitive activity of thought" (ibid.), as they develop mental representations by performing different cognitive functions and producing knowledge.

However, in Mathematics, unlike other areas of knowledge, there is no sensory access to the object of study. For example, mathematical objects called *numbers* depend exclusively on their representations: written (in the form of numerals, or numerical expressions), or graphic (numerical line), or geometric (a line segment). This absence leads to what Duval (2010) called the cognitive paradox of mathematics, formulating two questions: how not to confuse object and representation if we do not have access to the object outside the representation?; If there are multiple distinct representations of an object, how do we know that they are not conceptually distinct objects, and not a single one?

This second question is considered by Duval (2010, p. 129) as "the first source of students' difficulties [which is]: how to recognize the same object in different representations?". Due to these

issues of paradox and the difficulties arising from it, the importance of deepening and theorizing the aspects related to the multiple semiotic representations, which are found in the Theory of Registers of Semiotic Representation, is exalted.

In this theory, a semiotic system is "a set of signs, organized according to their own rules of formation and conventions, which present internal relations that allow the identification of the objects represented" (DENARDI, 2017, p. 5). As in Semiotics and Multiple Representations, semiotic systems have the capacity to communicate, by producing and transmitting information (DUVAL, 2010).

However, some semiotic systems perform other cognitive functions in addition to communicating, such as the objectification function, characterized by providing an understanding of the object to be apprehended, itself (DENARDI, 2017; FLORES, 2006); and treatment, which aims at processing through operations, but within the same semiotic system (DUVAL, 2010). When dealing with these more complete and specific semiotic systems of Mathematics, Duval (2010) used the term record.

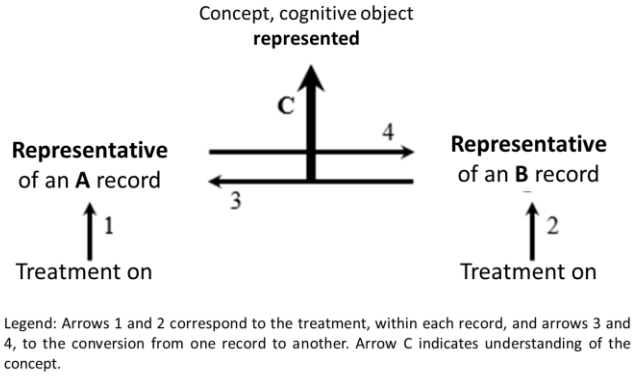
Thus, a register of semiotic representation "is a semiotic system that fulfills, in addition to the function of communication, the cognitive functions of objectification (understanding for oneself) and treatment" (DENARDI, 2017, p. 5), and can be classified into 4 types: "natural language, writing systems (numerical, algebraic and symbolic), Cartesian graphics and geometric figures" (ibid., p. 6).

Regarding mathematical activity, Duval (2010) points out that two types of transformations are necessary: conversions, which involve transformations from one representation register to others; and processing, which are the operations within the registry itself.

Duval (2010, p.130, emphasis added), in the intention of describing and analyzing mathematical activities, defines what he calls semiosis as "the mobilization, implicit or explicit, of *at least TWO registers to* PRODUCE, *externally or mentally*, semiotic representations of an object, and to be able *to TRANSFORM THEM.", pointing out that the multiplicity of representations* is very important for semiosis to occur.

The main idea of the Theory of Registers of Semiotic Representation is that the comprehension and learning of Mathematics presupposes the existence of semiosis, that is, "the integral comprehension of a conceptual content rests on the coordination of at least two registers of representation" (LABURÚ; BARROS; SILVA, 2011, p. 471), and the ability to change records and/or process a record. More simply, by coordinating only two records, this can be seen in the schematic in Figure 1.

Figure 1 – Coordination of two registers of semiotic representation.



Legend: Arrows 1 and 2 correspond to the treatment, within each record, and arrows 3 and 4, to the conversion from one record to another. Arrow C indicates understanding of the concept.

Source: Duval and Moretti (2012), adapted.

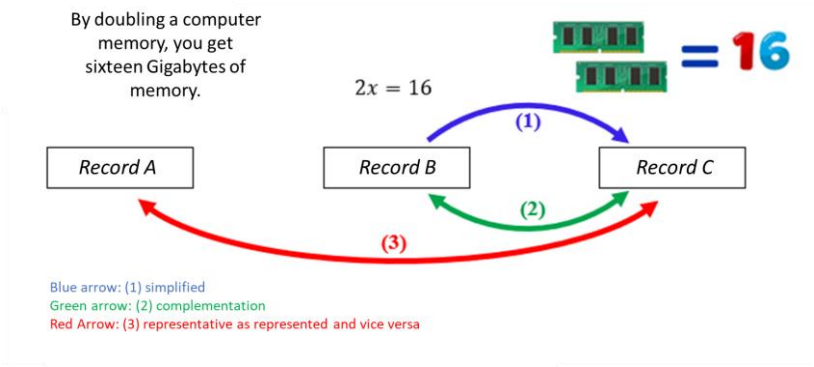
For example, the ability to represent a mathematical function by an equation or by a graph, mobilizing them in both directions, denotes a change of register, a conversion; while the rewriting of this equation, simplifying it through the addition of similar terms, is an example of transformation within the same register.

The need for the existence and coordination of at least two registers of representation comes in the direction that the recurrence to the diversity of registers is a "necessary condition so that mathematical objects are not confused with their representations and that they can also be recognized in each of their representations" (DUVAL; MORETTI, 2012, p. 270). In this way, one has effective access to the represented object for a conceptual apprehension of that object.

In the same vein of explaining the interest of coordinating multiple semiotic registers for the functioning of human thought, and thus for the teaching and learning of Mathematics, Duval and Moretti (2012) highlight three points: **(1)** distinct registers allow simplifying the understanding of concepts by streamlining processes; **(2)** different registers complement each other, since "every representation is cognitively partial in relation to what it represents" (ibid., p.280), with semiotic drawbacks of the register; **(3)** the condition that a representative is the represented, and vice versa, favors later transfers and learning, making the acquired knowledge usable in other situations.

In an example of an algebraic problem, it is possible to indicate these points by means of the coordination between registers of mother tongue *(A)*, algebraic writing (*B*) and symbolic writing (*C*), presented in the diagram in Figure 2. In symbolic representation, the use of imagery language is employed.

Figure 2 – Coordination of two registers of semiotic representation.



Source: The author.

The simplification (blue arrow) can be seen *in the representation of register C, with the collaboration in the understanding of the unknown by using the drawings of memories; the complementation (green arrow) comes in the sense that* register C, being visual, with two drawings, complements the idea of double associated with 2x *(algebraic) in register* B*, just as register* B *complements the understanding of* C for the possibility of facilitating the treatment in solving the equation. The representative/represented situation (red arrow), insofar as one can move between the records in the mother tongue and the written language, in which either one can be the starting point (representative) in relation to the other representation (represented). It is worth noting that other coordinations are possible, with an indication of the points that highlight these associations, even more so due to the fact of the representative/represented relationship of point (3).

2.3 CONTEXTUALIZATION: MORE MEANING THROUGH REPRESENTATIONS

By observing the difficulties with Mathematics, with Algebra and its language, as well as the possibility of using another language, imagery, to transpose the difficulties, another contribution can be linked to this use in order to assist and facilitate the teaching and learning of Mathematics, equations and systems of equations: contextualization.

According to Barbosa and Mendes (2016), Mathematics goes through problems that are reflected in the students' understanding of this science, one of which is related to the static and nonsensical way in which the contents are worked.

In relation to Algebra, even though they have mentioned this aspect for some time, Miguel, Fiorentini and Miorim (1992, p. 40) are still very current when they state that most teachers work with algebraic contents "in a mechanical and automated way, dissociated from social and logical meaning, simply emphasizing the memorization and manipulation of rules, tricks, symbols and expressions". In other words, due attention is not given to contextualization for the teaching of algebraic content.

For Tiesen and Araujo (2020, p. 2) "the reason why students do not excel in the discipline [of mathematics] is the lack of contextualization". The same authors also state that scientific studies show

that contextualizing the content of mathematics is important, enhancing the teaching of mathematical concepts, which are often abstract, precisely because it allows a relationship with the student's daily life (Ibid.). Neto (2013, p. 9) complements this statement by pointing out that contextualization can be used as a "starting point and motivating element of learning".

Regarding contextualization in teaching, Neto (2013, p. 11) understands that it "refers to the elaboration of any and all situations capable of boosting the construction of meanings in the learner", and that it is necessary to consider the "interactive processes that promote the socialization of the knowledge mastered by its members, promoting its sharing" (ibidem, p. 12). It is evident the emphasis given by the author in relation to the dialogical relations between all subjects in the classroom. This is corroborated by Pedrosa (2014, p. 19), when he states that "to contextualize is to provoke a need to communicate something to someone, it is to provoke the need to represent a situation, to discuss it and what is involved".

Schons *et al.* (2017, p. 21), addressing contextualization more focused on teaching and learning, mentions that it can be generalized as "a resource in the search for meaningful learning in which daily experiences are associated with scientific concepts of school knowledge". This view related to science and meaningful learning is very interesting and meets the understanding for the teaching and learning of mathematics.

According to Pessano *et al.* (2017) The definition of contextualization is not unique and, in any situation, the teacher should act as a mediator in the process, since the protagonism should be given to the student, who should have a more active position in the teaching and learning process. The same authors mention that context and knowledge must be in a dialectical relationship, and point out that "contextualization is based on the non-fragmentation of knowledge, situating specific contents within a meaningful context" (ibid., p. 83).

Contextualization in Mathematics, for Barbosa and Mendes (2016), is seen as a pedagogical resource in solving problems such as the lack of connection of content with other knowledge, and situations of rote learning unrelated to the construction of meanings. Tiesen and Araujo (2020), in an analogous characterization, cite mathematical contextualization as a pedagogical principle, with the objective of improving student learning by involving knowledge with the student's life, providing them with the junction between learning and reality, considering their previous knowledge.

With a view to the teaching process, Barbosa and Mendes (2016, p. 370) define that "contextualizing in the teaching of mathematics is to lead the student to understand the historical, social and interdisciplinary aspects that permeate a certain content".

It should be noted that, for Mathematics, the understanding that to contextualize is to place in a context (BARBOSA; ARAÚJO, 2014) is well regarded, since understanding linked to students' daily lives is not always possible due to the specificities of some mathematical contents. For Boemo and

Roos (2016, p. 4) "although day-to-day situations can contribute to the teaching of Mathematics, the contextualization of mathematical content cannot be restricted to them", making it necessary to consider internal issues of Mathematics so as not to discard content that would not be connected to the reality of the students (SANTOS; NUNES; VIANA, 2017). For Luccas and Batista (2008, p. 9), the "contextualization of mathematical objects can stimulate students to feel motivated to learn, especially when it involves a context other than the purely mathematical one".

In the search to elaborate a conceptualization for contextualization that takes into account the definitions already addressed, the relationship between the subjects of the process and Meaningful Learning, the following wording was formulated: Contextualization, from a comprehensive and less formal point of view, can be seen as the moment in which teacher and students dialogue about previous knowledge, students' daily lives and reality, so that relationships of meanings with new knowledge are developed.

To facilitate the understanding of this concept, reducing and simplifying the text a little, thinking about a possibility of employment for Basic Education students, for example, the following can be written: moment in which teacher and students dialogue about previous knowledge, daily life and reality of students, so that relationships of meanings with new knowledge are developed.

It should be noted that the term *dialogue,* used here, is much broader than its etymological meaning. Dialogue, from a more qualified perspective, can be seen as "a form of conversation aimed at strengthening connections and deepening the perceptions we have of them" and also as a "joint investigation in the direction of more understanding, connection or possibilities" (SOBRE DIÁLOGO, 1998, n.p.). It is in these senses that dialogue is understood in contextualization, involving the interlocution and interaction between teacher and student, between the students themselves, and also between students and teacher with didactic materials and means of communication, such as the internet, for example, in the search for this joint investigation.

Although a reference to Meaningful Learning is not explicit in this last proposed concept, it is noticeable that when dealing with contextualization as a space for dialogue involving previous knowledge, this learning is mentioned, as well as Schons *et al.* (2017) and Pessano *et al.* (2017) also do. In this sense, Neto (2013) points out that when working with school knowledge in a contextualized way, it is expected that their learning will be significant, valuing the knowledge brought by students and developing knowledge, reflecting and promoting a true change in their realities.

2.4 INTERWEAVING THE CONTRIBUTIONS TO THE IMAGERY LANGUAGE AND SYSTEM OF EQUATIONS

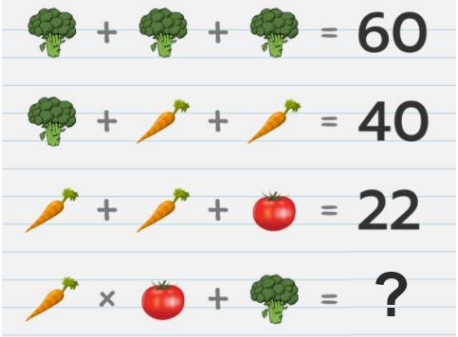
Part of the school community still undervalues the importance and influence of images, which are seen as less qualified means of communication (GUALBERTO, 2013) or "mere contemplative objects" (PERALES, 2008, p. 20).

Exactly in the opposite direction of this understanding, in line with (Biasi-Rodrigues and Nobre (2010) when they state that images are omnipresent and loaded with senses and meanings, it is intended, based on the theories and some *insights* about the imagery language developed in the previous chapters, to highlight the use of this language in mathematics and how these theories can serve as a basis for it to be understood as a facilitating resource in the process teaching and learning of Algebra, equations and systems of equations.

Langwinski and Bassoi (2019), addressing mathematical objects, state that access to them is through representations. By describing steps for the elaboration of a first understanding of Algebra, it presents the possibility of not using letters to represent numbers in the writing of an equation, but rather of blank spaces and the connective E for an addition: For example: (-2) E (+5) = ___. This description of the procedure for the initial comprehension of algebraic equations and their language, allows precisely to look at the use of representation by means of images, with the language of imagery.

When dealing with this use, we are talking about the use of images to replace the unknowns and variables present in equations and systems of equations, as well as the use or not of operation signals linked to these images. This type of representation is found in mathematical challenges, as in Figure 3, which are easily found on the internet, including *in online* games, and can be defined as puzzles in the form of symbolic equations, whose objective is to find the value of each symbol and, with that, find the final answer (GONZÁLEZ, 2021).

Figure 3 – Example of a mathematical puzzle.



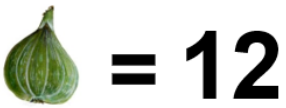
Source: González (2021), adapted.

The link of contributions by the Multiple Representations begins. Its role is understood as a support for the use of imagery language in equations and systems of equations because it deals with the development of the same concept in different representations, including figurative, pictorial,

photographic (KLEIN; LABURÚ, 2012), which can enhance both the learning of these concepts and the methods involved in the process (LABURÚ; BARROS; SILVA, 2011).

By using imagery language, one can perceive the benefits that this multiple representation can bring to the understanding of equations, complementing previous knowledge and refining interpretations. An example is the presentation of an image linked to a number, such as a fruit, for example (Figure 4).

Figure 4 – Image language as multiple representation.



Source: Author's own.

It should be noted that this number may be representative of a more concrete concept, such as the mass of a fruit, in the case of the example the fig with 12 grams.

According to the Multiple Representations, this reexposure to information can contribute to the understanding of the representational function of the sign, specifically the fruit of the example, with the representational function of a letter in an equation, in the concept of unknown and variable, in addition to the collaboration in the understanding of the concept of equality, through the relationship of the representation with a concrete situation.

In this same example, the relationship between the image and previous knowledge is highlighted, as well as the possibility of outcropping feelings and emotions related to this image, indicating that with the use of imagery language, evidence of a Meaningful Learning may arise, which occupies its space within the Multiple Representations.

In the mathematical puzzles, in addition to the representational issues of the images, the playfulness proposed by the fact that it is a challenge, a game, stands out. All this can arouse the student's interest in better understanding an equation system, initially proposed in an image representation, to then be able to understand and use solving techniques in algebraic language.

With regard to the Theory of Registers of Semiotic Representation, it is understood that it is a theory associated with Multiple Representations since it deals with semiotic representations. Therefore, it can be considered as an equally solid basis for the use of imagery language, and even more specific to Mathematics.

Identifying the imagery language in the Theory of Registers of Representation, it can be seen in the transformation of conversion, specifically in a more focused look at representations in writing systems. Just like algebraic writing, the language of imagery, within a symbolic writing register, can be the representation of a register in the mother tongue, of a problem, with the use of images, and thus

characterizing the conversion. It can also facilitate the understanding, by means of another conversion, between the registers in algebraic language and the imagery. With figures, the representation of multiples, e.g. double, would not need plus signs or coefficients, although they can be used. This can be seen in Figure 2, when the capacity of two memories is associated with the value of 16.

This conversion is restricted to linear equations, since equal images, placed side by side, would represent the idea of sum. If it were necessary to multiply images, a specific symbology would be needed, which could be predetermined and adapted, depending on the equation.

On the other hand, in the transformation of treatment, the imagery language can support some of the difficulties of understanding in relation to representations of situations that confuse students in Algebra when operationalizing letters and numbers. For example, the difference between double and square. Using imagery language, double a number can be more understandable because there are two images present there, in which it is more natural to think that both values are equal. Figure 5 compares the understandings of the treatment of records in algebraic (left) and imagery (right) on the question of double, shown in Figure 2, which suggests that the understanding that each memory has 8 *Gigabyte is more direct in the* imagery language than in the algebraic one.

Figure 5 – Comparing registers in writing in algebraic and imagery language.



Source: The author.

By moving between the signs of the algebraic language, the letters of the alphabet, which can sometimes confuse the student due to the same use in the mother tongue, and the use of images, an environment can arise for the simplification and complementation of concepts, mainly related to unknowns and variables, favoring learning and making knowledge usable in other situations.

For all this, it is understood that the Theory of Registers of Semiotic Representation is a basis for the use of imagery language, and that by employing it, by means of mathematical puzzles, for example, it is using another register of representation for a system of equations, which can collaborate in the student's learning.

With a look at contextualization, a question that is always very present in math classes is: "*why learn this*?" It is accompanied by the phrase "*I'm not going to use this in life*" or "*these 'things' are not part of my day*." But thinking about contextualization, according to the concepts addressed in this work, leads to the understanding that it supports the use of imagery language in the teaching of Algebra, responding to some of these sentences.

The use of image refers to previous knowledge of the learners' realities. Here is a parenthesis, of why use the word reality, because people have several realities linked to the environments in which

they live, such as the family, the school, the social, the virtual reality. And among all these realities, there are representative images that can contribute to the understanding of problems and the role of unknowns and variables in equations, for example.

Of course, great care must be taken in this regard. To contextualize an equation through images, it is necessary that they have the real meaning of what it represents. Although this is not a precaution that can be observed in mathematical puzzles, there is the possibility that they are adapted and used in such a way as to actually represent numbers linked to the representational reality of their images, as in the examples shown in Figures 2, 4 and 5, in which the values 16 of the memories and 12 of the fig, mean the actual capacity and mass of the same, respectively. In other words, using imagery language to address problems involving equations and systems finds a basis, as images can contextualize the situation and thus make more sense of the problems.

At the end of this chapter, it is noticeable that Multiple Representations, the Theory of Registers of Semiotic Representation and Contextualization form a theoretical contribution that supports the use of imagery language in Mathematics. Although the focus has been on the contents of equations and systems of equations, it is believed that with other studies the imagery language can collaborate with teaching and learning in other areas of Mathematics, due to the representational potential of images.

Even with the emphasis given to imagetic language, it should be noted that there is no apology in this work for algebraic language not being useful or that it can be replaced by imagery, since both language and algebraic thinking are significant for a more complete mathematical education (PEREIRA, 2017). The emphasis is precisely on visualizing another representation, a record, which, aided by contextualization, can facilitate the understanding of unknowns, variables, equations and systems of equations.

3 FINAL THOUGHTS

It is believed that from the presentation and linking of conceptions and perceptions highlighted in this work, the objective of pointing out Multiple Representations, the Theory of Registers of Semiotic Representation and Contextualization as theoretical contributions to the use of imagery language related to the study, teaching and learning of Mathematics, especially equations and systems of equations, has been achieved.

By using imagery language to approach and recognize scientific contents, students can be provided with a better development of their cognitive capacities, by employing different representations that complement each other and can mobilize previous knowledge, including those related to their realities.

In addition, the imagery language is characterized as a record of semiotic representations, within symbolic writing, and therefore can compose the coordination with another register so that

students can effectively access mathematical objects and learn their concepts, in this case those related to the study of equations and systems of equations.

Being supported by these theoretical frameworks, the imagery language is an interesting resource that can contribute to the teaching and learning of Mathematics. Specifically, on the algebraic themes treated, the mathematical puzzles are shown as an imagery material that is already conveyed by the internet, with a direct relationship to a system of equations and that can be used with the necessary adaptations to correspond to the needs of the planning and objectives of the classes.

Furthermore, in addition to mathematical puzzles, images can be used in situations of learning (or retaking) initial concepts of Algebra, such as understanding unknowns, variables and equality, for example. Consequently, these concepts can become more interesting and meaningful to students, and learning can take place with greater meaning.

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The increase in childhood obesity in the COVID-19 pandemic context in Brazil: A bibliographical review

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ABSTRACT

INTRODUCTION: Childhood obesity is characterized as an excess of body fat that causes health problems. Therefore, it is essential to analyze the influence of the Covid-19 pandemic on the increase in pediatric obesity. OBJECTIVE: To identify the influence of the implications of the Covid-19 pandemic on the increase in obesity among children, relating it to changes in lifestyle and food consumption resulting from social isolation. METHODOLOGY: This work is a bibliographical review. Firstly, a bibliographical search was carried out in the SCIELO, VHL, Periódicos Capes and ResearchGate databases. The second stage was the careful analysis of the work. RESULTS AND DISCUSSION: Based on research, an increase in childhood obesity was observed during the pandemic period. Therefore, child health care must be intensified. CONCLUSION: Given the above, it is concluded that the implications of the Covid-19 pandemic influenced the increase in pediatric obesity in Brazil.

Keywords: Children, Overweight, Pandemic.

1 INTRODUCTION

Childhood obesity is characterized as an excess of body fat that causes health problems in individuals in different aspects of the body's functioning. In addition, it is classified as a multifactorial comorbidity that is influenced by physiological, emotional, behavioral, and socioeconomic factors, and is characterized by being a dynamic process that depends on parental attitudes, sedentary lifestyle, nutritional pattern, and family relationships (SOUSA *et al*., 2020).

In this regard, the implications of the Covid-19 pandemic also impacted the picture of weight gain in children during social isolation, due to mobility restricted to the home, interruption of social activities, greater exposure to screens, and changes in diet, which also affected the reduction in the practice of physical activity (SOUZA *et al*., 2020). Thus, such measures directly influenced children's diet and lifestyle (KISIELEWSKA, MADO, 2021).

The eating habits of children were also affected by the emotional state resulting from the consequences of the pandemic. Therefore, confinement influenced the increase in the consumption of affective food as a form of comfort during this period (PUJIA et al., *2021), which directly impacted the emotional compulsion for high-calorie foods, greater consumption of processed and ultra-processed foods, reduction in the intake of fruits and vegetables, and increase in the number of meals in a short period of time (LIMA* et al*.,* 2022).

In addition, the association between the practice of physical activity and improvement in the quality of nutrition are effective habits that contribute to weight control, reduction of visceral fat and risk factors, and improvement of nutritional patterns, which allows the balance of the metabolism of children with obesity (SOUZA *et al*., 2020).

Therefore, it is essential to analyze the influence of the COVID-19 pandemic on the increase in pediatric obesity in Brazil. Thus, it is necessary to address the consequences, prevention and control strategies, since these aspects are influenced by the child's entire support network, be it the family, the school, the community, as well as health professionals (SOUZA *et al*., 2020). Addressing this morbidity is of paramount importance for society, as obesity in children can result in serious health consequences in adulthood (VIEIRA *et al*., 2022).

Therefore, the present study aims to identify the influence of the implications of the Covid-19 pandemic on the increase in obesity among children, relating it to changes in lifestyle and food consumption resulting from social isolation.

2 METHODOLOGY

The present work is a literature review. In which it was divided into two stages.

First, a bibliographic search was carried out in the databases of the Scientific Electronic Library Online (SCIELO), Virtual Health Library (VHL), Capes Journals and ResearchGate, published in the period from 2020 to 2022, using as descriptors: "pandemic"; "pediatric obesity"; "COVID-19"; "pediatric obesity"; "pandemic" and "weight gain".

The second stage was the careful analysis of the works, through the reading and classification of those that presented more relevant information about the theme. The inclusion criteria were: complete articles, in Portuguese and English, from 2020 to 2022, referring to the theme.

The exclusion criteria were: incomplete works, in a language other than Portuguese and English, publications prior to the year 2020, as well as works that were not relevant to the theme. From this, 21 articles were found during the bibliographic search, discarding 5 out of context, and 16 works were included in the review.

3 RESULTS AND DISCUSSION

From research, an increase in childhood obesity was observed during the pandemic period. As a result, child health care should be intensified, as research indicates that overweight children have a higher risk of developing obesity (SOUZA *et al*., 2020).

A descriptive study of experience report, carried out with a 7-year-old patient 6 months, in a hospital unit in the municipality of Volta Redonda (RJ), analyzed the consequences of social isolation and abandonment of school activities on the routine of this individual during the covid-19 pandemic. Regarding the physical examination, the BMI value of 25.33 kg/m² (obesity) was obtained (SOUZA *et al*., 2020).

It was observed that the loss of the school's routine had an impact on sleep difficulties and eating patterns, since they ate incorrectly, as they consumed a large amount of food in a single meal, which influenced the development of obesity (PASSOS *et al*., 2021).

In a study conducted by Pelicciari *et al*., (2022) with 68 children, it was shown that 38% of females had an increase in body weight of 7.2 kg, as well as 30% of males increased their weight by 10.1 kg, after the beginning of the pandemic. Research has shown that weight gain in both sexes is related to patients' sedentary habits and consumption of high-calorie foods.

A described cross-sectional study conducted by Sá *et al*., (2020) analyzed how Brazilian families with children under 13 years of age faced the Covid-19 confinement period. The results showed a reduction in the practice of physical activity, and before social distancing, 67.8% of the children were active, but this number was reduced to 9.77%.

The studies conducted by Dunton *et al*., (2020) show that the increase in weight and obesity in children during the pandemic is not only related to the change in diet, but also to the lack of physical activity, stress, increased screen time, and reduced sleep quality.

Thus, social isolation measures reduced social and outdoor activities, limiting daily energy expenditure, which helps control lean body mass and controlled metabolic profiles (STAVRIDOU *et al*., 2021; CENA *et al*., 2021).

A study carried out through a questionnaire, with the guardians of 45 children aged 3 to 10 years, demonstrated the influence of the pandemic on the lifestyle and meal routine of families. According to the results obtained, a reduction in the quality of habits was observed in 23.4%, while only 6.4% showed improvement. In addition, in this survey, the food groups with the highest increase in consumption were delivery (36.2%), homemade fried foods (27.7%), sweet snacks (12.8%), savory snacks (25.5%) and soft drinks (23.4%) (RAMOS, 2021).

Campagnaro *et al*., (2020), showed in their research that 61.5% of families with children reported changes in eating habits during the pandemic period, of which only 33.1% chose to consume healthier foods.

However, another study conducted with 1,516 respondents, with or without children, pointed out that 54% of these individuals reported an increase in the consumption of ultra-processed foods, such as soft drinks *and fast food*, as well as almost 50% said they had reduced their consumption of fruits and vegetables (UNICEF, 2020).

This fact represents that this dietary pattern causes damage to the healthy growth and development of the child, because the composition of these foods is of low nutritional value, and a healthy diet should be based on *fresh* and minimally processed foods, followed by the limitation of processed and ultra-processed foods. An adequate diet provides the intake of all food groups that are safe and essential for the proper functioning of the body (OLIVEIRA *et al*., 2021).

4 CONCLUSION

In view of the above, it is concluded that the implications of the Covid-19 pandemic influenced the increase in pediatric obesity in Brazil. Thus, due to social isolation during the pandemic period, a change in the standard of living and eating of children was observed, which directly impacted the child's health condition.

Thus, it is of paramount importance to promote strategies that help reduce the impacts of obesity on children's health, given that nutrition and adequate lifestyle habits are necessary factors for the healthy growth and development of children, reducing the possibility of health problems in adulthood.

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SEVEN publicações acadêmicas

Gender equality at school: A study with high school institutions in the federal network

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ABSTRACT
The objective of this work is to understand how the topic of gender equality has been addressed by teachers from the Federal Network of Professional, Scientific and Technological Education, within the scope of secondary education. To achieve this objective, research was carried out through the application of online questionnaires, containing multiple choice and open questions, analyzed using quantitative (numerical systematization) and qualitative (content analysis) techniques. The results, although partial, point to an advancement in the approach to gender issues in the Federal Network, with emphasis on the performance of NUGEDIS and the existence of considerable awareness and awareness among teachers about the importance of the topic being addressed in education. It also highlights gaps in the initial and continuing training of teachers to address diversity and gender equality. It is concluded that, despite the advances achieved and the numerous challenges faced, the school has a duty to act to promote social transformation, educating for equality in diversity.

Keywords: Gender Equality, Education, High school, Federal Network.

1 INTRODUCTION

Is the school a neutral environment for what happens in society? Are social problems reproduced in and by the school environment? What is the role of education in transforming discriminatory social practices? It is true that when we ask questions of this kind, we do not find easy and quick answers. However, studying the possibilities of the school's action in themes whose roots in culture and society are remarkable, sounds like mandatory to educational studies.

The issue of gender equality currently represents a topic of enormous relevance, both because of the data on violence against women and the LGBTQIA+ population, and because of the enormous challenge of overcoming this situation. Shedding light on this matter has proven to be fundamental in this context.

The failure to recognize the historical inequalities of Brazilian society, not only in its socioeconomic aspects, but also in terms of gender and ethnic-racial aspects, as well as the challenges regarding the role of the State and public policies in confronting them, indicates a risk to the democratic development of the country (SÍGOLO; GAVA, UNBEHAUM, 2021, p. 12).

It is observed that the most diverse situations and experiences of different social realities are gathered in the school, so that the approach to themes rooted in culture and society becomes elementary for the understanding and confrontation of prejudice, discrimination, and stigma. At the same time, an emancipatory education can also contribute to the construction of a society that better coexists with diversity, based on respect and equality (MARÇAL, 2019).

Aware of the role that the school plays as a social institution, whether in the reproduction of inequalities or in confronting them, this study aims to understand how gender equality has been approached by teachers of the Federal Network of Professional, Scientific and Technological Education, in the context of high school. The choice of institutions that are part of the RFEPCT is justified by the fact that it is present in all Brazilian states, allowing a broad reading of the gender theme in the national school environment. Also, because they enjoy pedagogical autonomy, RFEPCT schools have more freedom in the development of their guidelines (which are guided by current legislation), allowing the treatment of gender issues to be better defined than in other networks. As for high school, the choice was due to the fact that this is an important stage of school life that encompasses youth in a phase of self-definition and formation of personal identity, including life beliefs and worldviews.

1.1 EDUCATION AND GENDER ISSUES: OVERLAPS AND CHALLENGES

Does the school, as a social institution, reproduce situations of gender discrimination present in society in general? This question is important to the extent that answers to it can lead us to reflections and to review the practices adopted in the school by all who are part of the school community.

First, it should be noted that gender, in the context of this study, needs to be broadened beyond biological differences. Therefore, referring to

> a socially constituted marker on these differences (biological sex) and that contemplates the social and historical constructions attributed to the baby's body from the moment of the discovery of sex (BOTTON; STREY, 2018, p. 56).

From this perspective, for the social sciences and humanities, gender is a product of culture and social reality, and not derived from the biological dichotomy of male and female (SILVA, 2007). This conception of the social construction of the concept is salutary to the extent that it broadens our view of the fact that, as a product of society, the themes related to gender and the resulting relations are also marked by historical and cultural legacies.

In our society, whose history is marked by the dominance of patriarchy, obviously, gender relations are characterized by strong inequality of rights and opportunities between both genders, with women having a position of submission and, requiring from them, a posture of struggle for the conquest of rights, respect and equality.

Pierre Bourdieu (2012) argues that male domination generates violence to the extent that it needs to maintain such status; and that this situation is ingrained in society, being taught to men and absorbed by women, although not explicitly. This unconscious understanding generates patterns of social behavior that have been perpetuated and delegated to girls and women a condition of fear, threat and violence.

Through symbolic violence, male domination is consolidated as a form of relationship and social power, being naturalized while shaping the way we conceive the world and the roles between the masculine and the feminine (BOURDIEU, 2012). In this sense, gender violence has its causes in men themselves, that is, violent behaviors are reflections of values learned and repeated, socially and culturally. For this reason, attempts to solve the problem of violence against women by considering only its effects are not effective. It is necessary, therefore, to take a critical stance, to try to identify what is hidden in behaviors, values, concepts. And, as a possible solution to the issue of male domination, as well as the effects of violence against women, in order to escape from this oppressive system, it is necessary to break with the universal and adopt an emancipatory vision, which implies respect for equality and non-discrimination, basic pillars for effective gender equality (NASCIMENTO GOMES, 2016, p. 13).

It is noteworthy that school institutions, shaped by the cultural patterns of capitalism of our times, tend to reproduce within themselves beliefs and attitudes that emphasize discrimination and inequality against women in their practices. The school, like the family and other organizations, is also configured and acts as a space for the reproduction of social structures and, as a result, can reproduce practices that define social divisions, especially those that originate in gender, ensuring the continuity of discriminatory differentiation between students based on this condition. For Bourdieu and Passeron (1992), the school, through the apparatus of material and symbolic power, reproduces relations that help in the incorporation of unconscious perception, appreciation and action schemes that perpetuate the relations of domination within it.

Analyzing violence in Brazil, according to data extracted from the Atlas of Violence in 2018, 4,519 Brazilian women were killed, which is equivalent to one death every two hours (IPEA, 2020), a situation that exposes the enormous challenge that questioning and actions aimed at confronting discrimination and gender violence face.

At the global level, on the occasion of the 70th United Nations General Assembly in 2015, the 2023 Agenda was approved, containing 17 sustainable development goals (SDGs) for a more sustainable and equitable world (UN, 2015). Among these goals, we highlight SDG 5, which includes: "Achieve gender equality and empower all women and girls", unfolding into 9 other specific related and linked goals (UN, 2015). Certainly, the achievement of SDG 5 by countries would contribute to better living conditions and equality for girls and women around the world. It should also be noted that

Brazil is a signatory to three other important international standards: the Beijing Platform for Action, the Plan of Action of the International Conference on Population and Development, and the Convention on the Elimination of All Forms of Discrimination against Women (CEDAW). Although these are not easy goals to achieve, the fact that it is included in a global agenda presents itself as a promoter of important debates and actions by governmental, legislative and civil society entities.

With regard to education, recognizing the need for educational action in schools regarding gender discrimination, UNICEF approved the *Gender Action Plan* – GAP 2014-2017 (UNESCO, 2019) contemplating various actions and activities to be implemented by the entity's member countries to promote gender equality. Among other measures, the GAP presents as fundamental actions the promotion of adolescent health with a focus on gender and the reduction of gender-based violence and the elimination of child marriage (SANTOS; DELAY; DEBIQUE, 2016, p. 43).

Nowadays, marked by prejudices against the school institution itself, whether due to ignorance or bad faith, it is noted that Brazilian education has numerous gaps in its performance to promote more egalitarian relations between genders. From teacher training to views that delegate the gender issue to an inferior and isolated status in education, there are important obstacles to be overcome (MARÇAL, 2019). Despite the difficulties, it is inevitable to discuss and elaborate agendas focused on the theme.

To build gender equality at school is to prevent discrimination processes from occurring and becoming naturalized. That is why it is important that this training is put into practice from the first years of school life. The participation of the teacher is necessary so that the classroom is not a space that generates and reproduces discriminatory education, but rather a space for the construction of equality, since the school, as is known, contributes significantly to the maintenance of the standards established in society (MARÇAL, 2019, p. 1).

In the context of high school, when adolescents around 15 to 19 years of age are forming their conceptions of the world, of personality, of life, the school can be a space capable of promoting changes in relation to gender discrimination or simply reinforcing patterns of inequality present in society, relativizing the seriousness of situations that imply a negative differentiation between male and female conditions. It is in this aspect of identity construction that education plays a central role.

Regarding the theme, the National Curriculum Parameters (Brasil, 1998) deal with the issue of sexual orientation as a cross-cutting theme, and attribute to the school the role of addressing the themes that involve the issue of sexuality in order to guide its students. According to the aforementioned document

> The concept of gender refers to the set of social and cultural representations constructed from the biological difference of the sexes. While sex is related to the anatomical attribute, in the concept of gender the development of the notions of "masculine" and "feminine" is taken as a social construction. The use of this concept makes it possible to abandon the explanation of nature as responsible for the great difference between the behaviors and places occupied by men and women in society. This difference has historically privileged men, to the extent that

> society has not offered the same opportunities for social inclusion and exercise of citizenship to men and women. Even with the great transformation of customs and values that has been taking place in recent decades, there is still a lot of discrimination, sometimes covert, related to gender (BRASIL, 1998, p. 321-322).

Although there is a legal provision in Brazilian education, it is noted that religious groups, conservative Catholics and Evangelicals, have acted forcefully against the insertion of gender equality agendas in the school environment. With strong mobilization with parliamentarians, for example, these groups achieved the exclusion of the word gender and strategic actions to combat discrimination from the National Education Plan – PNE 2014-2024 (BEDINELLI, 2015).

> Although the terms are not explicit, the document mentions the themes of diversity and human rights when dealing with the general competencies that pedagogically underpin the base. Again, the suppression of the terms expresses setbacks in the achievements related to the fight against discrimination and gender inequalities, subsuming them to education for human rights (SÍGOLO; GAVA, UNBEHAUM, 2021, p. 10).

Actions of this type have contributed to the emptying and weakening of education for gender equality in the school agenda and asserted issues of discrimination, prejudice and inequality.

Certainly, school education has limitations to promote changes in society, however, its performance can contribute to the reduction of social inequalities (KRAWCZYK, 2014), notably those arising from gender. "The school alone cannot compensate society, however, when it reaches effectiveness, it can contribute, within the limits of its range of action, to reduce social differences" (GOMES, 2005, p. 284). In this way, the fundamental role that the school can and needs to assume to combat discrimination and violence, as well as to promote more egalitarian and fair relations between genders, educating the new generations to respect diversity and peaceful coexistence among all.

1.2 THE GENDER ISSUE IN THE CONTEXT OF THE RFEPCT

The RFEPCT contemplates the union of a series of institutions that began to act in an integrated manner and linked to the federal government, through links to the Secretariat of Professional and Technological Education (Setec/MEC). Created in 2008 by Law No. 11,892, of December 29, it is composed of:

I - Federal Institutes of Education, Science and Technology (Federal Institutes);

II - Federal Technological University of Paraná - UTFPR;

III - Celso Suckow da Fonseca Federal Centers for Technological Education in Rio de Janeiro (Cefet-RJ) and Minas Gerais (Cefet-MG);

IV - Technical Schools linked to Federal Universities; and

V - Colégio Pedro II.

According to information from the MEC, in 2019 the RFEPCT encompassed 38 Federal Institutes, 02 Federal Centers for Technological Education (Cefet), the Federal Technological

University of Paraná (UTFPR), 22 technical schools linked to federal universities and Colégio Pedro II. 2019).

Recognized for offering quality education, RFEPCT works in the mission of expanding, internalizing and diversifying the offer of professional and technological education in the country. Many of the courses offered by the Network are integrated into high school, equivalent to 229 thousand enrollments, 3% of the country's total (INEP, 2021).

Despite being part of a Network, these educational institutions have administrative, patrimonial, financial, didactic-pedagogical, and disciplinary autonomy (MEC, 2019), which gives them greater freedom to act in response to the local and regional needs of their students and communities. In the field of inclusion and equality, the RFEPCT follows, as a general parameter, national legislations, in particular:

- Articles 3, 205 and 206 of the Federal Constitution (BRASIL, 1988);
- Article 3 of the LDB (BRASIL, 1996); and
- Technical Notes No. 24/2015 and 32/2015 SECADI (MEC, 2015a and MEC, 2015b).

In particular, Technical Note 32/2015 aims to guide the rethinking of exclusion practices in the school environment, working to promote inclusion on different fronts and is materialized by the work of the Support Center for People with Special Educational Needs (NAPNE), the Center for Afro-Brazilian and Indigenous Studies (NEABI), the Center for the Elaboration and Adaptation of Didactic/Pedagogical Materials (NEAMA) and the Center for Gender and Sexual Diversity (NUGEDIS). These centers join efforts to combat exclusion, discrimination and prejudice among and among their students. It should be noted that, as they enjoy pedagogical autonomy, the formalization of these thematic centers for the promotion of equality and inclusion may vary among the institutions of the RFEPCT, both in terms of constitution and forms of action.

Specifically, the gender issue is linked to the Gender and Sexual Diversity Center (NUGEDIS), whose general purpose is to promote a school environment focused on acceptance and respect for diversity and gender differences, enabling equal coexistence among all students through inclusive educational practices. They are spaces responsible for addressing the theme of gender and gender relations in an integrated and transdisciplinary way, whose performance differs according to the conception, perception and demands raised by each Center in their respective schools. Thus, the premise of the RFEPCT institutions is the existence of an educational policy instituted for the gender approach, which gives these schools a vanguard situation in relation to other networks and schools in the country.

The formalization of the gender issue, as a relevant and necessary theme to be addressed in and by the school environment, is also materialized with its inclusion in the Pedagogical Political Projects (PPPs) that direct strategic action, expressing the mission, vision, values and pedagogical conceptions

defined for each school, in addition to the insertion in the Pedagogical Projects of Courses (PPCs). that define both the relationship with axes or thematic nuclei of the gender issue, as well as guide the form of interdisciplinary approach as content.

Thus, it is understood that, given the extension and diversity of institutions that are part of the RFEPCT, studying how its teachers view the theme of gender equality in school practices and how they recognize its importance and effectiveness in the daily life of these schools, is relevant for the understanding of the theme, which may even reflect different understandings of other networks and stages of education in the country.

2 METHODOLOGY

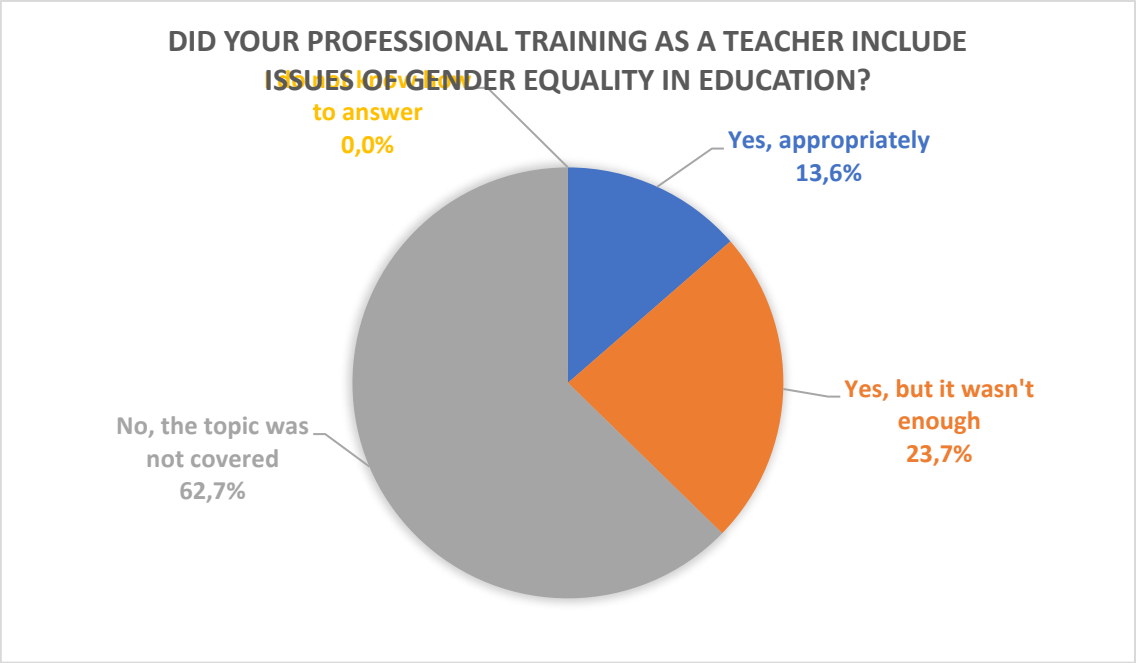
To achieve the objective proposed for this study, it was decided to carry out a quantitative and qualitative research, having as target audience teachers from institutions that are part of the RFEPCT, specifically, those who work in high school. Given the extension and breadth of these schools, distributed throughout the national territory, it was decided to use an *online* questionnaire, available on the Google *Forms Platform*, through the link (https://forms.gle/MR4XDqUhWkkCrkyF9). It is noteworthy that the use of virtual questionnaires as a form of data collection provides agility, practicality, and sustainability to research, allowing greater coverage and reach to different geographic regions in an easy, safe, and anonymous way (ANDRES et. al, 2020).

The questionnaires were sent through institutional contacts, available on the institutes' websites, as well as in WhatsApp messaging application groups. To date, 59 questionnaires have been returned from the 5 Brazilian regions, 57.6% from the Southeast, 22% from the Northeast, 8.5% from the Midwest; 8.5% from the South and 3.4% from the North. The quantitative results were grouped and presented in the form of graphs, in turn, the qualitative responses were scrutinized using the Content Analysis technique (BARDIN, 1977), and both results were discussed in the light of the theoretical knowledge versed in this study.

3 RESULTS

From the research carried out with professors who are members of the RFEPCT, the results discussed below were obtained. It should be noted that the sample included 59 teachers from the 5 Brazilian regions, providing an opportunity for a broad reading of the reality of the gender theme within the scope of the RFEPCT.

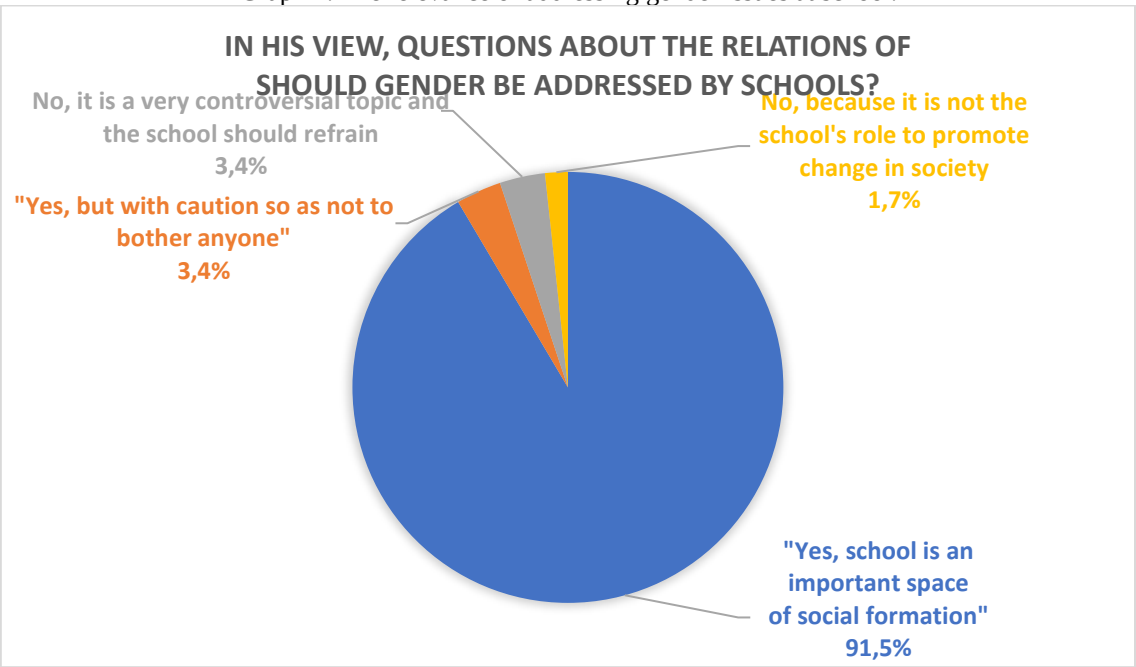
Graph 1. The theme of gender in teacher education.



Source: Prepared by the authors.

When asked if their professional training included issues of gender equality in education, 62.7% of the teachers answered that the theme was not covered; 23.7% that it was treated insufficiently, and only 13.6% consider that the treatment was adequate, corroborating the propositions of Marçal (2019), about the gaps in teacher training when it comes to cross-cutting and urgent issues in our society, such as diversity.

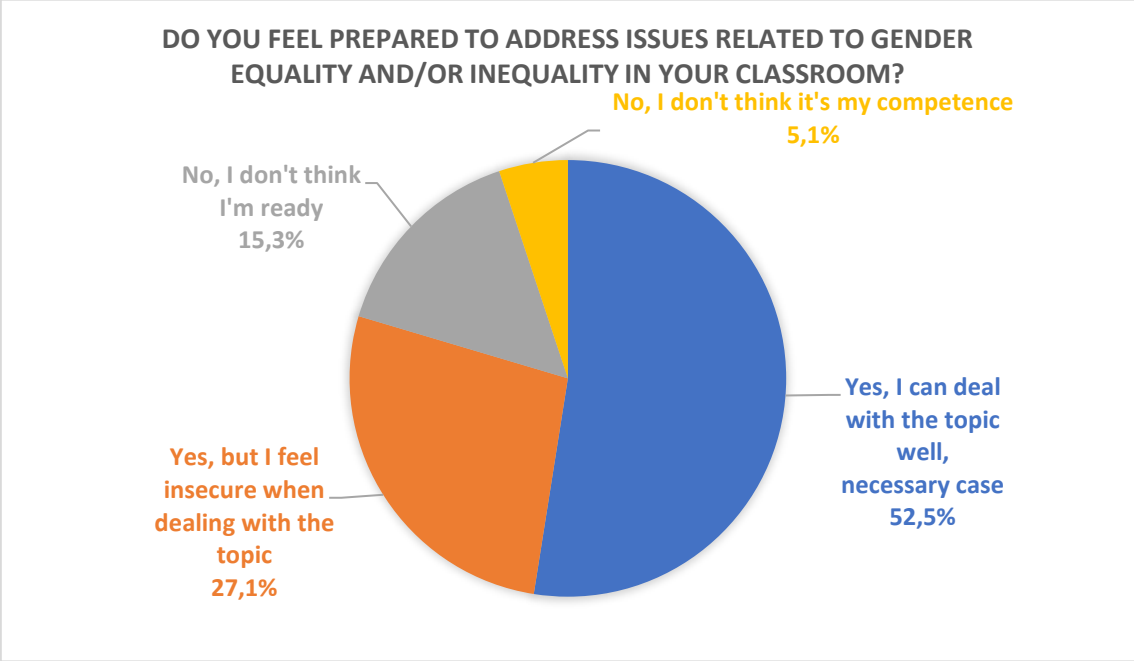
Graph 2. The relevance of addressing gender issues at school.



Source: Prepared by the authors.

When asked if questions about gender relations should be addressed by the school, 91.5% understood that it should, because it is an important space for social education; while 3.4% think that it is a very controversial topic and, therefore, the school should abstain from the approach, which demonstrates that the teachers who are members of the federal network and participants in the research, in their expressive majority, are aware of the importance of the school as a space for social transformation and emancipatory education of the being and society, in accordance with the role of school defended by Bell Hooks (2017).

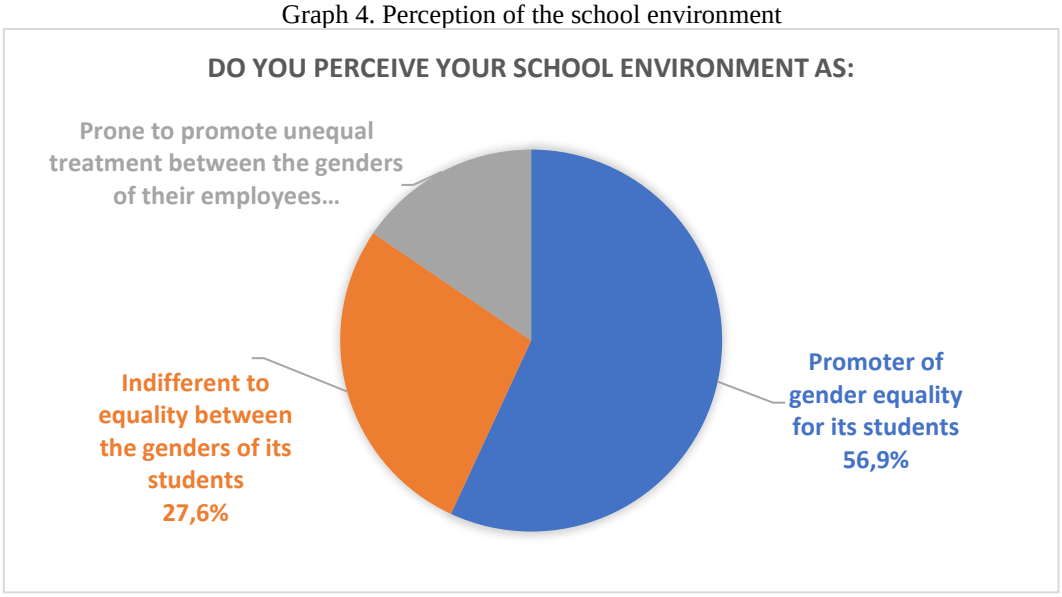
Graph 3. The preparation of educators to address the issue of gender in the classroom.



Source: Prepared by the authors.

Regarding the preparation to address issues related to gender equality and/or inequality in their classroom, 52.5% consider themselves to be prepared to deal well with the topic, if necessary; 27.1% consider themselves to be prepared, but feel insecure when conducting the theme; and 15.3% consider that they are not prepared. Thus, it is observed that, despite insufficient or non-existent initial training for the majority, the same teachers have already managed to build knowledge and experience to intervene on the subject.

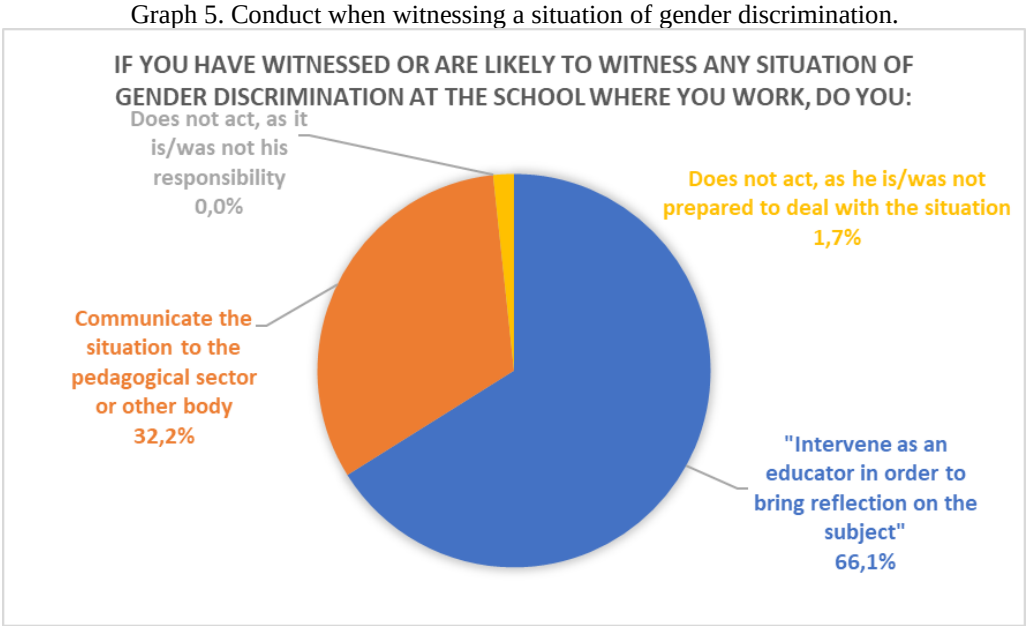
Graph 4. Perception of the school environment



Source: Prepared by the authors.

Regarding their perception of the school environment, 56.9% of the teachers consider it to promote gender equality among students, while for 27.6% the school environment is indifferent to the equality between the genders of the students and another 15.5% consider it prone to promote unequal treatment between the genders of their students. Considering the sum of respondents who consider their school as indifferent or prone to promote unequal treatment, it is latent that, in the experience of these teachers, the school is still a reproducer within the inequalities between the genders present in society (BOURDIEU; PASSERON, 1992).

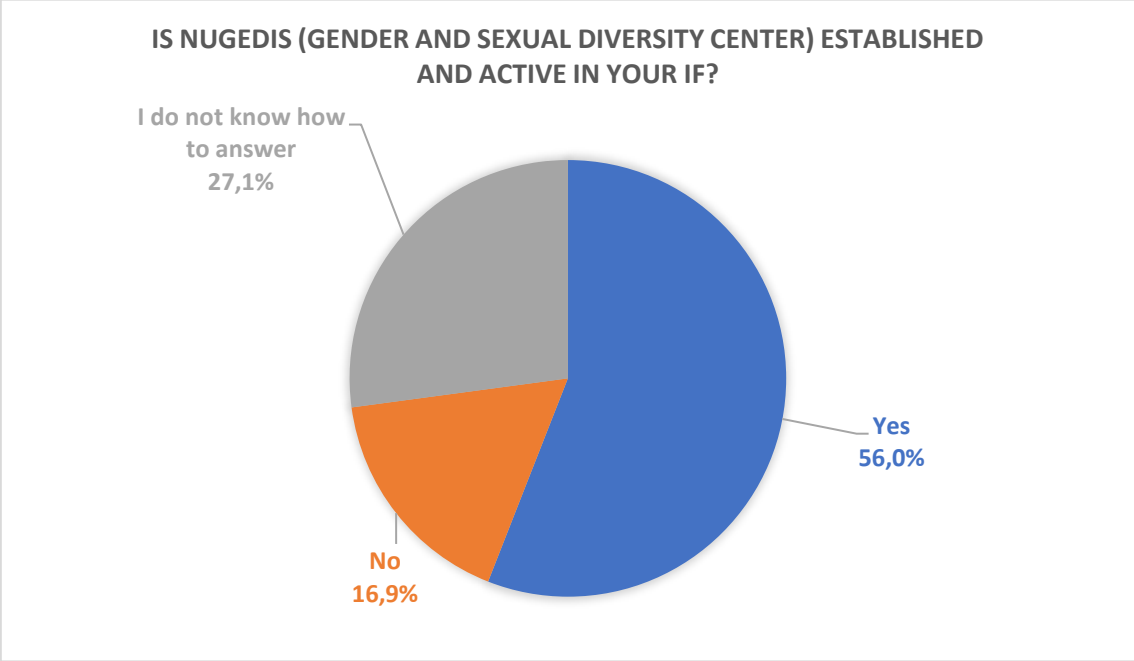
Graph 5. Conduct when witnessing a situation of gender discrimination.



Source: Prepared by the authors.

In the event of having witnessed or in the hypothesis of witnessing some situation of gender discrimination in the school in which they work, 66.1% said that they would intervene as educators in order to bring reflections on the subject; 32.2% would report the situation to the pedagogical sector or other body; and only 1.7% would not act, because they are not prepared to deal with the situation, which demonstrates among teachers a proactive attitude towards injustices in the school environment, reinforcing their commitment to a more egalitarian education and promoting respect for diversity among their students.

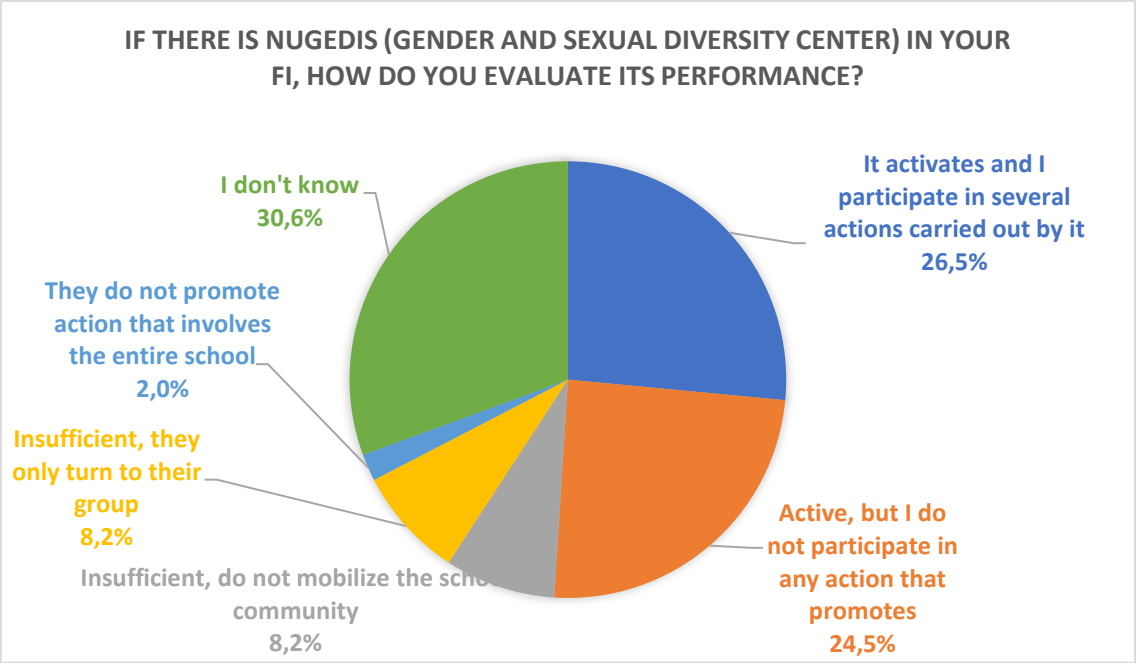
Graph 6. Existence and performance of NUGEDIS.



Source: Prepared by the authors.

The existence of Gender and Sexual Diversity Centers (NUGEDIS) is a particularity of the institutions of the Federal Network, which, if not exclusive, are more numerous than in the other networks. Regarding the NUGEDIS, two questions were listed in the research instrument: the first is whether the NUGEDIS is constituted and active in the school in which the respondent works; the second refers to how the respondent evaluates his/her performance. According to 56.0% of the interviewees, NUGEDIS is established and active; 27.1% did not know how to answer; and 16.9% understand that it is either not constituted or not active.

Graph 7. Evaluation of the performance of NUGEDIS.



Source: Prepared by the authors.

Regarding the evaluation of the performance of NUGEDIS, among the respondents, in numbers, 30.6% of them are unaware of the performance of NUGEDIS; 26.5% consider it active and participate in the actions promoted by the Center; and 24.5%, despite considering it active, do not participate in its actions. It should be noted that such data, despite pointing to the existence of a space for the discussion and promotion of gender equality, still lacks, in some schools, to have their performance improved to become more effective and cover a greater number of students.

The answers to the open-ended question "how do you understand that the issue of gender equality could be better addressed in your school" demonstrated the recognition of the importance of the debate on the gender approach. There were proposals at the operational level, such as the diagnosis of harassment and its treatment, including feedback to those involved; others at a strategic level, such as frequent training actions and participation and awareness-raising activities involving the entire school community. The frequency with which propositions about the need for training on gender equality were suggested was highlighted. Such views corroborate the numbers found in the multiple-choice questions, in which more than 60% of the respondents consider that the gender issue was not contemplated in professional training, as well as revealing a level of knowledge of teachers that the gender approach is not only linked to specific actions, but permeates all levels of school pedagogical planning. It is necessary to involve the strategic levels of the school in the development of the theme.

Criticisms mention the need for a transdisciplinary approach to the issue and the lack of a scientific and impartial treatment of the gender issue. It should be added that some teachers, despite considering the gender approach important, believe that a less ideologized way of approaching the theme could bring greater adherence and effectiveness in the school environment.

4 FINAL THOUGHTS

This research, which sought to understand how the theme of gender equality is perceived by the teachers who are part of the RFEPCT, demonstrated that such schools have a considerable level of sensitization and awareness about the approach to issues related to gender, representing an advance in the consolidation and performance of the NUGEDIS.

On the other hand, the existence of insufficient teacher training regarding the gender issue was also evidenced, which reflects the considerable levels of insecurity and unpreparedness pointed out by some teachers to act in situations of discrimination in the school environment and that require educational interventions. It was also found that continuing education on the subject needs to be contemplated in a more effective way in the training of RFEPCT teachers, and it is still evident, as pointed out by the research participants, the need for involvement of the strategic level of these school institutions in the direction of gender issues in their school communities.

It is suggested that new studies expand the form of evaluation, especially correlating the performance of NUGEDIS with the reduction of gender inequality in the school environment and evaluate successful practices and activities developed in RFEPCT and other education systems.

Finally, we share Hooks' (2017, p. 243) view when she argues that "it takes courage to embrace a vision of integrality of being" and that teaching can and needs to be "a catalyst that invites everyone to become more engaged"; It is believed that it is the duty of education to act in the struggle for a less discriminatory and unequal society, contributing to promote a more just, respectful and egalitarian society between genders. Acknowledging diversity and promoting equality seems to be an imperative mission for education today.

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Malala and the struggle for the right to education of girls and adolescents

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ABSTRACT
The purpose of this work is to present the exchange of experiences lived by the executing team of a teaching project developed in a state public school in the municipality of São Bernardo/MA, whose objective was the implementation, reflexive and critical, of methodologies of Sociology teaching. From the interface with different languages – such as cinema and literature, as well as the insertion of social media – we sought to transpose the contents taught in higher education to the language of high school. During the months in which the activities took place at the school, the institution's own materials were used, such as the book by Pakistani activist Malala Yousafzai, distributed by the government of the state of Maranhão. The young Malala's book contributed to the establishment of debates through the central concepts of Sociology, such as: social and gender inequalities, citizenship, equal right to education – related to the themes addressed in the textbooks and with the syllabus of the Sociology discipline. As a conclusion, it was possible to perceive that Paulo Freire's proposal, centered on valuing students' experiences, constituted a powerful tool to make the teaching of Sociology contextualized, interdisciplinary and plural.

Keywords: Education as a practice of freedom, Academic focus, Malala, Pedagogical practices.

1 INTRODUCTION

The actions developed in the school sought, from the insertion of new methodologies, to awaken in students a critical thinking about the discipline of Sociology, making them reflect on problems present in their daily lives, while exercising a direct dialogue with sociological concepts. To build this interaction between the students and the members of the project, she used as a methodological resource the book "I am Malala", by Malala Yousafzai, in view of the richness of the book, the language, the social and gender issues, discussed by the activist, but also due to the fact that this material was found, by the project team, forgotten in a corner of a room. The number of copies of the book allowed all students in a first-year class to receive one copy – used during the project.

At the time of handing over the books, a student asked if they could keep the book, considering that for most of them it was their first contact with a book, as many only had contact with the textbook or the Bible. Malala's book, in addition to allowing a direct dialogue with Sociology, because it has a more accessible language and closer to their reality, allowed us to enter into several crucial and basic issues of sociological thought. Malala's book tells the story of a young woman who fought for an equal education between girls and boys in her country. Because of his struggle, his life was almost cut short.

By discussing the story of the Pakistani activist, our intention was not only to address the gender inequality present in her native country, but also to lead students to reflect on the importance of education in their lives, a powerful tool for the social transformation of the reality of these young people living in the rural and urban areas of the municipality of São Bernardo.

The gender issue was a problem raised by the team, especially because the room was composed mostly of girls/adolescents. In one of our first meetings, the following question was raised: do women have the same rights as men? This questioning was made based on examples related to the reality faced by Malala, and women in general in Brazil and in São Bernardo/MA. When we asked the students that, if, for example, a student became pregnant, who would stop studying, whether it would be the student or her boyfriend/partner, the class was unanimous in stating that it would be the student/mother. These issues that we addressed in our meetings helped in the process of approximation with the class, since we were strangers to that reality, with a different proposal.

The interaction between basic education students and higher education students (members of the project) allowed us to reflect on their training as future teachers, since the contact between teacher and student is often restricted only to the school space, and the daily life of each student in the basic education network is unknown. We don't know what the day is like or the family relationships of these adolescents because we are often only focusing on presenting the content, and thus we don't have enough time to worry globally about this student. In addition, the lack of a multidisciplinary support team also has consequences.

The project allowed to deconstruct consolidated thoughts and practices among the students about the discipline of Sociology, since it was presented from another perspective, making them reflect on the social context in which they are inserted. The realization of the project strengthened ties between the university and the school community, opening possibilities for future partnerships, and establishing an interaction between the university and the school for future projects.

2 METHODOLOGY

The methodology used in the course of the project was implemented due to the various books available in the school, as we highlighted earlier. The applied methodology included debates, in which sociological concepts were related to the social context of the students, as well as dynamics to activities. As a culmination of the project, students were asked to write letters to Malala, telling her about their lives and how their personal trajectories resembled hers. This proposal, brought by a graduate student who was a scholarship holder of the project, translates the perspective of Paulo Freire, who emphasized:

> The reading of the world precedes the reading of the word, so the subsequent reading of the latter cannot dispense with the continuity of the reading of the former. Language and reality

> dynamically intertwine. The comprehension of the text to be achieved by its critical reading implies the perception of the relations between the text and the context (FREIRE, 1989, p. 9).

The letters allowed us to interact with the students, and to get to know their reality that we did not know – and we started to know partially. Here, however, we do not want to make a superficial criticism of the work of teachers, but to emphasize the importance of the partnerships established between the public university and basic education.

It can be concluded, from the letters, that our team began to have a greater understanding of the students' attitudes in the classroom during the meetings of the project, in addition to promoting a reflection on the difficulties and challenges of teaching in the basic and public school system, especially when we teach Sociology, at a time when we see an attack on the presence of the discipline in the high school curriculum. Thus, training for citizenship, deepening the understanding of the human, promoting the dissemination of Human Rights, requires not only a solid knowledge of sociological thought and the themes that permeate the discipline and are with reality, but also dialogue with the historical, social and economic context of the student.

3 RESULTS AND DISCUSSIONS

The project, which aimed to think and apply methodologies, using different languages, focused on translating the language of knowledge transmitted in higher education into the language of high school. Our compass was Malala's book, which allowed us to build a dialogue on topics such as education, law and gender equality, creating bridges of understanding and understanding.

> Teachers ask about the differences between their language and the language of the students, which would be an obstacle to dialogue. This is sometimes discussed as the social relations of discourse, as a political conflict between the standard language and the colloquial language (FREIRE, 1986, p. 89).

Language plays a fundamental role, since through it the content is inserted. However, there is a materiality of the word, and of sociological concepts, which need to be in constant dialogue with the social, historical, political, cultural and, above all, economic contexts – especially when it comes to the Lower Parnaíba Region of Maranhense. In this sense, the project and especially Malala's book, made the students reflect on the importance of education, in view of the lack of knowledge about the activist's country of origin, Pakistan. The prohibition of access to school for women in that country allowed us to reflect on the obstacles to access to education for girls and adolescents in Brazil.

> With the threat of school closures quickly becoming a reality, I began to enjoy attending classes even more. In the days before the last one, they decided that wearing a uniform was too dangerous, so we had to go with ordinary clothes. I decided that I would not cower in the face of Fazlullah's wrath. I would obey the instruction on the uniform, but that day I chose my most flashy pink *shalwar kamiz* (YOUSAFZAI, 2018, p. 80).

Education is everyone's right in Brazil. Thus, by presenting this story of resistance against the Taliban regime (which forbade women from attending schools), it rose in the students, but also in the students, the importance that the school had in the life of that girl (recently graduated from Oxford) and how the belief in education can be able to transform the reality, not only of Malala, as well as many women, settling gender inequalities.

For the team, the project allowed a subjective interaction with the students through the letters, at the time of reading, as in Ismael's letter[1].

> Well, in relation to what happened in Malala's story and my life, I would say that it has to do with the education that happened to my mother, who did not have the opportunity to study because of her father, in this case my grandfather, who did not let her or my aunts study because he said that the daughter of a caboco do mato has no future. That's why my mother didn't finish her studies, and today she doesn't have a profession, a professional job, but she always tells us what she didn't achieve we can and have the chance to achieve through studies.
> Because after my father passed away, when I was still very young, I told my mother that it was very difficult for us to raise without a job, without a home, because even that my deceased father's bum left nothing for her and us. And that's why I would say that I'm lucky to have the privilege of studying, and who knows, in the future of a lifetime, succeed in professional work, since my mother didn't have it.

From the letters, we have access to the experience of these students, and perceive how distant contexts dialogue and approach each other in everyday experiences. This is the case of Ismael, who seeks to change his mother's life as soon as he gets a good job, repaying her for the chance she didn't have

> I also went through a bad time in my life. I dropped out in the hospital when I was born, because my mother had a lot of children to raise, and with the crisis she didn't have enough money to be able to raise all of us. So my grandmother took me to raise me, I lived with her until I was 16, until she passed away
> The pain was very great because it was just the two of us who lived together, we had very good times when she was still alive. So I had nowhere to go. So my uncle took me to live with him, because my mother didn't accept me again, but I'm going to overcome all this, I'm going to be someone in life. Today I work, I'm a car mechanic. I want to be an engineer, I have a purpose in my life: to know (Jesus). I don't have anyone to lean on, my family is only God and that's where I'm going to stand on.

It should be noted that the names presented here were changed to ensure the anonymity of the students, to protect them – a detail emphasized with them during the development of the project – and that, at all times, we passed on the information to the school. Due to the pandemic, we have not yet been able to give the return we wanted. However, this fact will be resolved soon. The months we spent at the school and the trust of the Sociology teacher from the state of Maranhão in our work allowed us to reach this result.

[1] The names used are fictitious, to respect the identity of the students.

4 FINAL THOUGHTS

As final considerations, we highlight the importance of combining theory and practice in undergraduate training, also reflecting on the possibilities and limits of this practice. The more unfavorable the context, the more languages, methodologies and imagination are necessary for the teaching of Sociology. Without this, classes fall into the traps pointed out by current research, presented in the Curricular Guidelines for High School (2006), which are: uncritical translation of the ways and means of teaching of undergraduate teachers. In this way, using tools, such as literature books, contributes to making the discipline more attractive, enjoyable and attractive to students.

With the development of the project, and the application of the letters to Malala, it allowed a reflection on the performance of the regent teacher (teacher of the state network), on the daily life of the students, in addition to providing a high reflection on our own insertion in the school environment. The cards allowed the establishment of a specular relationship and the establishment of otherness. To conclude, we conclude that the project allowed us to understand the educational reality more closely, from within, beyond the theoretical notes.

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Creative learning as a public policy in Ribeirão das Neves

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ABSTRACT
The article presents the report of experience in the formulation of Public Policy of education, for the systemic adoption of Creative Learning as a pedagogical approach in the Municipal Education Network in Ribeirão das Neves, Minas Gerais. The report presented is not a scientific research, but rather the practical experience of the formulation of public policy for the systemic adoption of Creative Learning as a pedagogical approach and subsequent curricular integration. The formulation of this public policy was adopted from a cartographic perspective. It can be inferred that the recovery of this educational loss, resulting from this pandemic crisis, will only be possible with a great collective and democratic work, with the involvement of the teaching staff of the school community, councils, families, organizations, civil society and a lot of political commitment. Therefore, it is necessary to unite all social subjects in favor of the recovery and improvement of public education.

Keywords: Pedagogical Approach, Creative Schools Program, Public Education, Public Policy on Education.

1 INTRODUCTION

The article presents the report of experience in the formulation of Public Policy of education, for the systemic adoption of Creative Learning as a pedagogical approach in the Municipal Education Network in Ribeirão das Neves, Minas Gerais. Ribeirão das Neves is located in the state of Minas Gerais, in the Southeast Region of the country. It belongs to the Metropolitan Region of Belo Horizonte (RMBH). According to IBGE data, it is the seventh most populous municipality in the state, with 338,197 inhabitants according to a 2020 estimate.

According to the 2022 School Census, the Municipal Education Network of Ribeirão das Neves serves about 32,000 students in the Nursery, Preschool, Elementary I, Elementary II and Youth and

Adult Education segments. According to research by the Economic Commission for Latin America and the Caribbean, of the children around the world who started primary school this year, 65% will end up in jobs not yet invented. In this context, there is an urgent need to prepare students to deal with uncertainties and try new things and develop as critical and creative thinkers, according to the ten competencies of the National Common Curricular Base (BNCC). Brazil (2018)

Data from the United Nations Children's Fund - UNICEF (2022) - shows that 70% of 10-year-olds, now in a situation of learning poverty, are unable to read and understand a simple text. This rate was 57% before the pandemic, however, now, the learning crisis has intensified. It is increasingly clear that children from lower socio-economic backgrounds and other disadvantaged groups suffer greater learning losses. The pandemic context has widened inequalities and aggravated the problems faced in education at the national level.

Faced with this scenario of unpredictability, in the pandemic context, some issues have become central to shed "light" on a possible restructuring of the teaching and learning processes that were committed in the "post-pandemic". Several disturbing questions arise that guide the research, among them the problem: **What actions to implement in the post-pandemic period to contribute to quality public education**?

Research indicates that "[...] society and school will no longer be the same after the Covid-19 crisis" (MONTEIRO, 2021); (PEREIRA, NARDUCHI AND MIRANDA, 2020). In this aspect, it is essential to align the understanding of these transformations in the implementation of public educational policies and in the reformulation of the school curriculum to face what many have called the "new normal". The 'Dossiers': education and technologies in the context of the coronavirus pandemic and social isolation: scenarios, impacts and perspectives (2021); Higher Education in Latin America in Times of Crisis. Analytical Archives of Educational Policies (2021); institutional and UNICEF reports (2022); Research on educational public policies asserts the need for research on the implementation of public policies in emergency contexts, in periods of complexity, universal crisis and uncertainty in order to understand the scope of these initiatives.

Faced with these new challenges, the municipality of Ribeirão das Neves, through the Municipal Department of Education, the objective of the program is to promote quality public education and the integral development of students, engage the school community, provide opportunities for the exploration of creative expressions to education professionals and students through the "Our Creative Network" plan.

The term "creative learning" as a pedagogical approach was coined by Resnick and researchers at the *Massachusetts Institute of Technology* (MIT). The researcher draws attention to the learning experiences provided by the Scratch programming language, designed to "[...] help children learn to think creatively, reason systematically, and work collaboratively" (RESNICK, 2020). According to

the author Mitchel Resnik (2020), Creative Learning is an educational approach that brings together several pedagogical currents, with greater emphasis on Seymour Particlet's Constructionism and concepts by Froebel, Piaget, Dewey, Montessori, Paulo Freire and other renowned educators.

The Creative Learning approach is based on 4Ps: Projects based on your Passions, in collaboration with Peers and maintaining the spirit of Thinking through play. In Creative learning, Resnick (2020) proposes a "creative learning spiral" where children "imagine what they want to do, create a project based on their ideas, play with their creations, share their ideas and creations with others, reflect on their experiences" (RESNIK, 2020)

Creative learning in Ribeirão das Neves is aligned with nine principles, as follows:

I. All for education: the transformation of municipal education will take place through critical-reflective practice, teacher training, community meetings and the involvement of society;

II. Less us, more them: student-centered approach to learning, articulation of curricular disciplines with different fields of knowledge and sociocultural practices, with a focus on active methodologies and encouragement of creative and collaborative learning;

III. The city as a scientific laboratory: integration of school spaces with city spaces, in which the city should be seen as a living and dynamic curriculum, providing interaction and knowledge of society;

IV. My power is my answer: error as a source of learning, creating an environment in which students feel comfortable to experiment, make mistakes, and learn from their mistakes through action-reflection-action;

V. Valuing diversity: affirmation of culture, sports, leisure and human rights, structured in diversity and valuing the learner promoting and encouraging Integral Education, respecting differences, promoting inclusion and accessibility through structuring, actions and assistive technologies;

SAW. What we unveil, flourishes: everything we focus on tends to expand, in this perspective we will focus on investigation and problem solving;

VII. Creative Learning: Use of the spiral of creative learning, in which we can imagine, create, play, share, reflect, imagine, stimulating students' creative thinking, so that they know how to improvise, adapt, reflect, transform and, if necessary, try again;

VIII. Encourage good practices: Promote the appreciation of the successful experiences of the school units as inspirers of creative integral education.

For Martínez (2020), learning creatively is related to the ability to associate different topics, solve problems, and generate new ideas in a learning context. For the researcher, Creative Learning translates into learning that differs from common ways of learning in the school environment. It conceptualizes that creativity goes beyond a specific moment or situation, it is the way the subject

produces his actions in a given context, according to the experiences and subjective meanings generated at the time in which he finds himself. It is a complex nature, marked by the indissolubility between the cognitive and the affective.

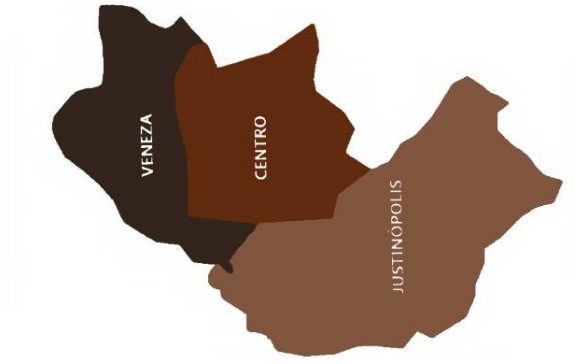
To overcome banking and traditional education requires changing the very conception, the type of training offered, the curriculum, the teaching practices, as well as the school structures. In this way, Creative Learning cannot be done by reproducing "more of the same". It is necessary to create an environment where creativity flourishes with active learning.

2 METHODOLOGY

The report presented is not a scientific research, but rather the practical experience of the formulation of public policy for the systemic adoption of Creative Learning as a pedagogical approach and subsequent curricular integration. The formulation of this public policy was adopted from a cartographic perspective.

> As in a map to be drawn, the researcher may follow a path without a clearly defined ending, and the actions and reactions of this landscape connect and create new meanings for the investigation. Cartography, in this context, emerges as a builder of connections, around complex processes and everyday situations. (LEMOS and OLIVEIRA, 2017, p. 45)

Figure 1 – Map of Ribeirão das Neves



Source: SMED Collection

In this sense, the formulation/implementation process works as "clues" that lead to the construction of this new path. These clues become permanent and assertive at certain points and at others express the need for adaptations and changes.

Understanding the complexity of the challenges to achieve the proposed objectives and achieve the systemic adoption of Creative Learning, the Municipal Department of Education (SMED) sought external partnerships with civil society organizations, the Brazilian Network for Creative Learning (RBAC), federal universities such as the Federal University of Minas Gerais (UFMG), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal

University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal University of São João del-Rei (UFSJ), the Federal Center for Technological Education of Minas Gerais (CEFET/MG). Partnerships are very relevant for the promotion of quality education and involvement of society with greater effectiveness and efficiency.

In April 2021, the Brazilian Creative Learning Network (RBAC) launched the "Creative Schools Program" through a public notice, with the aim of fostering the implementation of innovative solutions that help make Brazilian public education more creative, pleasurable, relevant, collaborative, and inclusive for children aged 6 to 12 years. When SMED submitted a proposal and was classified, along with nine other public school systems in several Brazilian states.

We highlight that the Municipal Department of Education of Ribeirão das Neves is the first Secretariat of the State of Minas Gerais to formalize a partnership with the Brazilian Network of Creative Learning.

Our strategies for formulating/implementing the pedagogical approach to creative learning were:

- Seek external partnerships with civil society and federal universities;
- Assemble a team to compose the project management committee;
- Engage the technical team of the Municipal Department of Education;
- Training of the technical team through participation in congresses, seminars and courses on the themes of curriculum, innovation and technology, inclusion, creativity and socio-emotional;
- To make a diagnosis of the knowledge of the approach in the Municipal Education Network, through semi-structured research, through *an online* form;
- Map the School Units and school teams, to pre-select those that have a literacy profile and already use active methodologies in their pedagogical practice;
- Promote the engagement of school leaders, through meetings and training;
- Analyze the interest of school managers in participating in the "Creative Schools" Program;
- Classify school units by level of vulnerability;
- Promote training with SMED's technical team and school leaders in partnership with the Brazilian Creative Learning Network;
- Sensitization of teachers through training, "hands-on", in service, in the school unit;
- Beginning of a pilot project in seven school units;

- Selection of an ambassador teacher for each school unit participating in the "Creative Schools" program and periodic meetings with these ambassadors;
- Promotion of events - Festival of Invention and Creativity (UAI-FIC 2021 and 2022) to encourage pedagogical practices centered on student protagonism, in partnership with the Brazilian Network of Creative Learning, Creative Centers of Belo Horizonte, Vertentes and the Center for Robotics and Assistive Technologies of UFSJ (CyRos)
- Promotion of robotics and programming workshops for students, in partnership with the Tutorial Education Program (PET) of Electrical Engineering of the Federal University of Minas Gerais (UFMG) and the Rolê Maker Project (CEFET/MG)
- Exchange between participating and non-participating schools of the Creative Schools Programme;
- Promotion of scientific dissemination through the production of educational resources on the subject, presentation at congresses, writing of book chapters and reports of experiences;
- Among other administrative and pedagogical actions, which due to the length of the abstract we will not describe.

FIGURE 1 - Macro Flow of the methodology



Source: Elaboration by the author

3 RESULTS AND DISCUSSION

Each workshop, activity, meetings were expressed in a great discovery, the bright look and the satisfaction of our professionals for being the protagonists of the actions; the recognition and involvement were extremely gratifying. On the other hand, the uncertainty, insecurity and feeling of inefficiency at the beginning of the actions were noticeable in the *speeches and feedbacks, especially from the ambassadors, since they deal directly in the school environment, and closely follow the numerous challenges that worsened in the return to face-to-face classes, "post" pandemic.*

In the same way, the promotion of the engagement of teachers to adopt this approach has been a great challenge, in the sense of demonstrating that it is not more work for the educator, but rather a reconstruction of knowledge, ways and ways of teaching and learning. Building a public policy of education by many hands, where there is an exchange of experiences, learning and teaching, demonstrates an advance towards the construction of a living and dynamic curriculum, which goes beyond regulatory norms and becomes pulsating on the school floor.

4 CONCLUSIONS

It can be inferred that the recovery of this educational loss, resulting from this pandemic crisis, will only be possible with a great collective and democratic work, with the involvement of the teaching staff of the school community, councils, families, organizations, civil society, and a lot of political commitment. Therefore, it is necessary to unite all social subjects in favor of the recovery and improvement of public education.

Creative learning should be seen as an interweaving of subjectivities and experiences, in constant refinement, which is strengthened both with theories on the subject and with the personal experiences and reflections of educators, pedagogues, managers, psychologists, sociologists, philosophers, among other areas that can contribute to the improvement of education. This is not a simple process, it requires time, actions and reflections and scientific research on this theme, to validate the production of knowledge that happens on the "floor" of schools, which emanates from the education secretariats and emerges from social movements. There is a long way to go, seeds have been sown that need to be watered, cared for and treated in order to germinate.

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Autism spectrum disorder (ASD): Lines of care and public policies in Brazil

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ABSTRACT
Over the years, public policies aimed at Autism Spectrum Disorder (ASD) have evolved in Brazil. Despite this, we still face challenges, such as expanding access to specialized services and raising societal awareness of ASD. It is important that the diagnosis is made early by a multidisciplinary team, so that appropriate treatment can be started as early as possible. Treatment involves several interventions and should be personalized. In addition, it is essential that public policies ensure access to quality diagnosis and treatment for all. The purpose of this chapter is to analyze the Ministry of Health guidelines for the treatment of Autism Spectrum Disorder and to discuss possible long-term consequences. Challenges related to the diagnosis and treatment of autism in the context of the Unified Health System are also addressed. This is a narrative literature review, which aims to understand the development of Autism Spectrum Disorder (ASD), its Lines of Care and Public Policies in Brazil, through the analysis of the scientific production available in the databases Scientific Electronic Library Online (Scielo), National Library of Medicine (PubMed), books and other informative media. Autism Spectrum Disorder (ASD) in Brazil still faces challenges, such as a lack of trained professionals and unequal resources. To ensure adequate and quality care, it is necessary to invest in training and training of professionals, awareness of families and joint work between government, civil society and families, making it possible to build a more inclusive and welcoming society for people with ASD.

Keywords: Autism, Public Policy, Public Health.

1 INTRODUCTION

The concepts of autism, schizophrenia and psychosis have become very confused over the years and have been used interchangeably by doctors, and it was only in 1940, by the physician Leo Kanner, that the first modern descriptions of what is now considered Autism Spectrum Disorder began (Brasil, 2015).

Treated over time as childhood psychosis, autism, from 1980 onwards, began to be considered Pervasive Developmental Disorder (PDD), a definition that lasted for a long period and that had its change in 2013 when the fifth version of the Diagnostic and Statistical Manual of Mental Disorders (DSM-V) was published, in which autism is now defined as Autism Spectrum Disorder (ASD). being in the group of neurodevelopmental disorders, being the term used to this day (Brasil, 2015).

The understanding of Autism Spectrum Disorder (ASD) in Brazil was gradual and progressive, resulting in the inclusion of autistic children in the scope of Brazilian health since the 90s. This

milestone was possible thanks to the emergence of reference centers for mental health, support institutions, and psychosocial care centers. Prior to this period, discussion on this topic was scarce (Nicoletti, 2021).

The discussion around autism and the establishment of policies for this public became more relevant with the publication of Ordinance No. 336/2002, which at that time established the Child and Adolescent Psychosocial Care Centers (CAPSI) as a priority structure for psychosocial care for children with autism in the context of public health. It is important to emphasize that autism is a complex and multifactorial disorder, which makes it difficult to define it precisely, this ordinance represents a significant advance in the search for understanding and adequate care for the needs of children with autism (Honda, 2021).

Pinto *et al.,* (2016) defined autism as a behavioral syndrome that compromises the motor and psychoneurological development of the individual, causing difficulties in language, social interaction, and cognition of the child.

With an unknown etiology, the syndrome is considered to have a multicausal origin that encompasses the genetic, neurological, and social issues of the child, with an estimated 70 cases per 10 thousand inhabitants, being four times more frequent in boys (Almeida, 2019).

Fernandes *et al*., (2017) argue that, in Brazil, the incidence of autism is 27.2 cases per 10 thousand inhabitants, with an estimate that approximately 500 thousand people suffer from autism, and on average, one in 66 children is diagnosed with the syndrome, which makes it a public health problem, and there should be an evaluation of the clinical manifestations, as well as early detection and joint action of different professionals.

This chapter aims to analyze and discuss the guidelines and the line of care proposed by the Ministry of Health in relation to the treatment of Autism Spectrum Disorder, raising and discussing possible consequences in the medium and long term. We seek to provide an overview of the issue of ASD treatment in the context of the Unified Health System (SUS) and to point out some challenges that may arise. To analyze the trajectory of Public Policies aimed at ASD in Brazil and to raise the challenges for diagnosis and treatment described in the scientific literature

2 METHOD

This is a narrative literature review, carried out during the months of July and August 2023, which aims to understand the development of Autism Spectrum Disorder (ASD), its Lines of Care and Public Policies in Brazil, through the analysis of the available scientific production. The review compiles information on these specific topics, allowing the identification of relevant knowledge gaps on the subject (Medeiros; Teixeira, 2016).

The search was carried out in databases such as Scientific Electronic Library Online (Scielo), National Library of Medicine (PubMed), books and other informative media. The keywords used were "Autism", "Public Policies", "Public Health", and these were researched in the Health Sciences Descriptors (DeCS). Five crossings were conducted: "Evaluation of public policies for autism in public health"; "Public Health Intervention Strategies for Autism: An Analysis of Public Policies"; "Impact of public policies on public health for individuals with autism"; "Comparative analysis of public health policies for autism"; "Methodological approaches to the evaluation of public policies for autism in public health", respectively. In the query of the SciElo database, the following filters were used:

To be included in this review, scientific articles should meet the following criteria: Articles of a scientific nature, which had similar research objectives in which they analyzed the impact of public policies aimed at autism in Brazil, identifying the existing gaps in implementation and proposing strategies to improve lines of care for autistic individuals, as well as prioritizing articles available in full and dealing with lines of care and public policies for autistic people in Brazil. In the following languages: Portuguese, English and Spanish. Papers with cross-sectional study design, cross-section, case reports and experience reports, as well as master's and doctoral theses were accepted. The study was also only included in the study if it was carried out with people who had autism spectrum disorder and were also related to a theme directed to health, whether in the areas of medicine, collective health or other specialties, with a focus on health.

Articles that were not of interest to the subject of the research or that had not been published in indexed scientific journals were excluded.

3 RESULTS AND DISCUSSION

3.1 EVOLUTION OF PUBLIC POLICIES FOR AUTISM SPECTRUM DISORDER (ASD)

The history of public policies aimed at Autism Spectrum Disorder (ASD) has evolved over the years and according to Santos et al. (2020) in Brazil, the first government action for people with disabilities was in 1854 with the creation of the Imperial Institute of Blind Boys, in Rio de Janeiro. In the 1970s, the first initiatives for specialized educational care for children with mental disabilities emerged.

In 1999, the National Education Guidelines and Bases Law was approved, making the provision of special education mandatory for students with disabilities. In 2012, the National Policy for the Protection of the Rights of Persons with ASD was created, which aims to ensure the social inclusion of these people (Brasil 1997). However, there are still many challenges to be overcome, such as expanding access to specialized health and education services, as well as raising awareness about ASD in society in general.

Article 196 of the Federal Constitution of 1988 states that health is a right of all and a duty of the State, guaranteed through social and economic policies aimed at reducing the risk of disease and other health problems and at universal and equal access to actions and services to promote it. protection and recovery (Brazil, 1988).

To this end, the SUS is organized based on the guidelines of decentralization, regionalization and social control. In other words, it is proposed that health services should be close to the territory lived by people, respecting the identification of specificities of their regions in which all Brazilians can actively participate in the construction and qualification of this system, standing out for affirming universality, including actions of different complexities to meet the different health needs of the population (Brasil, 2005).

At the end of 2011, the Psychosocial Care Network (RAPS) was established by Ordinance No. 3,088. After the enactment, there was considerable progress in relation to the implementation of the network of community/territorial mental health services. In this sense, it is worth highlighting the strategic place of the Psychosocial Care Centers (CAPS) (Marçal, 2018).

In 2012, the National Policy for the Protection of the Rights of Persons with Autism Spectrum Disorder (ASD), also known as the Berenice Piana Law, was approved, and had a significant impact on the recognition and guarantee of the rights of people with ASD in Brazil. This legislation represents an important step forward in the fight for inclusion and equal treatment for individuals on the autism spectrum, providing clear and comprehensive guidelines for the promotion of their fundamental rights, such as health, education, work, and access to justice (Moulina, 2021).

From this law, the Brazilian State became responsible for offering comprehensive and multidisciplinary care to people with ASD, in order to provide a dignified life and the development of their potential. In addition, the Berenice Piana Law seeks to ensure the participation and accessibility of these people in all spheres of society, promoting social inclusion and combating discrimination and prejudice. Despite the progress made, there are still challenges to be faced, such as the effective implementation of the policies provided for in the law, the awareness and training of professionals who deal with people with ASD, and the expansion of resources for this population (Lima, 2023).

In 2014, it was an important milestone for the treatment of Autism Spectrum Disorder (ASD), with the implementation of new guidelines aimed at the care and monitoring of this condition. This set of guidelines sought to establish a professional standard of approach, aiming to improve the quality of life of people with ASD. Through a deeper understanding of the specific needs of individuals on the autism spectrum, guidelines were developed to help health, education, and social care professionals adapt their practices and offer appropriate support, considering the individuality of each person with ASD (Silva, 2020).

With an emphasis on the importance of empathetic listening, the role of the professional is fundamental in this process, as they must adopt a professional tone, establishing clear and assertive communication. In addition, the guidelines emphasize the need to use strategies such as modulation of tone of voice and language adequacy, taking into account sensory sensitivity and nonverbal communication of people with ASD. In this way, the goal is to provide a welcoming and inclusive environment, in which all individuals on the autism spectrum have equal access to opportunities for development and well-being (Costa, 2022).

In 2015, a new line of care was introduced for Autism Spectrum Disorder (ASD), a neurodevelopmental condition that affects communication, social interaction, and restricted, repetitive behaviors. This line of care was developed by health professionals and its main objective is to optimize early diagnosis, promote appropriate multidisciplinary interventions, and offer continuous support to families affected by ASD (Araújo, 2023).

Through a professional approach, this line of care seeks to ensure that the individual needs of each person with ASD are met, from childhood to adulthood, taking into account aspects such as improved quality of life, social inclusion, autonomy and independence. The tone of the paragraph is professional, conveying objective information about the importance of this line of care and how it can benefit those living with ASD and their families (Matias, 2023).

3.2 AUTISM AND THE STRANDS OF A DIAGNOSIS

Although the diagnostic and statistical manual of mental disorders provides the basic criteria for determining the diagnosis of autism, in practical terms, the diagnostic process is not as simple as it may seem. In addition to the great diversity of manifestations of autistic symptoms, there is also a great variety in relation to the time when the child begins to exhibit each of the different symptoms, as well as individual differences in the developmental profile of each child and the comorbidities that may be present in different cases (Apa, 2013).

According to Silva (2009), there have been enormous advances in recent times in terms of early identification and diagnosis of autism, but even so, many children, especially in Brazil, remain for many years without a diagnosis or with inadequate diagnoses. In several countries, such as the United States, for example, the average age of children diagnosed has been 3 to 4 years old, however, many parents are already beginning to notice that there is some problem with their child until the first year of life (Silva, 2009).

Some recommendations that would facilitate early diagnosis: Developmental assessment of children and psychiatric evaluation for all children should routinely include questions about the symptomatology of autism spectrum disorder (ASD); screening should include questions about the symptomatology of autism spectrum disorder (ASD); screening should indicate significant symptoms

of ASD; a thorough diagnostic evaluation should be performed to determine the presence of ASD; and clinicians should coordinate appropriate multidisciplinary care for children with ASD (Volkmar *et al.,* 2014).

One of the main difficulties in making the early diagnosis of autism is the numerous adverse clinical conditions and associated comorbidities, which unfortunately end up being confused with ASD or aggravating the condition and resulting in mistaken diagnoses. That is why it is so important to train professionals, so that they know how to distinguish the characteristic clinical conditions of each disorder and the possible comorbidities associated with each case, no matter how similar they may seem (Oliveira, 2019).

3.3 THE CONSTRUCTION OF AUTISM CARE LINES

The Ministry of Health has developed the ASD Care Lines. The objective is to establish guidelines that guide health professionals and families in the treatment of people with ASD, ensuring comprehensive and humanized care, and the lines of care are composed of a set of guidelines, care strategies, procedures and technologies aimed at qualified care and improving the quality of life of people with autism (Brazil, 2015).

The first step in the therapeutic itinerary is early diagnosis. The diagnosis is made by a multidisciplinary team, composed of psychiatrists, psychologists, speech therapists, occupational therapists, among other professionals, so the earlier the disorder is identified, the greater the possibilities of appropriate and effective intervention (Lima *et al.,* 2018).

The treatment of ASD involves several interventions, such as behavioral therapies, educational interventions, occupational therapies, medications, among others. The type of approach used should be decided together with the multidisciplinary team, considering the individual needs of each child, it is worth mentioning that treatment should be continuous and personalized, closely monitored by the professionals involved (Rabelo, 2021).

3.4 THE RIGHT TO HEALTH AND PUBLIC POLICIES FOR THE PARENTERAL NETWORK OF PEOPLE WITH ASD

It is essential that public policies promote access to quality diagnosis and treatment for all, regardless of social class or geographic region. The National Policy for the Protection of the Rights of Persons with Autism Spectrum Disorder, approved in 2012, established guidelines to guarantee the right to health, education, accessibility, and social inclusion for people with ASD (Figueredo, 2023).

Public policies also play an important role in supporting the parenteral network of people with ASD, as family interactions can be affected by autism, as individuals with this condition may have

difficulties in communicating and interacting socially, which can generate stress and tension in family relationships, which often need to adapt to meet the needs of this individual (Costa, 2022).

Coping strategies are another important aspect to be considered, as individuals with ASD may have difficulties in dealing with challenging situations, which can generate anxiety and challenging behaviors, so families need to develop strategies to deal with these situations and help the individual with ASD feel safe and comfortable (Lemos; Solomon, 2022).

One of the alternatives to deal with these challenges is to participate in parent training programs offering guidance and strategies to help families cope with the difficulties of ASD, which may include information on communication, behavior, and social skills, as well as counseling and emotional support. In addition, social support is an important alternative for families dealing with ASD, being inserted into support groups, family therapy, breathing services, and other forms of practical and emotional help. These resources can help families cope with the stress and anxiety associated with the condition and find ways to support the individual with this condition (Marcato; Lima, 2022).

It is important for families to seek help and support to deal with the challenges of ASD and improve the quality of life of all family members, through public policies it is possible to have funding for support services, parent training programs and other forms of practical help, raising awareness about autism and reducing the stigma associated with this condition (Proença, 2023).

It is estimated that about 2 million people in Brazil have some degree of autism, according to data from the Brazilian Institute of Geography and Statistics (IBGE). However, despite the existence of public policies aimed at this population and it is an increasingly well-known condition, there are still many gaps with regard to autistic people fully exercising their citizenship, making it necessary for government powers to promote actions that guarantee their social inclusion and access to basic rights (Carvalho, 2022).

3.5 SDG 2030 AND ITS PERSPECTIVES FOR AUTISM SPECTRUM DISORDER

The 2030 Sustainable Development Goals (SDGs 2030) is a global agenda adopted by the United Nations (UN) in 2015, with the aim of promoting sustainable development worldwide by 2030. Among the goals of this global plan is the promotion of health and well-being for all people, regardless of their condition (Bertei, 2022).

It is relevant to highlight the issue of autism and its relationship with health, because it is a condition that can manifest itself in different ways in each individual, it is essential that there is comprehensive attention to the health of these people, considering their needs and particularities. The implementation of the SDG 2030 goals can be an important strategy to ensure access to quality health and social inclusion for people with autism (Gonçalves, 2020).

It is important to highlight the relevance of health in the inclusion of people with autism and to ensure inclusion it is essential that they have access to adequate and quality health services. This includes everything from early diagnosis and specialized treatment to the promotion of actions aimed at improving the quality of life of these people and their families (Santos, 2017).

In addition, there needs to be an awareness on the part of society in relation to autism, in order to combat prejudice and discrimination. The social inclusion of people with autism necessarily involves the promotion of inclusive education, access to the labor market, and participation in cultural and sports activities (Lima, 2022).

The study of public policies becomes fundamental, since through studies and research it is possible to identify the main demands and needs of autistic people, as well as the best strategies to ensure their social inclusion, since the study of public policies allows evaluating the effectiveness of actions already implemented and proposing new measures to improve assistance to autistic people (Loureiro, 2023).

However, there is still a need to promote more studies focused on autism, since it is important that universities, research centers, and government institutions invest in research that can contribute to improving the quality of life of autistic people and promoting their social inclusion (Caron Neto *et al.,* 2022).

Among the main areas that need further study, we can highlight inclusive education, mental health, accessibility and employability of autistic people. These are topics that demand a multidisciplinary approach and that can generate significant results for the autistic population (Silva, 2022).

Therefore, according to Da Silva and De Freitas (2022), it is essential that society as a whole mobilizes to promote studies focused on autism and to pressure government authorities to promote public policies that guarantee the social inclusion of autistic people.

In summary, public policies are key to ensuring that people with autism have access to essential support services. In addition, it is important to raise awareness about the disorder and promote social inclusion. With these actions, we can work to achieve the SDG 2030 target related to autism and ensure healthy lives and promote well-being for all (Costa; Fernandes, 2018).

Only in this way will it be possible to ensure that this population can fully exercise their citizenship and have access to the basic rights that are due to them, in addition, public policies can play an important role in supporting families, as it becomes important that individuals and their families have access to these resources to help them deal with autism effectively (Soares *et al.,* 2023).

4 FINAL THOUGHTS

Autism Spectrum Disorder (ASD) is a complex condition that requires an integrated and individualized approach. The lines of care and public policies in Brazil play a fundamental role in ensuring adequate and quality care for these individuals.

Through the implementation of inclusive policies, such as the Berenice Piana Law, which ensures the rights of people with ASD, and the National Policy for Comprehensive Health Care for People with Autism, which seeks to expand access to early diagnosis and multidisciplinary treatment, Brazil has made progress in promoting inclusion and strengthening rights. However, there are still challenges to be overcome, such as the lack of trained professionals and the inequality in the distribution of resources.

It is necessary to invest in training and training of health and education professionals, in addition to promoting awareness and empowerment of families, to ensure an efficient and accessible care network. Only through joint work between government, civil society and families will it be possible to build a more inclusive and welcoming society for individuals with Autism Spectrum Disorder.

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Special education in the context of inclusive education: Sharing reflections

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ABSTRACT
Special education has been building its identity and performance over time, being responsible for specialized educational assistance (SES), in order to complement and/or supplement school education. In this sense, the objective of this sharing of reflections was to reflect on the target audience of this action. There is a consensus that this public accounts for students with disabilities, autism spectrum disorder and high abilities/giftedness. However, since 2008, the Special Education Educational Policy has identified students with specific functional disorders as part of this public. Despite this, students with ADHD and specific learning disabilities are generally not seen as part of the SES. Like other students who have neurodevelopmental disorders and are the target audience, these students may also have severe learning difficulties. Thus, this reflection is fundamental, since such conditions compose a list of early-onset disorders, with permanent conditions and atypical cognitive characteristics, which bring to these students the need for numerous curricular accessibility resources so that the process of inclusive education is effectively fulfilled.

Keywords: Special education, Inclusive education, Target audience.

1 INTRODUCTION

1.1 INITIATING THE REJOICINGS

Over the last few decades, special education has gained its space and established its identity from the perspective of inclusive education. The special educator, then, is the specialist teacher, responsible for the specialized educational service (SES), whose objective is to:

> [...] Identify, develop and organize pedagogical and accessibility resources that eliminate barriers to the full participation of students, considering their specific needs. This service complements and/or supplements the training of students with a view to autonomy and independence in school and outside of it, according to the Operational Guidelines of Special Education for Specialized Educational Service in Basic Education (BRASIL, 2009).

With his identity built and rebuilt over time, this teacher has consolidated his practice around a specific target audience, especially in Brazil, where legislation successively reiterates the special education teacher as the teacher of students with disabilities, autism spectrum disorder and high abilities/giftedness.

These subjects, historically excluded from formal education, had their struggle made visible from the Federal Constitution of 1988 (BRASIL, 1988) and its apex of legal inclusion with the National Policy on Special Education in the Perspective of Inclusive Education of 1996 (BRASIL, 1996), a

moment in which their rights and guarantees to inclusive education were reiterated, the main ones being the reservation of vacancies in public educational institutions. instituted by the so-called quota law for PWDs, Law 12,711 of 2012 (BRASIL, 2012), the Specialized Educational Service, regulated by Decree No. 7,611 of 2011 (BRASIL, 2011) and curricular flexibilizations, regulated by LDB, Law 9394 of 1996 (BRASIL, 1996) and by the Statute of Persons with Disabilities, regulated by Law No. 13,409 of 2015, which ensures the right to education within an inclusive system (BRASIL, 2015).

1.2 IDENTITY, ROLE OF THE SPECIAL EDUCATOR IN THE SCHOOL AND TARGET AUDIENCE

Obviously, there is still a lot to be done. However, much progress has been made in the sense of making visible and understanding that these subjects have the right to a truly inclusive education in regular schools, which should be seen as a place for all and respect for differences. As the inclusive paradigm itself points out, brought about through the Salamanca Declaration, a document to which Brazil is a signatory, the idea of inclusive education is to understand that education is for everyone. The Declaration also contains the idea that any subject with specific educational needs has the same right to education as others.

Recently, in 2021, Federal Law No. 14,254 was published, which guarantees subjects with ADHD and specific learning disorders the right to specialized pedagogical monitoring in regular schools, especially for those who have difficulties in the development of reading and writing, or instability in attention (BRASIL, 2021). However, long before that, in the National Policy on Special Education from the perspective of Inclusive Education (BRASIL, 2008), the idea of special education also serving students with the so-called specific functional disorders was already sown.

> From the perspective of inclusive education, special education becomes part of the pedagogical proposal of the regular school, promoting the fulfillment of the special educational needs of students with disabilities, global developmental disorders and high abilities/giftedness. In these cases and others, which imply specific functional disorders, special education acts in an articulated way with regular education, guiding to meet the special educational needs of these students (BRASIL, 2008).

The latter, however, are not seen as the target audience of special education and historically have never been anyone's target audience. Those currently excluded from the formal learning process do not have legal guarantees to enter and/or remain. As Moysés (2014, p. 09) points out, these are subjects who "have conquered the right to enter through the school gates, but have not yet managed, despite all their resistance, their stubbornness in wanting to learn, to defeat the exclusionary character of the Brazilian school".

The question I ask myself daily, as a special educator, the reason for writing this sharing of reflections, every time the educational institution where I work as a special educator receives a student

with ADHD or Specific Learning Disorders, is: Why are these students still not seen as a target audience for special education in most educational institutions? Throughout Brazil? To better reflect on this question, I bring some elements on the subject:

1 - Like other students who have neurodevelopmental disorders and who are our target audience, these students may also have severe difficulties with the formal learning process.

2 - Another valid point of reflection is: Why, as inclusion professionals, do we insist so much that the medical report is not important to us and that, sometimes, it is just a label, when this same report serves us to say who is or is not our student?

3 - Also: With what criteria do we categorically state that subjects with Intellectual Development Disorder (better known in our environment as intellectual disability) and Autism Spectrum Disorder (or autism), both neurodevelopmental disorders, are our target audience, but subjects with ADHD or dyslexia, for example, also neurodevelopmental disorders, are not?

All these conditions make up a list of early-onset disorders in terms of human development, they are permanent conditions, considering that there is still nothing to talk about a cure for neurodevelopmental disorders and carry with them atypical characteristics, which bring many difficulties to the formal learning process, pointing to the need for curricular accessibility resources.

4 – Finally: The SES aims to identify, elaborate, organize and make available pedagogical and accessibility resources that eliminate students' learning barriers, considering their specific demands. In this sense, we can understand that such objectives involve curricular accessibility. By curriculum accessibility, we can understand the guarantee that all students, regardless of their abilities, can access and participate fully in the school curriculum. This includes adapting teaching materials, technological resources, and teaching methodologies to meet the individual needs of each student (NASCIMENTO, 2023). If we understand that this attribution belongs to the special educator, as the professional responsible for SES in the school, who should do it for students with specific educational needs, regardless of the medical report?

2 FINAL THOUGHTS

We may have a hard time dealing with other audiences because most of us have never studied neurodevelopmental disorders in more depth. I also suspect that the target audience legally provided for special education contains much of our identity as education professionals and, last but not least, the new is always scary.

When we struggled and defined our target audience, still in the 1980s and established it in the 1990s, little or nothing was known scientifically about ADHD and Specific Learning Disorders and scientific studies were still in their infancy. Perhaps, at the present moment, when we already know much more about these frameworks and scientific studies are already well known about how these

subjects present themselves to the formal learning process, we could propose new reflections. And, in this movement, to think that, instead of a report or diagnosis, what should define our target audience are the specific educational needs of each subject.

Finally, as a final reflection, I bring the following question: If a student with dyscalculia, for example, needs to work on the organization of specific pedagogical resources and curricular accessibility, which complement the training of the regular classroom, objectives of the SES, who should serve him at school? It remains the question for future reflections for those who wish, as I do, to do so.

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Nursing care for pregnant women who use alcohol and other drugs in primary care: An instructional video for nursing students

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ABSTRACT

BITTENCOURT, M. A. C. Elaboration of an instructional video for nursing students about the care of pregnant women who use alcohol and other drugs in Primary Health Care. 2023. 134f. Dissertation (Professional Master's Program in Health Education: Interdisciplinary Teacher Training for the Unified Health System (SUS)) – Fluminense Federal University, Niterói, 2023.

Consumption and abuse of alcohol and other drugs during pregnancy constitute one of the most frequent psychiatric disorders during pregnancy. From the assumption of the existence of gaps related to the training of nurses on this subject, a research problem emerged: Are nursing students clearly prepared to act, in primary care, to pregnant women who use alcohol and other drugs? The objective was: to produce a video, as a teaching strategy, to help preceptors and professors in promoting the development of competences of nursing students on primary care for pregnant women who use alcohol and other drugs in CAPS AD; identify gaps in knowledge about the skills of nursing students for nursing care for pregnant women; bring nursing students closer to the subject in question, bringing to reflection the relevance of nurses' work with pregnant women who use alcohol and other drugs and bringing up the discussion about the demands of this population and the possibilities of nursing actions in the adequate care of pregnant users of alcohol and drugs in primary care. As a method, action research was used, a case study, with an exploratory, descriptive and qualitative approach. The research subjects were 07 professionals from the multidisciplinary team of a Psychosocial Care Center for alcohol and drugs (CAPS Ad) in the city of Nova Friburgo, RJ and 05 nursing students who use this health device as a clinical internship field. Data collection took place from an interview with professionals and the application of a questionnaire to nursing students. The following results were obtained: the data were developed in Bardin's thematic perspective and grouped into 03 categories of analysis: Living with a pregnant woman who used alcohol and drugs; Assistance to pregnant women who use alcohol and drugs by health services and experiencing the constructed strategy - instructional video. This study shows that health professionals have a gap in their academic training on adequate training related to the care of pregnant women who use alcohol and other drugs. With regard to nursing students, this fact was also evidenced, as they revealed that the approach to this subject in training was superficial and general. In addition, they also mentioned that they did not feel prepared to work professionally in assisting these pregnant women. The need to produce a didactic-pedagogical tool was evidenced to assist in the teaching-learning process in the training of nurses.

Keywords: Knowledge, Nursing teaching, Pregnant women, Drug users.

LIST OF ABBREVIATIONS AND ACRONYMS

CHA	Community Health Worker
APS	Primary Health Care
BM	World Bank

BDEnf	Nursing Database
VHL	Virtual Health Library
CAISM	Comprehensive Care Center to Health Women's
CAPS AD	Psychosocial Care Center for Alcohol and Drugs
CAPS i	Psychosocial Care Center Children-juvenile
CAPS	Psychosocial Care Centers
CAE	Specialized Care Centers
Zip code	Research Ethics Committee
CT	Therapeutic Communities
CONAD	National Anti-Drug Council
CNS	National Health Council
CNPq	National Council for Scientific and Technological Development
DCN's	National Curriculum Guidelines
STD	Sexually Transmitted Diseases
EEAAC	Aurora de Afonso Costa School of Nursing
ESF	Family Health Strategy
FMUFF	Faculty of Medicine of the Fluminense Federal University
FIOCRUZ	Oswaldo Cruz Foundation
GSIPR	Cabinet Security Institutional of the Presidency of the Republic
HM	Maternity Hospital
IES	Higher Education Institutions
IDT	Institute of Drugs and Drugs Drug addiction
LILACS	Latin American Literature in Biological Sciences Health
MEC	Ministry of Education and Culture
MEDLINE	Medical Literature Analysis and Retrieval System Online
MS	Ministry of Health
MSES	Professional Master's Degree in Health Education
NV	Live Births
NASF	Family Health Support Centers
UNO	United Nations
WHO	World Health Organization
PAHO	Pan American Health Organization
PAIUAD	Policy for Comprehensive Care for the Use of Alcohol and Other Drugs
PRD	Harm Reduction Policy
PNA	National Anti-Drug Policy
PNPSR	National Policy for the Homeless Population
SNE	National Drug Policy
PTS	Singular Therapeutic Project
RMM	Maternal Mortality Ratio
RAPS	Psychosocial Care Network
SciELO	Scientific Electronic Library Online
SENAD	National Secretariat for Drug Policy
SAF	Fetal Alcohol Syndrome
AIDS	Acquired Immunodeficiency Syndrome
SUS	Unified Health System
LEAVES	Systematization of Nursing Care
SPA	Psychoactive Substances
ICT	Information and Communication Technologies
TICPES	Information and Communication Technologies in Health Education Processes
UFF	Fluminense Federal University
UNICAMP	State University of Campinas
UBS	Basic Health Units
AU	Reception Units
UNODC	United Nations Office on Drugs and Crime
UNESA	Estácio de Sá University
HIV	Human Immunodeficiency Virus
VD	Home Visit

1 INTRODUCTION

1.1 THEME

In a state of physiological gestation, women's health needs care that guarantees their health and that of the fetus, but not specific with detailed monitoring. Common emotional changes arising from this state are: ambiguity, sadness, euphoria and deficit in self-esteem. Physiologically, such feelings and emotions are overcome and leave no sequelae for either the mother or the fetus after labor and birth.

However, there are those women who need physiological and psychic follow-up due to health conditions resulting from biological and/or acquired processes in life. That somehow imprinted on them bad habits that implicate maternal and fetal health.

In this study, those who are users of alcohol and other drugs stand out, as they have psychiatric and psychological disorders that compromise the health of the fetus and the woman as well. Thus, such disorders can be the object of therapy in primary care by the multidisciplinary team.

According to the Ministry of Health (MH) (BRASIL, 2012a), among the most frequent psychiatric disorders during pregnancy are the use, abuse, and dependence of alcohol and other drugs. This fact is significantly relevant and has generated concerns in several social spheres, since the use of these substances during pregnancy entails potentially serious risks and consequences for maternal and fetal health.

It can be seen that the use of drugs in Brazil, both licit and illicit, has had a significant increase among the female population. According to the Ministry of Health, the inappropriate consumption of psychoactive substances (PAS) is a problem of great relevance in public health today (BRASIL, 2014).

Data provided by the Center for Comprehensive Attention to Women's Health (CAISM) – UNICAMP, revealed that in 2012, of 1285 women who received prenatal care at the institution, 7.7% stated that they used alcohol, 13.9% tobacco and 4.7% other drugs during pregnancy (CAISM, 2013 *apud* TAMASHIRO, 2015).

A survey conducted by the Oswaldo Cruz Foundation (BRASIL, 2014) mentions that 20% of crack users are women, of which 10% reported being pregnant at the time of the interview and more than half of the users reported having been pregnant at least once since they started using crack (BRASIL, 2014 *apud* LOPES *et. al.*, 2016).

Studies indicate that the use of psychoactive substances during pregnancy has shown a significant increase in recent decades (MEDEIROS; M; SOUZA, 2017; TURNER 2018; DE SOUZA, 2019). According to Popova *et. al.* (2017 *apud* DE SOUZA, 2019), the worldwide prevalence of women who use alcohol during pregnancy is 9.8%. In Brazil, a study conducted by Kassada *et. al.* (2013), in the municipality of Maringá in Paraná, with 394 women participating in the research, in the period of June 2012, found that 18.28% of them used drugs during pregnancy. A survey conducted by

researchers from the Oswaldo Cruz Foundation (BRASIL, 2014) on crack use, with approximately 370,000 crack users in the country, revealed that 21.3% are women, of whom 61% were pregnant at the time of data collection.

The use of alcohol and other drugs by pregnant women can result in significant maternal, fetal and neonatal morbidity and mortality, due to the effects directly caused by the use of the substance associated with the fact that these pregnant women are less likely to seek prenatal care (KASSADA; MARCON; WAIDMAN, 2014; ROCHA, 2016; MARANGONI *et. al.*, 2017).

According to Zhang *et. al. apud* Teixeira, Lucena and Echer (2014), in Brazil, approximately 1,600 women die per year due to pregnancy, childbirth and puerperium and 50 thousand children up to one year old. Among the causes are complications associated with the consumption of psychoactive substances during pregnancy.

Maternal death is defined by the World Health Organization (WHO) as the death of a woman during pregnancy or up to 42 days after delivery, regardless of the duration or location of the pregnancy, due to a cause related to or aggravated by the pregnancy or by measures related to it, however, except for accidental or incidental causes (MARTINS; SILVA *apud* DUARTE *et. al.*, 2020).

The high Maternal Mortality Ratio (MMR) is directly related to precarious socioeconomic conditions, low levels of information and education, family dynamics in which violence is present and, above all, difficulties in accessing quality health services (BRASIL, 2009 *apud* DUARTE *et. al*., 2020).

In view of the seriousness of maternal mortality worldwide, the United Nations (UN) drafted, in 2000, the Millennium Declaration, which presents the "Millennium Development Goals". Its fifth objective presents the goals for improving women's health by the year 2015, including the reduction of maternal mortality by three-quarters, as well as universal access to reproductive health (UNRIC, 2010 *apud* DUARTE *et.* al., 2020).

Despite these efforts, Brazil did not achieve this goal, with a maternal death rate of 57.59 per 100,000 live births (LB) in 2015 (BRASIL, 2019 *apud* DUARTE *et. al*., 2020).

In 2015, the Pan American Health Organization (PAHO) launched the 2030 Agenda for Sustainable Development, addressing its third goal on health and well-being, whose goals are to reduce global maternal mortality to less than 70 deaths per 100,000 live births. In addition, to ensure investment in policies that allow the reduction of maternal and infant mortality, in order to put an end to deaths from preventable obstetric causes, among others (ONUBR, 2015 *apud* DUARTE *et. al*., 2020).

Due to the obstetric and neonatal risks and complications resulting from the use of alcohol and drugs during pregnancy, associated with the social context in which they are inserted, these pregnant women are considered to be at high risk and should receive appropriate care throughout the pregnancy, peripartum and puerperal periods.

The treatment of pregnant women who use alcohol and other drugs is extremely complex. It involves diverse knowledge and professional skills from different specialties, which contemplate the needs of the pregnant woman as a woman, the fetus and her family, which aim at an expanded and longitudinal approach to health care.

This theme absorbed my thoughts, considering that I am currently a nurse at the Psychosocial Care Center for Alcohol and Drugs (CAPS AD) in the municipality of Nova Friburgo. This health unit provides care to users with disorders resulting from the use of alcohol and psychoactive substances. The care provided to the users of the Unified Health System (SUS) is provided by a multidisciplinary team consisting of psychologists, social workers, psychiatrists, nurses, nursing technicians, therapeutic companions, artisans and workshop workers.

In addition to this unit, I also work as a nurse in a Maternity Hospital in the municipality of Nova Friburgo. In this institution I had the opportunity to work in the high-risk prenatal service of the municipality and I work in direct care for newborns in the neonatal unit.

In view of my professional experiences in both services, I had the opportunity to assist pregnant women, parturients and puerperal women who used alcohol and other drugs, as well as neonates whose mothers were users. In mental health, I was able to observe the late arrival of these women at specialized services, which occurs more frequently after the birth of the baby.

From these experiences, I had the opportunity to get closer to women whose life situations aroused reflections on the care offered to them by health professionals and how they are prepared to act in their care.

Both scenarios of my professional performance constitute spaces for academic training, as a clinical field for internships of nursing students in the city of Nova Friburgo-RJ. Thus, based on my observation, although empirical, it emerged as a concern whether the students, in their academic training, at the time of the internship and the adequate preparation about the nurse's performance with these pregnant women. However, due to my work as a nurse at CAPS AD, to which I directly follow the internships of nursing students in the clinical field, together with the respective preceptor, I chose this scenario to carry out this study in order to seek a facilitating tool for the teaching-learning process that would promote students' skills on this theme.

1.2 PROBLEM SITUATION

When reflecting on the care provided to pregnant women who use alcohol and other drugs, it was observed the need to address the subject during the academic training of health professionals, given the lack of knowledge on substance use management by the various actors, including nursing, at all levels of health care (ROSENSTOCK; NEVES, 2010; BLESSLER, 2018).

Considering the commitment to the training of nurses for adequate care to pregnant women

who use these substances, and based on the assumption of the existence of gaps related to their professional performance with users of alcohol and other drugs in their training, the following research problems emerged: Nursing students feel prepared to work in primary care. pregnant women who use alcohol and other drugs?

And as the object of study, the creation of a facilitating pedagogical didactic material was defined, which, applied by preceptors and professors, could promote the acquisition of competencies by nursing students about nursing care to this clientele, in primary health care, related to CAPS AD.

Thus, the following guiding question was defined: What strategy of the teaching-learning process can be used to facilitate the acquisition of nursing students' competencies regarding nursing care for pregnant women who use alcohol and other drugs in the CAPS AD?

1.3 OBJECTIVES

1.3.1 Objective general

Produce a video, as a teaching strategy, to assist preceptors and professors in promoting the development of nursing students' competencies about primary care for pregnant women who use alcohol and other drugs in CAPS AD.

1.3.2 Specific objectives

- To identify the gaps in knowledge about the competencies of nursing students for nursing care to pregnant women who use alcohol and other drugs, who use the CAPS AD as a clinical field, about the proposed theme;
- To bring nursing students closer to the theme in question, bringing to reflection the relevance of the nurse's work with pregnant women who use alcohol and other drugs;
- To discuss the demands of this population and the possibilities of nursing actions in the adequate care of pregnant women who use alcohol and drugs in primary care.

1.4 PRODUCT

As a product, it was proposed the production of didactic material in the form of an educational video to be used by nursing professors and preceptors, in order to favor the approximation and deepening of nursing students on the theme, bringing to their reflection the need to acquire competencies for nurses to act in the care of pregnant women who use alcohol and other drugs.

The use of videos and films in the classroom emerges as a tool that provides opportunities for socialization, learning and the development of various knowledge and skills. It is highlighted that it is of fundamental importance to outline the objectives and goals that must be met in the classroom, as well as the importance of the role of the teacher, who must act as a mediator so that students understand

the objective of such choice and, in this sense, continuous pedagogical training becomes an essential element for the teacher.

The audiovisual resource can be an important tool, providing learning through play, in order to expand the methodologies and possibilities of learning and teaching, contributing to the intellectual development of the student, in addition to the understanding and assimilation of the contents, in order to motivate him and bring him closer to reality.

It is noteworthy that teaching should encompass the student's knowledge based on their lived experiences and should occur in a contextualized way, with playful materials, for example, films and videos. I believe that this practice demystifies the traditional teaching model, which has had for a long time and still has a rigid disciplinary character, with little significant value for the student to build their knowledge.

It is in this sense that Libâneo (1998, p. 26) shows that:

> The school needs to cease to be merely an agency that transmits information and become a place of critical analysis and production of information, where knowledge enables the attribution of meaning to information. In this school, students learn to search for information (in class, in textbooks, on TV, on the radio, in newspapers, in videos, on the computer, etc.) and the cognitive elements to critically analyze it in order to give it a personal meaning.

Technology in education needs different strategies, methodologies and attitudes, because a poorly structured class, even with the use of the most modern resource, does not make pedagogical sense for the student. According to Moran (2009, p. 68) "technologies help us to find what is consolidated and to organize what is confused, chaotic, dispersed. That's why it's so important to master information search tools and know how to interpret what you choose."

Thus, the importance of the audiovisual tool to facilitate learning implies. in the planning of teaching, so that the learning experiences are well worked and explored, demanding from the teacher a keen critical sense as to the relevance of the choice of the video taken to be worked on in the classroom. Therefore, he must ask whether such a choice collaborates in the student's learning or only offers entertainment, so I consider that this study will be of great contribution to teachers and students as it favors a new look at the new possibilities of learning about nursing care for pregnant women who are clients of CAPS AD. I recognize, therefore, that it is necessary to go beyond the merely instrumental aspect in order to make technologies become working tools that expand the critical and creative capacities of young people.

1.5 RATIONALE AND RELEVANCE

In order to provide comprehensive quality care to pregnant women who use alcohol and other drugs, health units must work together directly with specialized mental health care centers. The most indicated specialized care service for the treatment of disorders resulting from the use and abuse of

alcohol and psychoactive substances are the Psychosocial Care Center for Alcohol and other Drugs, the CAPS AD.

These are strategic devices in the organization of the gateway, evaluation, reception and follow-up, with the objective of promoting access to health services for users and their families, preventing consumption and promoting the rehabilitation and reintegration of these people into society, through a unique therapeutic project, in addition to determining actions aimed at reducing social and health damage due to substance use (BRASIL, 2010).

However, in view of the problem presented, the subject was searched in the scientific literature, in an attempt to elucidate this issue and offer elements that favor the planning and advancement of tools and strategies for the care of these pregnant women, aiming at strengthening a policy of qualified and humanized care. Thus, a survey of the State of the Art was carried out, shown below, and there was a scarcity of studies on the subject.

The search for articles that exposed the training of nursing students about the care of pregnant women who use alcohol and other drugs was carried out by surveying the literature in the Virtual Health Library (VHL), Latin American Literature in Health Sciences (LILACS), Specialized Bibliographic Database in the Nursing Area in Brazil (BDEnf), Online System for Search and Analysis of Medical Literature - Medical Literature Analysis and Retrieval System Online (MEDLINE) and Scientific Electronic Library Online (SCIELO). To search for the articles, the following descriptors were used: "Nursing education", "Nursing education", "Drug users" and "Pregnant women". The descriptors were grouped using the Boolean operator "and". Initially, the studies were selected according to the critical analysis of the titles, application of the inclusion and exclusion criteria, then the abstracts were read and, finally, the full articles were analyzed.

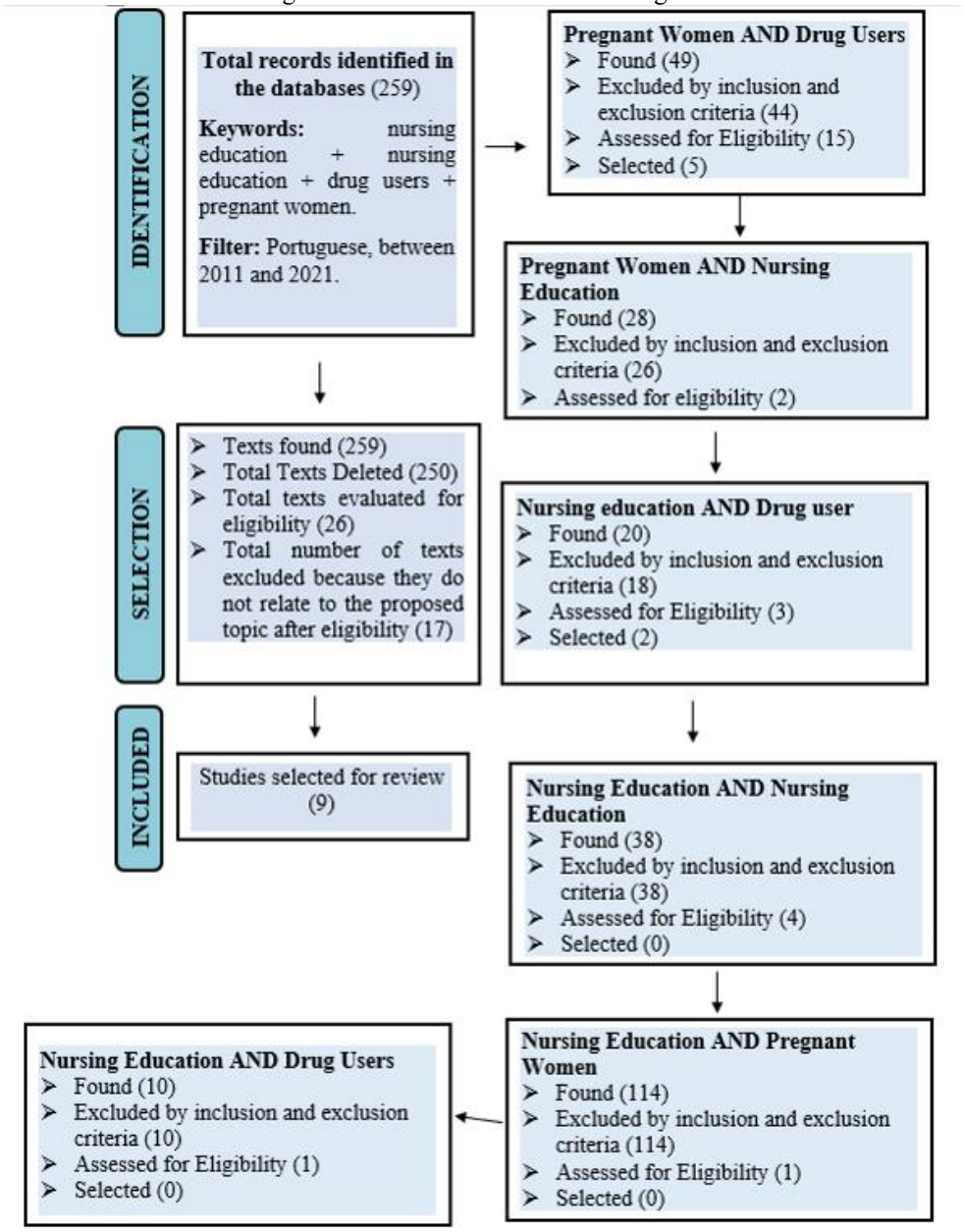
The authors and the selection of articles related to the theme followed inclusion and exclusion criteria. The aim of this study was to analyze the publications in the national literature. Thus, the inclusion studies adopted were: Productions published in Portuguese, with full text available in the databases, from 2011 to 2021 and related to the theme. As exclusion criteria, duplicate publications were determined by indexing in different databases and those that request payment for access to the text.

The research was carried out based on the elaboration of 06 search strategies, elucidated below in flowcharts. A total of 259 publications were found from the integration of the descriptors. Despite this number, 27 were selected through a thorough reading of the abstracts, as the others did not meet the selection: the objectives and themes addressed were not correlated with this study, in addition to the repeated texts and paywalls.

After the analysis, through the application of the inclusion and exclusion criteria adopted, 09 works were selected to compose the study sample, as they met the research objectives and met the

previously established criteria. The next stage consisted of the categorization and analysis of the studies, a stage that presents their characteristics and their respective findings, based on the definition of the information to be extracted. To this end, the following variables were used: Title, year, authors, methods, objectives and results. Subsequently, the synoptic table of the texts selected in this review was prepared (Chart 1).

Figure 1 – Flowchart for search strategies.



Source: the author, 2023.

Chart 1 – Synoptic table of the publications selected for the study.

Authors Year Magazine	Title	Method	Objectives	Results
LOPES, K. B.; RIBEIRO, J. P.; PORTO, A. R. 2020. BDENF.	Care strategies for pregnant and postpartum women who use psychoactive substances.	Integrative literature review.	Parse the production of knowledge about care strategies aimed at pregnant and postpartum women who use psychoactive substances.	A total of 16 articles were collected, of which five were part of the review. As care strategies, the following were identified: early uptake in prenatal care, health education actions, nutritional monitoring, Cognitive Behavioral Replacement and Therapy.
LIMA, M. G. T. *et. al.*; 2021. LILACS.	Qualified assistance to pregnant women using alcohol and drugs.	Qualitative research.	OBJECTIVE: To analyze the nursing care provided to pregnant women who abuse alcohol and other drugs.	Three themes were highlighted: a focus on the scope of harm reduction; the integrality of being; and the nursing process vs. the integration of care. The study demonstrated that there is a failure in the care of pregnant women who use drugs, considering that one of the principles of the Unified Health System, comprehensiveness, is still far from being met, because the pregnant woman is assisted only on the aspects of alcohol and other drug use.
CHIQUETTO, C. M. 2018. LILACS.	Postpartum women with a history of cocaine and crack use: Perception of care received during pregnancy and puerperium.	Qualitative and quantitative research.	OBJECTIVE: To identify the perception of 16 postpartum women who reported the use of cocaine/crack in relation to the care received in health institutions during pregnancy and the postpartum period.	The centrality of the baby was present in both prenatal and postpartum care. In prenatal care, the approach regarding use was made in a punctual manner; In hospital care , the importance of a judgment-free approach articulated with other health services was highlighted. There was a need to think about more integrated and longitudinal practices in the face of the mother-baby binomial in cases of cocaine/crack use, as well as training appropriate for health professionals.
RODRIGUES, P. de M.; ZERBETTO, S. R.; CICCILINI, M. F. 2015. SCIELO.	Nursing team's perception of risk factors for drug use by pregnant women.	Qualitative research.	OBJECTIVE: To identify the perception of nursing professionals from Family Health Units in a city in the interior of São Paulo about the risk factors for the use of psychoactive substances in pregnant women.	The results showed that the risk factors are related to family, socioeconomic, cultural and biopsychological issues. Professionals should pay attention to prenatal care, living conditions and dynamics family members of pregnant women.

KASSADA, D. S.; MARCON, S. S.; PAGLIARINI, M. A. 2014. SCIELO.	Perceptions and practices of pregnant women treated in primary care in the face of drug use.	Qualitative research.	To identify perceptions and practices of pregnant women treated in primary care regarding the use of drugs of abuse.	The pregnant women reported difficulty in quitting the use of drugs and that the information about this during the care prenatal care is insufficient. It was observed that some feel fear and guilt due to the possibility of harm to the fetus and others do not worry about this possibility, and that illicit drug users feel judged and not supported by professionals.
SILVA, E. A. L.; AMPARO, G. K. S.; SANTOS, E. B. dos. 2017. BDENF.	Nursing education in the pregnancy-puerperal cycle.	Qualitative research.	To report the experience of the "G-Day of the pregnant woman" in the training process of nursing students.	It was possible to establish a dialogue with the users of prenatal care about the pregnancy-puerperal cycle; provide a greater link between SUS users and the family health team; develop conceptual, procedural and attitudinal skills/competencies for the promotion of health and work education Interdisciplinary.
LIMA, M. E. M. *de et. al.* 2018. SCIELO.	Contribution of extension in a group of pregnant women and pregnant couples to the training of nurses.	Qualitative research.	To know how the participation of nursing students in the group of pregnant women and pregnant couples contributes to their training process and professional performance.	The analysis explained the reasons that lead the scholarship holder to apply for the extension vacancy, the perception of the nursing student about the group of pregnant women, the contribution of the extension experience to life academic and professional.
SANTOS, F. R. dos; FERLA, A. A. 2017. LILACS.	Mental health and primary care for alcohol and other drug users.	Qualitative research.	Address the integration between mental health care and primary care in the Unified Health System (SUS). To discuss the participation of the tutors of the Pathways of Care Project - Training in crack, alcohol and other drugs for Community Health Agents and Nursing Assistants and Technicians, and the contribution of training in Mental Health to their professional life.	Of the 890 questionnaires After completing the questionnaire, three open questions were analyzed, using Content Analysis as a method. The training proved to be able to transform the image of prejudice in relation to users of alcohol and other drugs; this change has awakened new possibilities for care in Primary Care, in addition to developing pedagogical capacities for continuing education in health.
ROCHA, F. M. *et. al.*; 2012. LILACS.	Caring for psychoactive substance dependents: perceptions of nursing students.	Qualitative research.	To know the perceptions of nursing students regarding the care of the dependent chemist.	The content analysis technique was used and the evaluation of the statements allowed us to show that the care of the drug addict was considered interesting, but difficult and exhausting. As

				positive points, the students pointed out the discussion about theory and experience, which enabled the transformation of conceptions linked to a moral model to others, based on technical, scientific and ethical models.

Source: the author, 2023.

From the results, it can be seen that, in the Brazilian literature, regarding the years of publication, the works are distributed within the ten years established as inclusion criteria. In addition, regarding the databases, the following databases were indexed: LILACS, SCIELO and BDENF.

It is evident that there have been few studies specifically focused on this theme. The selected articles portray that the theme: "Training about nursing care for pregnant women who use alcohol and other drugs" is little explored in the scientific literature; bring some aspects related to weaknesses in nursing care for pregnant women who use substances, which is reflected through fragmented care. And, they point out gaps in the care provided by the health networks that occur in a fragmented way, with deficiencies in the comprehensiveness of care for pregnant women who use alcohol and other drugs.

The present review highlighted the existence of a lack of information in the literature related to the competencies necessary for nursing care in the care of these pregnant women, with the respective care strategies, so that no articles were found that address these issues and that presented specific actions for such care.

The selected studies confirm the need to prepare health professionals, still in their academic training, about the phenomenon of alcohol and other drug use during pregnancy, which highlights the training of nurses.

It is believed that, based on a more comprehensive focus during professional training, it can awaken in students reflections on care strategies for this population and provoke changes in conceptions linked to a model of morality about this clientele, favoring changes in perception, paradigms, and expanding the way of care possibilities.

The appropriation of this subject in the academic environment favors the preparation of these professionals for the development of humanized and qualified care for pregnant women who use substances, through effective and efficient interventions that contemplate all their individualities and needs based on their various aspects and contexts.

It should be noted that the studies also point to the need for qualification of health professionals, through permanent education actions, in order to qualify early recruitment and offer reception that is sensitive to the demands and specificities of health care in pregnant and postpartum women who use alcohol and other drugs.

These findings suggest the possibility of studies that can bring the theme to discussion and propose strategies for including the theme in the education of nurses.

It was admitted that there is a possibility of contributing to the professional training of nurses, because it was thought of an educational product that allows students to appropriate the complexity involved in the care of pregnant women who use alcohol and other drugs. From this perspective, it will also allow, in addition to the acquisition of knowledge, to generate adequate skills and attitudes of approach, helping to prepare them for their performance in their care practice.

In addition, this study proposes to contribute to the training of a professional able to develop qualified and humanized nursing care for pregnant women who are in use and abuse of alcohol and other drugs.

The intention was to awaken professional skills in the students so that future nurses can perform their praxis that reaches the pregnant woman who uses alcohol and drugs in her singularity as a person, considering her social context and valuing the joint construction of health actions from the perspective of the subject's autonomy and co-responsibility for care.

It was intended to bring the theme for discussion in academic environments and in health care spaces, in order to minimize the social stigma that permeates the surroundings of these pregnant women, in addition to re-signifying health actions for this public.

This study is in line with the research line Pedagogical Training of the Professional Master's Program in Health Education, resulting from the CNPq Research Group Information and Communication Technologies in Health Education Processes, whose assumption is that information technology is the basic tool for all other fields of knowledge. enabling the integration of knowledge, practices and know-how in health education. Therefore, this study was constructed by the members of the Pedagogical Training in Health research line who are concerned with social needs, that is, with the ability to learn to learn, work in a team, communicate, be agile in the face of situations and have the capacity to propose, many institutions are beginning to discuss pedagogical changes, as these characteristics do not match the traditional training and the pedagogy of transmission that predominates in universities.

The creation of processes, products and managerial actions in health education is considered, with real use of processes, products and education actions that translate knowledge to the training of people. Training here is understood as the capacity for development and continuous learning.

It aims to innovate in the pedagogical, technological and educational management training of health professionals, through the development, application, training, dissemination and evaluation of the use of ICTs in health education. As a product, innovations in pedagogical strategies and/or methodologies using ICTs, innovations in work processes, products such as: learning objects, virtual learning environments, applications for mobile devices, simulators, digital games, virtual laboratories,

among others, as well as innovation in management actions, with the use of ICTs, which stimulate and enable pedagogical practices, are admitted. the control and monitoring of academic and/or professional training activities.

The composition of this research was: an introduction, contextualizing the theme, the proposed objectives, the theoretical arguments and the references used to achieve the objectives, the action research methodology, the results, which contemplate the product, the discussion about the results found and the conclusion.

2 THEORETICAL-CONCEPTUAL FRAMEWORK

2.1 THE USE OF ALCOHOL AND OTHER DRUGS BY PREGNANT WOMEN

The World Health Organization (WHO, 2002 *apud* LIMA, 2013) defines "drug" as any psychoactive substance introduced into the living organism that alters one or more of its functions.

Drugs of abuse are classified according to the legal status of the substances, through their commercialization, into licit and illicit. Licit substances are those that have permission from the State to be marketed and consumed, with or without a medical prescription, containing psychoactive substances, whose production, commercialization and use are not criminalized. They are mainly represented by alcohol, tobacco, caffeine, hallucinogenic plants and psychoactive drugs (CEBRID, 2010; KASSADA; MARCON; WAIDMAN, 2014).

From a legal point of view, in this classification, illicit drugs are those whose use, production and commercialization are prohibited by law and, consequently, are not socially accepted. They are represented by marijuana, cocaine, crack, among others (CEBRID, 2010).

It should be noted that this legal classification has become culturally accepted by society, and from this point of view, licit drugs are safe and illicit drugs are dangerous. However, alcohol and tobacco are the substances that cause the most preventable deaths in the world.

Therefore, it is not a question of criminalizing or minimizing these substances, as they all cause harm that must be considered, regardless of a division between licit and illicit (CEBRID, 2010; KASSADA; MARCON; WAIDMAN, 2014).

With regard to the female population, it is estimated that approximately 20% of women consume substances during pregnancy. As a result of the increasing use of alcohol and drugs by women during pregnancy, although it varies in form and intensity, there has been an increase in evidence of negative effects related to consumption, both low and moderate, during pregnancy (BRASIL, 2009; LIMA *et. al.*, 2015; SILVA; PROP; SANTOS, 2017). These effects include physical health problems, malnutrition, and susceptibility to infections, which can be transmitted to the developing fetus (BRASIL, 2012a).

The increase in the use of alcohol and other drugs by the world population is a public health

problem, especially in Brazil, where a large number of communities are concentrated, in a scenario permeated by low life expectancies that can favor the consumption of substances and involvement with crime (MAIA *et. al.*, 2019).

The issue of the use of alcohol and other drugs in society is a taboo, especially when related to women, especially pregnant women. They carry stigmas related to aggressiveness, promiscuity, and negligence. And, according to Bastos and Bertoni (2014), drug use is related in different aspects, including gender. In this sense, they are in a context of greater social vulnerability in relation to the male population.

They are mostly black, of low socioeconomic status, young, users of multiple substances and have a family and personal history of drug use, with a history of robbery, prostitution, violence, sexual abuse and HIV. (LOPES *et. al.*, 2016).

The use of alcohol and other drugs, especially crack cocaine, leads to an increase in the rate of prostitution and sexual exploitation. The sale of one's own body is, in many cases, the way to maintain the consumption of the substance. This leads to unwanted pregnancies, sexually transmitted infections, especially HIV and syphilis (VALENTE, 2017).

The results of a national survey on crack use, carried out in 2013 by the Institute for Scientific and Technological Communication and Information in Health (ICICT/FIOCRUZ), indicate that among female users, 8.17% were HIV carriers, a rate that, in men, reached 4.01%. With hepatitis C, women accounted for 2.23% of those infected and men, 2.75%. Other numbers that draw attention is that in the age group between 18 and 24 years old, women represent 37.41% of consumers, against 29.67% of men. Or that of all the interviewees, 55.36% stated that they had had sex or performed sex work in exchange for money to buy the drug or crack itself, and that 40.04% of the interviewees had suffered sexual violence in the last 12 months, a number as high as that of men, who responded positively to this item in the survey: 37.79% (BASTOS; BERTONI, 2013).

The presence of pregnancy can also represent another factor of vulnerability. Within this vulnerable group, women who find themselves homeless and become pregnant end up becoming a fraction that highlights the need for greater care (SOUZA, 2019).

However, they have lower adherence to health services and are less likely to seek prenatal care, aggravating the risks of maternal and fetal complications, being considered high-risk pregnant women.

In this context, they may be considered by the courts as incapable of managing the care of their children, which can lead to the loss of custody or removal of family power (MARANGONI *et. al.*, 2017; MENANDRO, *et. al.*, 2019). In addition, the abandonment of the baby by the mother may also occur (MAIA *et. al.*, 2019).

Among the factors associated with drug use during pregnancy are the conditions of social and health vulnerability in which they live, situations of violence, psychosocial aspects such as stress,

anxiety, depression, and social support for women, such as social network and social support. In addition, studies show that they have low adherence to the treatments offered. (ROCK *et. al.*, 2016).

Furthermore, as a result of these factors, current studies show an increase in substance consumption in the high-income population and an increase in use in women of all social classes, including during the gestational period (POPOVA *et. al.*, 2017; PAIVA *et. al.*, 2021).

Among the most consumed substances during pregnancy are: alcohol, cigarettes, marijuana, cocaine and crack (BRASIL, 2012a; KASSADA *et. al.*, 2013; MAIA *et. al.*, 2019).

The effects and damage caused by the consumption of alcohol and other drugs during pregnancy are extremely harmful to fetal and maternal health, with a greater probability of neonatal and obstetric complications.

The use of these drugs during pregnancy has a great impact, especially in the early stages of pregnancy. The first three months are the most critical, mainly because they are the ones for the formation of the nervous system of the fetus. In the face of any abnormality, the result will be an abortion or a child with sequelae in physical or mental development (MURTA *et. al.*, 2018)

The consumption of psychoactive substances during pregnancy (whether licit or illicit drugs) is directly related to the etiology of preterm birth. Especially, when associated with other risk factors such as: infections, multiple deliveries, pregnancy-induced hypertension, strenuous work, low body mass index, insufficient weight gain during pregnancy, assisted reproduction, short cervix, short interpartal interval, low education, black race, and previous history of preterm birth (ROCHA *et.* al., 2016).

In addition, the literature also indicates that its use can lead to malnutrition, susceptibility to infections, respiratory distress, low birth weight, short stature, decreased head circumference, and neurobehavioral changes in childhood (BRASIL, 2012a; KASSADA; MARCON; WAIDMAN, 2014; MURTA *et. al.,* 2018; MAIA *et. al.*, 2019; TAMASHIRO; MILANEZ; AZEVEDO, 2020).

Exposure to alcohol during pregnancy can cause miscarriage, factors that compromise childbirth, increased risk of malformations, low birth weight, prematurity, asphyxia and perinatal mortality, in addition to causing organic and neurological lesions in the fetus, and the newborn may present a set of signs and symptoms called fetal alcohol syndrome (FAS) (ROCHA *et. al.*, 2016).

In the Technical Manual of High-Risk Pregnancy (BRASIL, 2012a), Fetal Alcohol Syndrome (FAS) consists of any combination of the following components: low weight for gestational age, malformations in the facial structure, defects in the cardiac ventricular septum, malformations of the hands and feet (especially syndactyly), mental retardation ranging from mild to moderate, in addition to problems in behavior and learning that may persist, at least, during childhood.

According to the Manual, cocaine consumption during pregnancy is related to intrauterine growth restriction due to maternal vasoconstriction, in addition to preterm labor, premature rupture of

membranes, low birth weight, short stature, decreased head circumference, and neurobehavioral changes.

Tobacco is one of the most consumed substances due to its ease of access, it is a habit generally accepted by society, due to the lack of knowledge of the effects it can cause (CAPELETTI; LINS; GIOTTO, 2019).

The use of cigarettes compromises fetal health, due to the effects of carbon monoxide and nicotine, and is the cause of reduced placental blood flow, causing uterine vasoconstriction and, consequently, reduces the supply of oxygen and nutrients to the fetus (MAIA *et. al*., 2019).

The use of marijuana affects the central nervous system of the fetus, as a result of the effects of tetrahydrocannabinol, the active ingredient of the drug that causes differentiation in neuronal cells, which can cause malformations and damage in development. In pregnant women, it affects the brain and cardiovascular system, causing tremors, psychic symptoms, reduced reflexes, and exacerbation of feelings (MAIA *et. al.*, 2019).

In addition to the potential risks involving the length of gestation and the health of the fetus, crack cocaine causes the pregnant woman to become debilitated and malnourished (MURTA *et. al.,* 2018). While the use of alcohol can cause brain damage, liver damage, resulting from an accumulation of fat in the liver, which ends up leading to irreversible necrosis and fibrosis (TEIXEIRA *et. al*., 2015).

The use of crack cocaine during pregnancy has extremely harmful repercussions for the mother and fetus, due to the speed with which this substance reaches the bloodstream and crosses the transplacental barrier, reaching the fetus. Its direct action on blood vessels can cause placental abruption, intracranial hemorrhage, miscarriage, congenital malformations, and preterm labor (MAIA *et. al*., 2019).

Substance abuse can also lead to a higher risk of certain conditions, such as mental illness, or certain situations, such as unprotected sex and exposure to infectious diseases caused by the human immunodeficiency virus (HIV), hepatitis B and C (BASTOS; BERTONI, 2013; TAMASHIRO, 2015).

Marques *et. al.* (2012) warns that cocaine can cause an increase in HIV replication *in vitro* and that the cells of chronic cocaine users favor viral replication. Perinatal transmission can occur through three mechanisms: transplacental, during labor, and after birth, through breastfeeding.

The effect of drugs can alter the perception of judgment, increasing the condition of vulnerability to which these women are inserted. Thus, they have an increased risk for the development of Sexually Transmitted Infections (STIs) and unwanted pregnancies (SERRADILLA; GOMES; VILA REAL, 2012 *apud* BLESSLER, 2018).

In addition, the consumption of alcohol and other drugs may be inserted in a context that involves a situation of violence, where the use and abuse of substances can both be conducive to family violence and represent a triggering factor to endure a violent and unstructured family scenario

(RODRIGUES; NAKANO, 2007 *apud* BLESSLER, 2018).

It is important to consider that these pregnant women also experience feelings of worry, insecurity, responsibilities like any other pregnant woman. However, due to the consumption of substances, they also feel guilt, embarrassment and helplessness, for not representing the figure of a "good mother" (CAMARGO *et. al*., 2018).

When promoting health care for pregnant women who use alcohol and other drugs, it is necessary for health professionals to be aware of the effects that consumption can cause to pregnant women and fetuses. However, such information is null and void if the context of psychosocial and vulnerability involving the use and abuse of substances is not considered. It is necessary for professionals to be able to understand this scenario, in order to develop care practices based on care, without value judgments and considering the individuality and life history of the subjects.

In addition to health promotion, considering physiological aspects, these practices should include psychological, social, and cultural aspects and involve respect for citizenship and human rights (BLESSLER, 2018; CAMARGO *et. al.*, 2018).

2.2 PUBLIC MENTAL HEALTH POLICIES FOR PREGNANT WOMEN WHO USE ALCOHOL AND OTHER DRUGS

Historically, the issue of alcohol and other drug abuse has been approached from a predominantly psychiatric or medical perspective. The social, psychological, economic and political implications are evident and should be considered in the global understanding of this problem (BRASIL, 2003).

This theme was associated with criminality and antisocial practices and the offer of "treatments" inspired by models of exclusion/separation of users from social life, whose proposals constituted "care alternatives" of a total, closed nature and having abstinence as the main objective to be achieved (BRASIL, 2003).

Initially in Brazil, the approach to the problem of alcohol and other drugs began in the 1920s, with the creation of a legal-institutional apparatus aimed at prohibiting the production, trade and use of drugs. Influenced by conventions, international treaties and geopolitical issues, this "prohibitionist" stance was strengthened during the twentieth century. It was only from the 1970s onwards that the discussion on care gained prominence, initially based on medical (psychiatric) knowledge that reinforced the exclusion of drug users, criminals and/or patients (MACHADO; MIRANDA, 2007 *apud* COSTA; RONZANI; COLUGNATI, 2017; ALVES, 2009 *apud* COSTA; RONZANI; COLUGNATI, 2017; BASTOS, 2015 *apud* COSTA; RONZANI; COLUGNATI, 2017).

As a result of this scenario, criminalization as issues related to health remained with care gaps. In this context, non-governmental devices have emerged, such as Therapeutic Communities (TC),

mutual aid groups, etc., which aggregate moralizing views based on the imperativeness of abstinence and, to a large extent, based on religious assumptions (MACHADO; MIRANDA, 2007 *apud* COSTA; RONZANI; COLUGNATI, 2017; ALVES, 2009 *apud* COSTA; RONZANI; COLUGNATI, 2017).

Andrade (2011) states that at the end of the eighties, under the coordination of the Ministry of Health, particularly the National Coordination of STD/AIDS, the first meetings were initiated motivated by the increase in the prevalence of HIV/AIDS among injecting drug users.

The same author points out that only in the first half of the nineties, an agreement between the Brazilian Government and the World Bank, involving resources from *the United Nations Office on Drugs and Crime* (UNODC), enabled a series of projects to address the use of injectable drugs, including needle exchanges. Thus, harm reduction actions aimed at the control of HIV and other parenteral infections among injecting drug users were initiated.

From a sanitary practice of HIV/AIDS prevention, through the exchange of syringes, throughout its execution, harm reduction evolved to the current conception of a health policy whose principles and practices do not condition abstinence (FERNANDES, 2009 *apud* ANDRADE, 2011).

In 2002, the National Anti-Drug Council (CONAD) formulated the National Anti- Drug Policy, instituted by Decree No. 4,345/2002, initiating a real fight against the problem of drugs, through the search for an ideal based on the construction of a society free of the use of illicit drugs and misuse of licit drugs. In the same year, Law No. 10,409 was instituted, which states that the treatment of alcohol and other drug users must be carried out by a multidisciplinary team, with the assistance of their family (BRASIL, 2002 *apud* BLESSLER, 2018).

At the same time, in March 2002, the CAPS Ad (Psychosocial Care Center for Alcohol and Drugs) was created, which are psychosocial care services for the care of patients with disorders resulting from the use of alcohol and other drugs (LARENTIS; MAGGI, 2012).

It should be noted that the CAPS (Psychosocial Care Center) emerged as an important change in the treatment of people with mental disorders, from Law 10.216 of 2001, with the consolidation of these services (LARENTIS; MAGGI, 2012).

CAPS are institutions designed to welcome users with mental disorders, stimulate their social and family integration, support them in their efforts to seek autonomy, and offer them comprehensive and multidisciplinary care. Its main characteristic is the search for sociocultural and family integration in the search for user autonomy (BRASIL, 2004).

They offer care to users who make a harmful use of alcohol and other drugs, allowing therapeutic planning within an individualized perspective of continuous evolution. It also enables early interventions, limiting the stigma associated with treatment.

According to Ordinance GM No. 336, of 02/19/2002, the CAPS AD, according to the premises of the psychiatric reform, is a public service, of daily care, focused not only on the treatment of users

in relation to drug use, but also on their family, social and community reintegration. It proposes to break the traditional care model, changing the way mental suffering and its determinants are dealt with. The care provided to the users is now provided in these services of community logic, aiming at acting in the territory of coverage itself and expanding the process of care for family members and social issues (BRASIL, 2002; 2003; L; FUENTES, 2017).

The CAPS AD offer daily care to users who make harmful use of alcohol and other drugs, allowing therapeutic planning within an individualized perspective of continuous evolution. It also enables early interventions, limiting the stigma associated with treatment. Thus, the proposed network is based on these community services, supported by psychiatric beds in a general hospital and other community care practices (e.g., home care, community insertion of services), according to the needs of the target population of the work. These units develop various activities ranging from individual care (medication, psychotherapy, guidance, among others) to group care or therapeutic workshops and home visits. They should also offer conditions for rest, as well as for outpatient detoxification of patients who need this type of care and who do not require hospital clinical care (BRASIL, 2004).

In 2003, the need to build a new National Agenda for the reduction of the demand and supply of drugs in the country emerged, which could include three main points: the integration of sectoral public policies with the National Anti-Drug Policy, aiming to expand the scope of the actions; the decentralization of these policies at the municipal level, allowing the local conduction of demand reduction activities; duly adapted to the reality of each municipality and the strengthening of relations with society and the scientific community (BRASIL, 2013 *apud* BARCELLOS, 2018).

The Policy for Comprehensive Care for the Use of Alcohol and Other Drugs emerged in an attempt to subsidize the collective construction of coping with the problem of alcohol and other drug abuse, now recognized as a serious public health problem. Its objectives are: To provide treatment in primary care, ensure access to medicines; ensure care in the community; provide health education to the population; involve communities/family/users; train human resources; create links with other sectors; monitor mental health in the community; give more support to research; and establish specific programs (BRASIL, 2003 *apud* VASCONCELOS *et. al.*, 2018).

Based on this policy, the actions of Harm Reduction were guided, recognizing them as a promising path. Thus, Harm Reduction recognizes each user in their singularities, in order to outline strategies with them that are not aimed at abstinence as a goal to be achieved, but at the defense of their life. This method is linked to the direction of the treatment in the establishment of a bond with the professionals, who also become co-responsible for the paths to be built by the life of that user, by the many lives that are linked to him and by those that are expressed in him (BRASIL, 2003).

Ordinance GM/MS No. 130 of January 26, 2012, instituted the CAPS AD III, which is a CAPS modality that provides continuous care to people with needs related to the consumption of alcohol and

other drugs, 24 hours a day, every day of the week, including weekends and holidays (BARCELLOS, 2018).

The CAPS AD III offer care to the population, providing clinical follow-up as well as the social reintegration of users through access to work, leisure, exercise of civil rights and strengthening of family and community ties. This service also offers assistance to users in their moments of crisis, being able to offer night shelter for a short period of days. The projects of these services go beyond their physical structure, in search of a social support network that can guarantee the success of their actions, being concerned with the person, their history, their culture and their daily life (BRASIL, 2011; VASCONCELOS *et. al.*, 2018).

According to Vasconcelos *et. al.* (2018, p. 41):

> The CAPS play a strategic role in the articulation of the RAPS, both with regard to direct care aimed at promoting community life and the autonomy of users; as well as in the organization of care, working together with the Family Health Teams and Community Health Agents, articulating the existing resources in other networks, as well as in the territories. The network responsible for the reception of alcohol and other drug users has several devices, namely: CAPS AD, Street Clinics, Family Health Strategy (ESF) Teams, Family Health Support Centers (NASF), Basic Health Units (UBS) and Reception Units (UA).

According to Vasconcelos *et. al.* (2018), the definition of the Harm Reduction policy aims for the user to acquire their autonomy and verify the difference between drug use and abuse, so that they are able to decide whether or not to consume in order not to compromise their daily lives.

Harm reduction is used by CAPS ADs as an important health care strategy in relation to the consumption of alcohol and other drugs, in order to intensify and diversify actions aimed at prevention, health promotion and reduction of risks associated with the consumption of these substances.

According to Coelho and Soares (2014 *apud* GOMES; VECCHIA, 2018, p. 2329):

> One of the main points of this practice is the uniqueness of the subject and his rights as a citizen. Harm reduction programmes invoke ethical and humanitarian reasons, health promotion and human rights in their favour. Health promotion implies the protagonism of social actors in their quality of life and health, as a counterpoint to the medicalization of care, aiming at autonomy and emancipation. Individuals and groups should be the means to identify aspirations, needs and to modify their living, health and working conditions favorably.

Regarding the context of the use of alcohol and other drugs by pregnant women, as a way to ensure maternal and fetal safety and well-being, Harm Reduction is included, which favors the promotion of actions aimed at reducing the dependence relationship of the subjects involved, seeking to reduce the harmful effects for the mother-child binomial.

Harm Reduction repudiates the abandonment and discrimination of people who experience problems due to the use of alcohol and other drugs, who have experienced failures regarding the impossibility of immediate abstinence, or who are not yet in a position to adhere to treatment. It aims to offer greater visibility to the user as a subject of rights, putting into discussion individual and

criminal responsibility, freedom of choice, self-care, and diversification of care modalities (COELHO; SOARES, 2014 *apud* GOMES; VECHIA, 2018).

Therefore, the care provided by the CAPS AD emerges as an alternative to expand health care for pregnant women who use alcohol and drugs, in order to promote continuous and integrated care, promoting the articulation and mobilization of the care network, in order to ensure greater quality of care and promote conditions that respect these users as a person. enabling their social, professional and family reinclusion through the Singular Therapeutic Project, considering the context of the

sociocultural context in which they are inserted and the analysis and intervention of their social risks and vulnerabilities (KASSADA; MARCON; WAIDMAN, 2014).

Throughout the first years of the existence of the National Anti-Drug Policy, the topic of drugs remained on the agenda, and so did the need to deepen the subject. Thus, it was necessary to reassess and update the fundamentals of the PNAD, taking into account the social, political, and economic transformations that the country and the world had been going through (BARCELLOS, 2018).

In 2005, the creation of the National Policy on Drugs establishes foundations, objectives, guidelines, and strategies that are indispensable for efforts related to the reduction of drug demand and supply to be conducted in a planned and articulated manner (BRASIL, 2004a *apud* BLESSLER, 2018).

Law No. 11,343/2006 institutes measures for the prevention of misuse, care and social reintegration of drug users, in line with the current drug policy. It contemplated the laws n°. 6.368/1976 and 10.409/2002, repealing them. From its edition, the recognition of the differences between the figure of the trafficker and that of the user was established, which began to be treated differently and to occupy different chapters of the law (BARCELLOS, 2018). The country understood that users and dependents should not be penalized by the courts with the deprivation of liberty. Thus, retributive justice, based on punishment, is replaced by restorative justice, which aims at resocialization through alternative punishments (BRASIL, 2006 *apud* BESSLER, 2018).

In 2008, Law No. 11,754 linked the National Council on Drug Policies (CONAD) and the National Secretariat for Drug Policies (SENAD) of the Office of Institutional Security of the Presidency of the Republic. Changes the name of the National Secretariat for Anti-Drug Policies to the National Secretariat for Drug Policies (SENAD). CONAD and its actions become decentralized through State Councils and Municipal Councils, granting municipalities and states autonomy (BARCELOS, 2018).

Andrade (2011, p. 4668) adds that:

> Among the actions developed by SENAD are the realignment of the National Anti-Drug Policy, the creation of the Research Network on Drugs, in partnership with the Institute of Drugs and Toxidependence – IDT of Portugal, and the creation of SUPERA – System for the Detection of Abusive Use and Dependence of Psychoactive Substances: Referral, Brief Intervention, Social Reintegration and Follow-up, A distance learning course involving 5,000 health and social care professionals, currently in its fourth edition. Among the actions

> developed by the National Coordination of Mental Health, Alcohol and Other Drugs, we highlight the expansion of the CAPS AD network – Psychosocial Care Center for Alcohol and Other Drugs as care devices for the population of drug users from 2002 onwards, which, although still far short of the need, in December 2010 had 258 Centers of this nature.

With the progressive increase and visibility of crack cocaine consumption, in 2009 the Federal Government launched the PEAD - Emergency Plan for Expanding Access to Treatment and Prevention in Alcohol and Other Drugs, followed in 2010 by the "Crack Plan" - Plan for the integration of actions aimed at the prevention, treatment and social reintegration of crack and other drug users (ANDRADE, 2011).

This Plan aimed to develop an integrated set of actions for the prevention, treatment, and social reintegration of crack and other drug users, as well as to confront trafficking in partnership with States, the Federal District, Municipalities, and Civil Society, aiming to reduce crime associated with the consumption of these substances among the population (BARCELLOS, 2018).

On December 23, 2011, the Psychosocial Care Network/RAPS was established through Ordinance GM/MS No. 3,088. Its objectives are: To expand access to psychosocial care for the general population; promote the connection of people with mental disorders and with needs resulting from the use of crack, alcohol and other drugs and their families to the points of care; ensure the articulation and integration of the points of care of the health networks in the territory, qualifying care through welcoming, continuous monitoring and emergency care (AMARANTE, 2019).

In accordance with this policy, hospitalization is indicated only when out-of-hospital resources are insufficient. The CAPS AD is the device that has the competence and technical responsibility to assess the demand for hospitalization for users with problems of harmful use of alcohol and other drugs (BARCELLOS, 2018).

Despite the existence of programs and policies aimed separately at women's health or drug use, in short, care for pregnant women who use alcohol and other drugs is permeated by deficiencies and obstacles (DIAS *et. al*., 2013; KASSADA; MARCON; WAIDMAN, 2014; LIMA *et. al.*, 2015).

Thus, despite the advances in public policies, it is perceived that they still do not meet the citizens' demands according to their demands, due to the existence of conflicting moments of interests that involve ideologies and values. When thinking about women, pregnant women, users of alcohol and other drugs, in addition to dealing with all the difficulties that permeate the pregnancy process, in unfavorable social conditions, they still need to face the weaknesses related to the legislation and the figure of the State as a protector of the rights and values of the citizen (GARCIA; FAITHFUL; ABREU*, 2008 apud* BLESSLER, 2018).

The study by Pogetto (2016) reinforces the need for integration of health care networks (HCN), especially between the areas of mental health and maternal and child health, so that there is qualified care for pregnant women who use substances.

From the perspective of public health policies for the use of alcohol and other drugs specifically aimed at the female population, including pregnant women, there is a lack of government programs and proposals, even though the need for differentiated care for this clientele is known.

The Policy that comes close to this issue is the National Policy for the Homeless Population, which determines a stereotype that places pregnant women who use alcohol and drugs in a place of vulnerability, as they do not fit into a social profile (BLESSLER, 2018).

Thus, it is proposed to develop specific public policies and care programs, more appropriate and directed to pregnant women with regard to the prevention and treatment of drug use, since these allow the establishment of prevention strategies that minimize the effects and consequences caused by the use of substances (MAIA *et. al*., 2019).

However, studies such as the one carried out by Marcolino *et. al.* (2018), with 19 women who used psychoactive substances during pregnancy, in a municipality in the state of São Paulo, aimed to describe the characteristics of prenatal health care from the perspective of these women, and revealed that the care offered is focused only on the obstetric clinic, with relational and communicational insufficiencies, which did not reach the woman as a person, nor her life context and possibilities, in addition to a reception that did not include the needs related to both gestational and humanitarian development.

In view of this information, the identification of pregnant women who use alcohol and drugs should occur as soon as possible, in order to favor possibilities of treatment, coping and prevention of use. When they are admitted to the Basic Health Unit, they should be referred to a specialized service, where the appropriate evaluations will be made to continue prenatal care as provided for in the protocol of the Ministry of Health (MOTA *et. al.*, 2019).

In order to provide comprehensive quality care to pregnant women who use alcohol and other drugs, health units must work together directly with specialized mental health care centers.

The most indicated specialized care service for the treatment of disorders resulting from the use and abuse of alcohol and psychoactive substances is the Psychosocial Care Center for Alcohol and Other Drugs, the CAPS AD. They are strategic devices in the organization of the gateway, evaluation, reception and follow-up, with the objective of promoting the access of users and their families to health services, prevention of consumption and promoting the rehabilitation and reintegration of these people into society, through a unique therapeutic project, in addition to determining actions aimed at reducing social and health damage due to substance use (BRASIL, 2010).

However, pregnant women who use alcohol and drugs have low adherence to health services, especially due to the difficulties related to their living conditions (SIQUEIRA, 2017) and, associated with the potential risks, they are considered high risk.

Another factor that corroborates this problem occurs as a result of the attitude of professionals

who stigmatize them, making them feel judged, in addition to not receiving adequate support and information to cope with their use (KASSADA; MARCON; WAIDMAN, 2014), causing them not to seek health services, or when this occurs, they do not continue care.

Health professionals play an important role in preventing the damage that the consumption of alcohol and other drugs during pregnancy can cause. However, the detection of alcohol and other drug consumption during pregnancy, an extremely relevant and highly complex action, is permeated by inexperience and prejudgments on the part of professionals and can cause a great influence on the omission of use by pregnant women, interfering with access to and adherence to treatment (DIAS *et. al*., 2013).

The lack of support and a judgmental posture adopted by health professionals can cause the embarrassment of the pregnant woman to disclose the use of substances to health professionals during prenatal care. This fact leads to a lack of access to specialized health services or late search and, in most cases, they do not carry out adequate prenatal care and CAPSAD follow-up. Thus, it can be considered that the punitive posture of the professional towards the pregnant woman is the main barrier in the monitoring of the health of women who use alcohol and other drugs (KASSADA; MARCON; WAIDMAN, 2014).

In addition, Blessler (2018) states the existence of gaps in health care policies, which do not address the needs of these pregnant women, who need differentiated care, as they are also in conditions of vulnerability.

According to the author, these pregnant women are cared for by primary care, which often does not provide comprehensive care for a population at risk, simply because this risk is not identified. Another factor is related to the lack of dialogue between primary care and the referral hospital network. In this way, these pregnant women can arrive at the maternity hospitals without a previous history or without actions that potentially modify this context (BLESSLER, 2016).

The support and treatment interventions offered to these pregnant women should include actions aimed at minimizing the harmful effects caused by the use of alcohol and other drugs during pregnancy, through articulated actions between primary care services and CAPS AD, aiming to warn and guide about the dangers of alcohol and drug use. as well as ensuring multidisciplinary care for the well-being of the mother-baby binomial.

Such actions should take place in a way that avoids stigma, discrimination, marginalization and promotes family, community and social support. Pregnant women need to be informed about the treatment and therapeutic options available when making decisions about their health care (WHO, 2014 *apud* SIQUEIRA, 2017).

The literature points to deficiencies in the academic training and training of health teams that work with chemical dependence, creating a barrier to access to the service by drug users. Users have

many difficulties in seeking specialized treatment since these services do not offer interventions adjusted to their needs, associated with prejudice, which multiplies when referring to pregnant women (MARQUES *et. al*., 2012; KASSADA *et. al.*, 2013; FONSECA *et. al.*, 2017).

Regarding the nursing category, it is evident that nurses have limited knowledge about the problem of psychoactive substances (KASSADA *et. al.*, 2013; LIMA *et. al.*, 2015; SIQUEIRA, 2017).

A study carried out in 2007 with 16 nurses from the CAPS AD in the city of São Paulo, with the objective of evaluating the knowledge acquired about the problems related to alcohol use by nurses from a Brazilian public university during educational training, showed the existence of deficiency in the formal education of these professionals, since most of the study participants demonstrated little or no knowledge about the theme of alcohol use and its consequences (VARGAS; OLIVE TREE; DUARTE, 2011).

Lima *et. al.* (2015) corroborate in their study, confirming this issue and, together with Siqueira (2017), point out the need for knowledge on this topic to be widely disseminated so that professionals and subjects involved can discuss better ways of conducting.

Another factor evidenced in my professional experience, albeit empirically, which hinders the training of health professionals on the subject is the scarcity of scientific literature and specialized courses on the care of pregnant women who use alcohol and other drugs.

There is a need for training and sensitization of professionals who work in the care of pregnant women who use these substances, so that health professionals can reassess their conduct in relation to the consumption of alcohol and other drugs and develop care in a humanized way, without judgments of morals and value to these pregnant women.

When providing care holistically, the professional nurse must contemplate the needs of these pregnant women, the context in which they are inserted, their history, behavior and activities of daily living, knowing how to identify risk situations and developing interventions directed to the problems, in the face of the unstructured family environment, impaired socioeconomic conditions and the entire context of vulnerability and violence in which the pregnant woman is inserted.

As a professional who works directly in prenatal care, the nurse should act in the orientation of the pregnant woman and her family; performing low-risk prenatal consultations; requesting routine exams and prescription of medications according to the protocol of the Ministry of Health and referring high-risk pregnant women to the referral service; carrying out educational activities, registering the data of the consultation on the pregnant woman's card, as well as early recruitment for prenatal care and establishment of the bond through welcoming.

Together with other professionals of the multidisciplinary team, a process of therapeutic relationship is built with the establishment of a bond, through welcoming, active listening, allowing individualized and directed attention to the needs of pregnant women who use alcohol and other drugs

(BRASIL, 2012a; SOUZA et. al., 2011 *apud* LIMA *et. al., 2015*).

It is necessary for nursing professionals to be able to develop effective strategies for health promotion and improvement in the quality of care. To this end, it is extremely important to invest in the qualification of health professionals, adopting integrated care models of health education (TEIXEIRA *et. al.*, 2015).

2.3 NURSING ACTIONS IN THE CARE OF PREGNANT WOMEN WHO USE ALCOHOL AND OTHER DRUGS

Alcohol and other drug use during pregnancy is associated with potentially serious obstetric and neonatal risks and complications. Thus, it is necessary that the identification of the use occurs as soon as possible, in order to favor the appropriate interventions and create possibilities for the pregnant woman to have access to specialized services at the Psychosocial Care Centers in alcohol and drugs (CAPS-AD), allowing the creation of alternatives to cope with drug use during pregnancy. avoiding maternal and fetal complications (FONSECA *et. al.*, 2017).

Prenatal care proves to be an excellent time for identification, intervention, and prevention of drug use by pregnant women, resulting from the bond that occurs with health professionals in the unit, especially nurses who work directly in maternal and fetal care (MAIA *et. al*., 2019).

Nursing has in its essence the care that involves dexterity, skill, technical-scientific knowledge, comprehension and observation. The nurse is the professional who acts directly in the care of pregnant women who use alcohol and other drugs, and their role during prenatal care is extremely relevant (DIAS *et. al.*, 2013).

In order to provide qualified nursing care to these pregnant women, nurses must perform their actions in a systematic manner, in order to contemplate all their needs.

In view of this reality, it is essential that nurses provide care to pregnant women who use alcohol and other drugs based on the Systematization of Nursing Care (NCS), as it allows the professional to incorporate the stages of the scientific method and clinical judgment, attending to the ethical-legal devices through the history, planning, implementation and evaluation of care, providing comprehensive care to the patient. humanized and focused on their specific needs (TEIXEIRA *et. al.*, 2015).

The systematization of nursing care (NCS) is the work methodology of the nursing professional, in order to promote coherence between the activities performed by the nursing team, capable of directing these professionals to the physical, psychological, social and spiritual needs of patients and their families and members of the community where they live (TANNURE; PINHEIRO, 2019).

The Nursing Process is the dynamics of systematized and interrelated actions whose focus is

to provide care to human beings and consists of the following stages: Nursing History or Data Collection, Nursing Diagnoses, Care Plan, Nursing Prescription, Nursing Evolution and Nursing Prognosis (HORTA, 2011).

By favoring the organization of the activities performed by the nursing team, the NCS contributes to the improvement of the care provided, bringing positive implications for all those involved, as well as for the health services (TANNURE; PINHEIRO, 2019).

Thus, the nurse's work should be based on careful screening during the prenatal consultation with these pregnant women in order to identify early situations that may put the maternal and fetal health at risk (DIAS *et. al*., 2013).

According to the recommendations of the Ministry of Health (BRASIL, 2012a), prenatal care should be provided in Primary Care by the Family Health Strategy (FHS), which is composed of a multidisciplinary team that works in a defined area. Assistance is guided by welcoming behaviors; with the increase of educational and preventive actions; in the early detection of pathologies and conditions of gestational risk; in the formation of a bond with the place of delivery and access to quality health services, from primary care as well as at levels of greater complexity, with the participation of a multidisciplinary team.

Prenatal care is performed by the nurse and aims to welcome the pregnant woman, ensuring humanized and welcoming care, ensuring maternal and baby health.

From the Nursing Consultation, there is an exchange of information between the nurse, the user and their family, enabling the systematization of care aimed at health promotion and prevention of diseases and injuries, promoted through health education, as well as actions that focus on knowing and doing, understanding the care of human beings and their particularities. Thus, nurses contribute to good health practices and change in behaviors that are unfavorable to the well-being of pregnant women (MELO *et. al.*, 2020).

With regard to pregnant women who use alcohol and drugs, in addition to the guidelines recommended by routine prenatal care. Lopes *et. al.* (2016) and Xavier *et. al.* (2019) recommend addressing some specific elements during the nursing consultation in order to carry out a complete history that includes not only the physical and obstetric evaluation of the pregnant woman, but also information:

> Blood pressure measurement of the patients followed by their records, in which if there is a change in the normal value, the patient should be sent for cardiology consultation; verification of the patient's weight followed by a record, which should inform if there is malnutrition; questioning about the total time that the pregnant woman has been a drug user; if there is the use of any other type of psychotropic substance, such as antidepressants and anxiolytics; referral for urine, feces, and blood tests, which will show the absence or presence of toxins in the body from chemical substances, as well as referrals to psychologists and psychiatrists so that there is a diagnosis, support, and treatment directed to any psychic disorder caused by drug use (XAVIER *et. al*., 2019, p. 4).

The nurse should also request multidisciplinary and inter-institutional follow-up, specific guidance on pregnancy, with emphasis on mother-child bonding and/or parent/family repetition, and linking the partner, if any, to prenatal care. There should also be a link between the reference maternity hospital for childbirth and/or obstetric emergency, and the offer of rapid tests (syphilis, HIV, Hepatitis B and C), vaccination, recommended exams, gynecological and dental consultations (BARROS *et. al.*, 2020).

In order to achieve the expected results through the interventions performed, during the consultations, the nurse should, through active listening and a holistic look, pay attention to the questions, anxieties and complaints of the pregnant woman, through a participatory and contextualized approach, promoting the creation and strengthening of the bond between professional and user (TEIXEIRA, 2015).

The nursing consultation is an important care practice. Often, when starting prenatal care, for these women it can mean the first contact with nursing practices. Another extremely relevant practice is the educational activities, which represent a favorable moment for the general guidelines: Health promotion, prevention and control of diseases and self-care. They should be seen by the professional as a propitious moment to strengthen bonding, listening, conflict orientation and search for the resolution of problems such as the consumption of alcohol and other drugs during pregnancy (ACIOLI *et. al.*, 2014 apud *BESSLER, 2018).*

Through educational actions, nurses have the opportunity to approach and build alternatives for prevention and treatment of alcohol and drug use with pregnant women, in addition to guiding them about harm reduction. Groups, waiting rooms and conversation circles can be alternatives to guide and clarify pregnant women about the use of drugs of abuse, their effects on maternal and fetal health, in order to sensitize them to the importance of interrupting use during pregnancy (KASSADA *et. al*., 2013; LIMA *et. al.*, 2015; MARCOLINO *et. al.*, 2018). It should be noted that educational practices can also be developed during the nursing consultation (BESSLER, 2018).

During the follow-up of the pregnant woman, the nurse should identify her needs as a woman, so that the nurse can assess the risk factors and plan a therapeutic scheme, together with the other members of the health team, in order to promote awareness of the use and encourage them to actively integrate educational activities for health promotion (LOPES, 2016).

In some cases, it is necessary to carry out an active search for the pregnant woman by the health service team, which can be performed by a community health agent (CHA) or harm reductionist, together with the nurse. Pregnant women who use alcohol and other drugs usually have low adherence to prenatal care. Thus, in the search for the absent pregnant woman, the nurse has the possibility of identifying the environment in which the pregnant woman is inserted and promoting individualized care, acting directly on her habits and life context (BESSLER, 2018).

In this context, the nurse stands out as a member of the health team and, as the coordinator of the nursing team, he or she should prepare the nursing team and the community health agents (CHA) to cope with the use of alcohol and drugs by pregnant women, aiming at promoting health care, continuity of treatment through actions in their territory (FONSECA *et. al*., 2017).

It is important to emphasize that, in addition to the actions aimed at clinical and obstetric care, the nurse must adopt a welcoming and unprejudiced posture in all actions performed with pregnant women who use alcohol and other drugs, and sensitize their entire team and guide them on the importance of welcoming and supporting pregnant women in order to maintain continuity of care (MOTA *et. al*., 2019).

One of the places of care for these pregnant women is the Center for Psychosocial Care for Alcohol and Drugs (CAPS AD). This center – which is an offshoot of the Psychosocial Care Center (CAPS), one of the main tools in the Brazilian psychiatric reform – initiated a change in the scenario of care for users of alcohol and other drugs (CAIRES; SANTOS, 2020).

However, the adherence of pregnant women to treatment in these centers is still low. In addition to the stigmas that are reproduced by society, there is a concern about exposing oneself to treatment in which one should come across other people (CAIRES; SANTOS, 2020).

With regard to the nurse's work at the Psychosocial Care Center for Alcohol and Drugs (CAPS AD), the insertion of nurses is marked by the proposal of interdisciplinarity, allowing them more professional autonomy, by allowing this professional to interfere and conduct the process of care and follow-up of users of mental health services. Embracement is the user's first contact with the service, ensuring the possibility of proposing and coordinating the user's therapeutic project, configuring himself as a reference technician within the CAPS AD (FERNANDES, 2012).

During the embracement, the nurse should try to maintain a dialogue that allows free expression in the pregnant woman's speech and feelings. Thus, it is possible to perceive that communication represents a pillar in the nurse-pregnant relationship, especially in the gestational process, in order to face it with more tranquility (SANTANA; OLIVE TREE; BISHOP, 2016).

The basic principles for the care of pregnant women who use alcohol and other drugs in this service are to favor a therapeutic alliance in order to promote a welcoming environment, with availability of listening, that is, good communication and the nurse's ability to understand the pregnant woman are essential during the treatment (GONÇALVES *et. al*., 2016).

Nurses are also included in the context of CAPS AD through therapeutic groups, workshops and meetings. The therapeutic groups help the pregnant woman through emotional support, leading her to reflect on care during pregnancy, in order to help maintain abstinence and cope with clefts, providing satisfaction in the treatment, through the recovery of self-esteem and care. Also through family groups, it promotes integration with the family, with the objective of offering support and a

support network, leading to reflection and stimulating the structuring and maintenance of a healthy family bond, which were often weakened (CAIRES; SANTOS, 2018).

The interventions of the mental health team should be based on the strategy of harm reduction and risk minimization, based on individual possibilities and needs. The team will be able to identify the pattern of use, the risks related to the use, in addition to providing information to the user of the service, in order to support their choices and provide adherence in the construction of the singular therapeutic project (PTS).

In this context, the role of the nurse is highlighted, considering that this professional is a reference for the follow-up of pregnant women in the CAPS AD. Considering that in her practice, the nurse maintains direct contact with pregnant women and their families, they have the possibility of identifying and intervening in situations involving drug use.

The possibility of establishing a relationship based on the horizontality of care, without issuing value judgments, allows us to contribute to the potential of the care scenario of this pregnant woman, which is fundamental for her to feel welcomed considering her singularities and specificities (PORTO *et. al*., 2019).

The educational actions promoted by the nurse, whether in therapeutic groups or during the nursing consultation, promote the establishment of early intervention strategies in situations of alcohol and drug use and abuse among pregnant women. With a view to preventing the use of alcohol and other drugs, it brings to this scenario the possibility of minimizing both the damage to the pregnant woman and the fetus.

In addition, it allows the increase in the quality of the bond, as well as the preparation of the mother to offer support and care to her child, helping in the formation of their morals and personality (GONÇALVES *et. al.*, 2016).

Nursing actions, in all spheres, are of great relevance in the process of care and social transformation of pregnant women who use alcohol and drugs, through planning and development of actions focused on health promotion, integrating the prevention of use and its rehabilitation. In addition, it is essential to network professionals and health units, as they strengthen care and assistance to pregnant women who use substances and their families (MOTA *et. al.*, 2019).

Thus, its performance is a strategic tool in the elimination of barriers to the care of these pregnant women. Combined with the professional bond and with an articulated network in favor of ensuring a safe and possible maternity, the look at pregnant women who use substances should be that of offering possibilities, protagonist of a new beginning based on social resources (SOUZA, 2019).

2.4 COMPETENCIES IN THE TRAINING OF NURSES FOR THE CARE OF PREGNANT WOMEN WHO USE ALCOHOL AND OTHER DRUGS

Faced with the problem of the use and abuse of alcohol and other drugs during pregnancy, nurses should develop professional skills and competencies in order to provide comprehensive and individualized care to each pregnant woman. As this is an extremely complex clientele that requires specific care, it is necessary for these professionals to learn to consider the peculiar characteristics of each one of them, based on their uniqueness and considering their life context.

It is known that the professional nurse has a responsibility not only focused on technical management, but also on the use of soft technologies, such as bonding and welcoming, as strategies for care and coping with specific social realities in which the pregnant woman is inserted. It is the nurses who usually make the first contact with the pregnant women in the health services and the creation of a bond between them and the nurse are indispensable for the treatment (FONSECA *et. al.*, 2017).

In this way, professional competence is defined as a mobilization, particularly by the professional in his productive action, of a set of knowledge of different natures that form intellectual, technical-functional, behavioral, ethical and political competences, in order to generate results recognized individually or collectively (CAMELO; ANGERAMI, 2013).

In this sense, in addition to the ideological issues juxtaposed to the discussion about competencies, the National Curriculum Guidelines (DCN's) of the Undergraduate Nursing Courses reoriented the training of nurses in the area towards the development of skills and competencies in the various orders, including health care, decision-making, communication, leadership, administration and management (OLIVEIRA *et. al.*, 2015).

These guidelines point to specific skills of nurses, among them, acting as a subject in the formation of human resources, interventions in the health-disease process, prioritizing the quality of nursing care provided in its entirety; ensuring compatibility between nursing care provided and the different needs of each individual, family and community groups, in addition to recognizing oneself as an important agent in determining the work dynamics (BRASIL, 2001 *apud* DANTAS, 2013).

Based on the DCN's, the training of the nursing professional should meet the social needs of health, with emphasis on the Unified Health System (SUS), ensuring the comprehensiveness of care and the quality and humanization of care (BRASIL, 2001).

Regarding the teaching-learning process about the complex nursing care for pregnant women who use alcohol and other drugs, taken from the DCN's, the following specific competencies that this professional should develop can be listed:

- To act professionally, understanding human nature in its dimensions, expressions and evolutionary phases;

- Establish new relationships with the social context, recognizing the structure and forms of social organization, their transformations and expressions;
- Recognize health as a right and dignified living conditions and act in such a way as to guarantee the comprehensiveness of care, understood as an articulated and continuous set of preventive and curative actions and services, individual and collective, required for each case at all levels of complexity of the system;
- To act in comprehensive health care programs for children, adolescents, women, adults and the elderly;
- Be able to diagnose and solve health problems, communicate, make decisions, intervene in the work process, work in a team and face constantly changing situations;
- Respond to regional health specificities through strategically planned interventions at levels of health promotion, prevention, and rehabilitation, providing comprehensive health care to individuals, families, and communities;
- Ethical, humanistic and social commitment to multidisciplinary work in health;
- Promote healthy lifestyles, reconciling the needs of both its clients/patients and those of its community, acting as an agent of social transformation;
- Appropriately use new technologies, both information and communication, as well as cutting-edge for nursing care;
- To act in the different scenarios of professional practice considering the assumptions of the clinical and epidemiological models;
- Identify the individual and collective health needs of the population, their conditioning factors and determinants;
- Intervene in the health-disease process by taking responsibility for the quality of nursing care/care at its different levels of health care, with health promotion, prevention, protection and rehabilitation actions, from the perspective of comprehensive care;
- Provide nursing care compatible with the different needs presented by the individual;
- Integrate nursing actions with multidisciplinary actions;
- To manage the nursing work process with principles of Ethics and Bioethics, with problem-solving capacity both at the individual and collective levels in all areas of professional activity;
- Plan, implement and participate in training and continuous qualification programs for nursing and health workers;
- Plan and implement health education and promotion programs, considering the specificity of different social groups and the different processes of life, health, work and illness;
- Develop, participate and apply research and/or other forms of knowledge production that

aim at the qualification of professional practice;

- Respect the ethical code, political values and normative acts of the profession;
- Interfere in the dynamics of institutional work, recognizing oneself as an agent of this process;
- Use instruments that guarantee the quality of nursing care and health care.

Also according to the DCN's, the curricular contents, competencies and skills to be assimilated and acquired by the student at the undergraduate nursing level should confer academic and/or professional capacity, considering the prevailing and priority demands and needs of the population according to the epidemiological situation of the country/region. This set of competencies should promote the capacity for autonomous and permanent intellectual and professional development in nursing students (BRASIL, 2001).

Barros *et. al.* (2020), defines the professional profile of nurses, with the respective competencies to be developed in the care of pregnant women who use alcohol and drugs: technical and intersectoral knowledge skills of the municipality and of the care networks and partners, which will help in the support of these women. To develop nursing competencies there must be "justice, commitment, equity, problem-solving, dignity, responsibility, honesty and loyalty". Relations must be based on law, solidarity and respect for diversity.

The author highlights among the skills, actions such as: sensitivity, empathy, active listening, ethical posture, while in the field of technical knowledge they include: welcoming, promotion, recovery and maintenance of health that will help support these women (BARROS *et. al.*, 2020).

In addition, it should not be restricted only to a simple know-how, so that it does not result in a bureaucratic, automated practice that excludes the subjectivity, reflection and creativity of those who carry it out. Therefore, they must make habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and the ability to reflect on daily practice for the benefit of the individual and the community (CAMELO; ANGERAMI, 2013).

Pregnant women who use drugs have low adherence to health care and, consequently, have a higher incidence of obstetric and neonatal complications. Many, when they have access to services, usually do not report drug use, especially alcohol and cocaine (FONSECA *et. al.*, 2017).

To break this barrier in treatment and ensure access to and adherence to treatment, nurses must exercise the necessary skills from the first consultation. Among the competencies, sensitive welcoming stands out, which makes it possible to understand and experience, with the pregnant woman, the emotions and situations of pregnancy. In this way, bonds are established between the professional and the pregnant woman, establishing a relationship of trust. The professional posture should be welcoming, empathetic, without judgment, distinction and prejudice (KASSADA *et. al.*, 2013; MARCOLINO *et. al.*, 2018; BARROS *et. al.*, 2020).

The strengthening of the bond between professionals and pregnant women tends to minimize the absence of women in prenatal care and suggests that investment in a humanized provision of care should be more accentuated, especially in primary care. Another path of care indicates that the intersectoral network can work articulated between the various devices that make up women's care, in addition to the Basic Health Units (UBS) and Family Health Strategies (ESF), with the reception centers, CAPS AD and maternity hospitals. (SOUZA, 2019)

The use of alcohol and drugs by pregnant women is closely related to the context of vulnerability, whether due to the consumption of substances or to living with people who use drugs. Therefore, it is essential that nurses know the different forms of involvement and their repercussions for the context of these women's lives. In this sense, it is possible to establish early intervention strategies in situations of drug use/abuse among pregnant women, based on their uniqueness and considering their life context, as a way to minimize both the harm to the pregnant woman and the fetus. Through intersectoral actions and shared with the various women's care services, which can result in positive results for the mother-baby binomial (PORTO, 2019).

In order to offer expanded care that promotes the creation of new care strategies for pregnant women and the understanding of their vulnerabilities, it contributes to a unique care offer (GONÇALVES *et. al.*, 2016).

The health care of pregnant women in vulnerable situations must be understood in its singularities, in order to combat stigmatizing practices for pregnant women who use alcohol and other drugs. A sensitive and attentive look at this group, considering its singularity, enables strategies in coping and health care practices, characterized by attention, responsibility, zeal and, with flexibility for their social demands, singular actions in order to bet on their autonomy and co-responsibility, making them active subjects, protagonists of their care (BARROS *et. al.*, 2020).

It is necessary for nurses to be able to sensitize the professionals who make up their team about the importance of welcoming, clarifying, guiding and supporting pregnant women who use alcohol and other drugs, with a view to promoting qualified prenatal care based on harm reduction, in order to ensure a safe outcome for maternal and fetal health.

It is necessary for nurses to value the previous knowledge and the woman's way of life, prioritizing qualified listening in order to establish a relationship of trust so that she can intervene in an individualized way, contemplating the demands and specificities of pregnant women who use alcohol and other drugs. In the situation of vulnerability, in which many find themselves, associated with all the prejudice and stigma brought by society, the approach and embracement become essential tools to be developed in nursing care. Thus, nurses must perform their professional competencies in order to combat these stigmatizing practices.

2.5 EDUCATIONAL TECHNOLOGY IN THE TEACHING-LEARNING PROCESS FOR THE PROMOTION OF COMPETENCIES IN NURSING EDUCATION

When considering the complexity of care for pregnant women who use alcohol and other drugs, there is a need to expand health care and the development of new technologies in the approach to substance use, supported by the comprehensiveness and interdisciplinarity of actions (DANTAS, 2013).

This theme is little explored in the literature and in professional training spaces. It can be seen that the approach to this subject during the academic training of health professionals is still deficient, bringing numerous challenges for teachers to explore the subject. To this end, it is necessary for teachers to be able to develop and expand their professional skills, using facilitating tools for the teaching-learning process.

In this way, reflection on the concept of competence is called for, defined as a concept that embraces knowledge, attitudes and values and is consolidated in an action or set of organically articulated actions (CRUZ, 2001). It consists of the ability that people develop to articulate and relate different types of knowledge, knowledge, attitudes and values; as a cognitive, affective, and social action that becomes visible in practices and actions that are exercised on knowledge, on the other, and on reality (CRUZ, 2001; ALVES, 2005).

With regard to the competencies of health professionals, it is part of a set of initiatives that seeks to respond to the needs of all services for the resolution of health problems, considering the structural variations that have occurred in the work of the health sector, due to the globalization process and the current changes in the paradigms of public health (WITT, 2005).

As this study proposes intervention in the training process of nursing students through didactic material that facilitates the acquisition of nurses' competencies in the care of pregnant women who use alcohol and other drugs, it was decided to anchor it in the theoretical foundation of Phillippe Perrenoud, who defines competencies as "the ability to act effectively in a certain type of situation, supported by knowledge, but not limited to it" (PERRENOUD, 1999).

It is understood that Philippe Perrenoud's framework recognizes the use of new technologies as one of the domains of competence necessary for the contemporary teacher (CYSNEIROS, 2004).

For Perrenoud, competence emphasizes the mobilization of resources, knowledge, and experienced. It manifests itself in adjusted action in the face of complex, unpredictable, changeable, and always singular situations (PERRENOUD, 2000; 2001; 2005).

The concept of competence is polysemic, encompasses the sphere of work and education and has been used with the purpose of associating theoretical and practical knowledge, considering the individual as capable of such achievement. In this way, the notion of competence should not be understood from a caricatural perspective in which only the knowledge of common sense or experience

is mobilized. For this author, competence is the ability to mobilize a set of cognitive resources (knowledge, skills, information, among others) in order to solve a series of situations with pertinence and effectiveness (OLIVEIRA *et. al.*, 2015 apud *PERRENOUD, 2000*).

In the area of nursing, the competency training model is guided by the National Curriculum Guidelines (DCN's), which envision the following as the main competencies to be worked on by educational institutions and nursing faculty in nursing education: The ability to learn continuously, both in their training and in their practice. In this way, health professionals must learn to learn and have responsibility and commitment to the education and training/internships of future generations of professionals, not only transmitting knowledge, but also providing conditions for mutual benefit between future professionals and service professionals.

Likewise, to develop technical-scientific training that confers quality to professional practice; to act as a subject in the process of training human resources; to properly use new technologies, both information and communication, as well as cutting-edge for nursing care; to develop, participate and apply research and/or other forms of knowledge production that aim at the qualification of professional practice; to be able to administer and manage professional resources and information; and to be in a constant learning process, providing knowledge to the team and for themselves (BRASIL, 2001 *apud* DANTAS, 2013).

In this logic, it is necessary for nursing professors to be inserted in this scenario in order to construct knowledge and foster reflection on their experiences. Competence, as the ability to act effectively in a given type of situation, fosters reflective practice and this is the basis for the construction of competencies (OLIVEIRA *et. al.*, 2015).

Nursing faculty members must reinvent their educational practices, expanding their teaching competencies in order to promote reflection on the development of nursing competencies among their students. To this end, it must rely on the use of innovative educational technologies in order to facilitate teaching, enabling the reorientation of teaching in health, considering the various teaching-learning scenarios (LIMA *et. al.*, 2019).

According to Cysneiros (2004), with regard to the activity of teaching, the theorist Perrenoud emphasizes that the construction of knowledge is a collective construction, in which the teacher guides, creating situations and helping the learner, without being the specialist who transmits the knowledge or the guide who proposes the solution to the problem. In his book entitled "10 new skills for teaching", he presents a list of skills needed for teachers to develop skills in teaching. They are:

1. Organize and manage learning situations;
2. Manage the progression of learning;
3. Design and evolve differentiation devices;
4. Involve students in their learning and work;

5. Work in a team;
6. Participate in school administration;
7. Inform and involve parents;
8. Use new technologies;
9. Confront the duties and ethical dilemmas of the profession;
10. Administer your own training.

A competency-based teaching-learning approach encourages us to consider knowledge as resources to be mobilized, to work through problems, to create and/or (re)use new teaching/learning methodologies, to negotiate and develop projects with students, to opt for flexible planning, to encourage improvisation, to move towards greater disciplinary integration, towards the development of a multidisciplinary work (DIAS, 2010).

The competency-based approach changes the ministry of the student and the teacher. The student will have to get involved, he will have to be enthusiastic about the learning to be done. The teacher, in turn, becomes a guarantor responsible for weaving knowledge, an organizer of learning, an encourager of projects, a manager of heterogeneity, a regulator of training paths (PERRENOUD, 2001; 2005 *apud* DIAS, 2010).

The activities inherent to nursing education are a nurse's competence. As a participant in the training of nursing students, in order to propose, organize and direct learning situations, the nursing faculty approaches a science of education, as well as the understanding of this universe distinct from that of the specialty.

In this context, the perception that there is a need to deal with multiple types of knowledge and conceive teaching as an activity that essentially depends on the subjects involved, favors teamwork and strengthens teaching-learning situations (OLIVEIRA, *et. al*., 2015).

In the teaching-learning process, the individual learns to identify and discover knowledge, and to mobilize it in a contextualized way. To be competent is not to carry out a mere assimilation of supplementary, general or local knowledge, but rather comprises the construction of schemes that allow the mobilization of knowledge in the right situation and with discernment (DIAS, 2010).

The competencies proposed by Perrenoud complement each other and are not self-contained, forming a range of possibilities and orientations that foster teacher awareness and can be appropriate for each situation or space. They are the beginning of a path towards the future. It promotes numerous reflections on the understanding of the activities of the teacher and their role in nursing education, pedagogical practices, relationships with students and universities, and the training of new professionals in their complex and broad teaching-learning context (OLIVEIRA *et. al.*, 2015).

In order to aggregate knowledge, a synoptic table was established with the synthesis of the competencies proposed in the DCNs with the respective actions that this researcher understands to be

fundamental for the teacher and the preceptor to be able to work in the training of nurses to assist the population of this study:

Chart 2 – Main nursing competencies and actions in the care of pregnant women users of alcohol and other drugs

Nursing competencies	Nursing actions
Empathy	➢ Understand the context of the pregnant woman's life and the situations of vulnerability in which they are inserted.
Welcoming (Welcoming Posture)	➢ Welcoming the pregnant woman, through sensitive listening; ➢ Promote the creation of a bond between the professional and the pregnant woman; ➢ Promote a welcoming environment; Allow free expression in the speech and feelings of the pregnant woman.
Ethical and humanized posture	➢ Adopt a welcoming and unprejudiced attitude, without the issuance of value judgments.
Reflexive Feature	➢ Have the ability to reflect on daily practice for the benefit of the individual and the collective; ➢ Evaluate the risk factors and plan a therapeutic regimen for the pregnant woman in an individualized way.
Sensitivity (Sensitive Gaze)	➢ Perform active, sensitive listening and a holistic look, paying attention to the questions, anxieties and complaints of the pregnant woman, identifying her needs in a unique way; ➢ To provide an instrument to the pregnant woman's support network on emotional aspects.
Creativity	➢ Promote awareness of substance use; establish early intervention strategies for alcohol and drug use among pregnant women; ➢ Carry out educational actions and encourage participation in therapeutic groups.
Flexibility	➢ Understand the social demands of pregnant women; ➢ Encourage the creation and strengthening of bonds; ➢ Strengthen the maintenance and continuity of treatment.
Leadership	➢ Guide your team on the importance of welcoming and supporting pregnant women, promoting continuity of care and strengthening bonds.
Communication	➢ Carry out matrix support actions with health services; promote awareness of use; ➢ Plan a therapeutic regimen with the other members of the health team; ➢ Build therapeutic possibilities together with the pregnant woman; ➢ Seek to maintain a dialogue that allows free expression in the speech and feelings of the pregnant woman.
Social and interaction skills	➢ Carry out integrated actions with the health team and services that assist pregnant women.
Accountability	➢ Refer the pregnant woman to specialized mental health services and other clinical specialties (high-risk prenatal care, dentistry, nutrition) and monitor the progress of these follow-ups.
Initiative and Proactivity	➢ Perform active search.

Source: the author, 2023.

In the current context, the discussion about new teaching-learning processes for the training of health professionals is relevant, especially in the scenario marked by an accelerated pace of scientific and technological production, which seeks technical development articulated with the valorization of the ethical and humanistic dimension, associated with greater problem-solving capacity in the quality of health care (LIMA *et. al*., 2019).

The advent of the internet has promoted rapid changes and transformations in the educational context, incorporating new information and communication technologies (ICT). The use of new methodologies that involve the use of ICTs can aggregate and bring greater interaction between students and teachers, in addition to increasing the autonomy of the student (RAMOS; PEAR TREE; SILVA, 2019).

However, the incorporation of such technologies has required significant changes in the act of teaching and learning from the actors involved in the process of knowledge construction (LIMA *et. al.*, 2019).

The same author emphasizes that the current scenario of teaching practices, particularly health, has challenged teachers, both in relation to pedagogical qualification and the incorporation of innovative educational strategies. Thus, the use of technological resources from ICTs can enable the expansion of access to educational processes in health.

> ICTs make it possible to adapt the context and situations of the learning process to the diversities in the classroom. Technologies provide didactic resources suited to the differences and needs of each student. The possibilities found in the use of ICTs are varied, providing the opportunity for the teacher to present the information in a different way (DE OLIVEIRA; MOURA; DE SOUSA, 2015, p. 78).

There are numerous ICTs that can be worked on in health education processes. Among them, we can mention websites, blogs, figures, chats and/or videos (DOURADO *et. al.*, 2014 *apud* RAMOS; PEAR TREE; SILVA, 2019).

According to Ramos, Pereira and Silva (2019), studies show that the use of videos as a support tool in the learning process can increase student motivation without replacing the pedagogical relationship, allowing students to learn on their own and complement their learning in their own time and space (FERREIRA; SANTOS, 2014; GUIMARÃES, 2014; SANTOS, 2016).

The use of new technologies can contribute to the realization of pedagogical and didactic work, allowing the creation of rich, complex and diversified teaching-learning situations (PERRENOUD, 1999).

The use of videos as an educational tool allows the teacher to offer students a solid base of knowledge so that they can better understand the information and have the ability to form a critical opinion on a given topic (RODRIGUES JR., 2017).

This technological resource has been used in several pedagogical experiences, demonstrating

the relevance of its applicability in the teaching-learning processes in health, as it involves several elements such as images, text, and sound in a single object of knowledge promotion (DALMOLIN *et. al*., 2016).

Perrenoud (1999) states that the union of the computer and the image alters the data of the problem, enabling the digitization of images, undergoing all types of processing. It is also possible to compose a synthesis image, by means of structures, plots and models, in addition to the fabrication of synthetic voice. Multimedia presentations are veritable spectacles of "light and sound", increasingly sophisticated.

The use of new technological methodologies used in the teaching process enhances the idea of a traditional pedagogical model, promoting changes in the teacher/student relationship. They induce the creation of new ways of coexistence and interaction of both, bringing new approaches to the teaching-learning process, with the offer of multiple paths that distance themselves from the rigid structure of structured knowledge (LIMA *et. al*., 2019).

These tools make it easier to accomplish tasks and improve the performance and coherence of human work. Mastering them brings the need to plan, decide, orchestrate, and pool resources. "All this contributes to the formation of essential competences, for the construction of which the instrument is secondary in relation to mental operations and the qualities mobilized: rigor, memory, anticipation, regulation, etc." (PERRENOUD, 1999).

In short, rethinking Perrenoud's framework in the face of new technologies in educational processes can be very enriching for teachers and students, based on the generation of ideas that renew educational practices, proposing a general transformation in teaching environments (CYSNEIROS, 2004).

The use of the competency-based framework brings numerous challenges to teaching practice, by proposing a renewal in the teaching-learning process directed to the relationships that involve the entire school community. Through the use of new technologies as facilitating tools in teaching and learning, they can favor this process by incorporating a methodological posture of openness and flexibility to establish articulation between previous knowledge, concepts, ideas, and theories, in a critical and reflective way as conditions for social transformation (LIMA *et. al*., 2019).

It is understood that the use of ICTs, specifically those of audiovisual modality, such as videos, are tools of easy applicability, dynamic, didactic and easy dissemination through the use of the internet. It is an instrument that can involve all subjects of the teaching-learning process, such as teachers, students, parents and other collaborators.

The use of ICTs, in this case, the use of video, is directly related to the competencies proposed by Perrenoud, in which we can mention learning situations, teamwork, student involvement in learning, the evolution of differentiation devices and the use of new technologies that emerge to

amplify teaching methodologies.

3 STUDY METHODS AND TECHNIQUES

A case study was carried out and the method applied was an action research, as this type of study has an exploratory, descriptive and qualitative approach. This choice was made due to the particularities of the scenarios in this study: a health unit that serves clients with psychosocial problems and another of higher education (HEI).

According to José Filho (2006), "the act of researching brings with it the need for dialogue with the reality that is intended to be investigated and with the different, a dialogue endowed with criticism, channeling creative moments". It is from this perspective, of knowing any phenomenon that constitutes the reality experienced with pregnant women who use alcohol and other drugs, that we seek to promote an approximation, based on its complexity and dialectical dynamics.

Action research can be defined as "a type of empirically based research that is conceived and carried out in close association with an action or even with the resolution of a collective problem, where all researchers and participants are involved in a cooperative and participatory way" (THIOLLENT, 1985 *apud* GIL, 2021).

Its purpose is to solve daily and immediate problems and improve concrete practices, bringing information that guides decision-making for programs, processes and structural reforms. In this type of research, researchers play an active role in the problems encountered in order to trigger actions and evaluate them together with the participants involved.

According to Gil (2021), exploratory research aims to provide greater familiarity with the problem, in order to make it more explicit. Its planning tends to be flexible because it considers the most varied aspects related to the fact or phenomenon studied. He also adds that it can be said that most academic research, initially, assumes an exploratory character, because at this moment the researcher does not have the clarity and exact definition of what he intends to investigate.

Based on this aspect, in order to reflect on the theme addressed, with regard to the training of nursing professionals, an interview script developed by the author was applied to nursing students who were in the theoretical-practical moment during the supervised internship of the "Mental Health" discipline of a certain HEI. In order to identify the gaps in the training of these professionals regarding nursing care for pregnant women who use alcohol and other drugs in the practical field, as well as possible problem situations, in addition to the possibility of composing competencies, skills and attitudes necessary for the performance of this professional to this clientele, bringing students closer together and bringing to reflection the relevance of the nurse's work with pregnant women who use alcohol and other drugs.

In order to ensure the ethical aspects in the development of the research, it was approved by

the Human Research Ethics Committees of the Faculty of Medicine of the Fluminense Federal University/FMUFF under No. 5,730,988 and Estácio de Sá University/UNESA/RJ (Co-participant) under No. 5,770,221.

The scenario selected for the research, in view of the particularities of the clinical field of the nursing students' internships, the mental health field, being the CAPS of the Municipality of Nova Friburgo, Rio de Janeiro, the scenarios chosen for the development of this study, as a result of my work with one of the devices of the psychosocial care network, in addition to my greater proximity to the Nursing Students and their respective faculty and other internship preceptors in the devices that work as a clinical field of mental health.

The Psychosocial Care Centers (CAPS), according to Ordinance No. 3,088, of December 23, 2011, which establishes the Psychosocial Care Network for people with mental suffering or disorder and with needs resulting from the use of crack, alcohol and other drugs, within the scope of the Unified Health System (SUS), are organized in the following modalities:

1. CAPS I: assists people with severe and persistent mental disorders and also with needs resulting from the use of crack, alcohol and other drugs of all age groups; indicated for municipalities with a population of more than twenty thousand inhabitants;
2. CAPS II: serves people with severe and persistent mental disorders, and can also serve people with needs resulting from the use of crack, alcohol and other drugs, according to the organization of the local health network, indicated for municipalities with a population of more than seventy thousand inhabitants;
3. CAPS III: assists people with severe and persistent mental disorders. It provides continuous care services, operating twenty-four hours a day, including holidays and weekends, offering clinical support and night care to other mental health services, including CAPS Ad, indicated for municipalities or regions with a population of more than two hundred thousand inhabitants;
4. CAPS AD: assists adults or children and adolescents, considering the regulations of the Statute of the Child and Adolescent, with needs resulting from the use of crack, alcohol and other drugs. Open and community-based mental health service, indicated for municipalities or regions with a population of more than seventy thousand inhabitants;
5. CAPS AD III: assists adults or children and adolescents, considering the regulations of the Statute of the Child and Adolescent, with the needs of continuous clinical care. Service with a maximum of twelve beds, for observation and monitoring, open 24 hours a day, including holidays and weekends; indicated for municipalities or regions with a population of more than two hundred thousand inhabitants;
6. CAPS i: assists children and adolescents with severe and persistent mental disorders and

those who use crack, alcohol and other drugs. Open and community service indicated for municipalities or regions with a population of more than one hundred and fifty thousand inhabitants.

The Psychosocial Care Center (CAPS) is an open and community-based SUS service of reference and treatment for people suffering from mental disorders and with needs resulting from the use of alcohol and other drugs. Its purpose is to serve the population in its area of coverage, providing clinical follow-up and social reintegration of its users (BRASIL, 2004).

The Psychosocial Care network in Nova Friburgo-RJ has CAPS in the following modalities: CAPS III, CAPS Ad II and CAPSi.

The CAPS Ad in Nova Friburgo (fits into the CAPS AD II modality), operates daily, from Monday to Friday, from 8:00 am to 5:00 pm and serves users residing in the municipality of Nova Friburgo, RJ. It is composed of a multidisciplinary team composed of professionals from the following areas: Nursing (Nurses and nursing technicians), psychologists, social worker, craftsman, psychiatrist, administrative staff and 01 team coordinator.

As a field research and its respective participants, it was intended to seek information directly from the population, that is, from the professionals of the multidisciplinary team of the CAPS AD, since they are preceptorship actors in the training of nurses and with the nursing students who are actors in the process of acquiring competencies who were in internship in mental health.

Mental health professionals were heard, in this case, those who work at CAPS AD in Nova Friburgo. The inclusion of these professionals in the study was due to the understanding of the importance of verifying whether the professionals who work directly in primary care, in primary care, received in their training, the approach to alcohol and drugs, specifically to pregnant women who use alcohol and other drugs. In view of the gaps and deficiencies in the training of health professionals, as pointed out in the literature. In addition, the insertion of nurses in the multidisciplinary team is considered, in order to understand what team members expect from the work of this professional as a member of the team.

Regarding the participation of nursing students, based on information obtained through the literature, about deficiencies in the approach to this theme in academic training spaces. It points out the need to address this theme in academic environments, since it does not occur, or when it does occur, it is approached in a superficial way.

Initially, the directors of the educational institution were contacted, explaining the objectives of the study and, consequently, obtaining authorization for the use of the name and internal space of the institution to carry out structured interviews with nursing students in the 10th period.

To this end, students regularly enrolled and attending the Supervised Internship discipline were selected. This research included nursing students enrolled in the last semester of training, whose "n"

refers to all enrolled (five) students in a supervised mental health internship, in the first semester of 2023, and also health professionals whose "n" refers to professionals (seven) who were assigned to CAPS AD at the time of data collection, based on inclusion and exclusion criteria.

Although intentionally, there was a perspective of approaching an "n" of 30 (thirty) nursing students, during the elaboration of this project, due to the COVID-19 pandemic, this number of students who were in the mental health internship field was diluted and the group that reached the 10th period and chose to carry out the internship in mental health, At the time of data collection and within the inclusion criteria, a total of "n" out of 05 (five students) was obtained.

As a preceptor of one of the clinical fields of mental health in the supervised internship of the undergraduate program, the researcher was in direct contact with the students. However, it should be clarified that preceptors are not professors, do not give classes or grades to students, and there is no hierarchical vulnerability regarding their compulsory participation in the research or in relation to the work process that occurs in the CAPS.

They were invited to participate in the study by doing a supervised mental health internship. The research data were constructed to meet the proposed objectives and compilation of the product, which was developed through the action research carried out, highlighting content propositions related to nursing care for pregnant women who use alcohol and other drugs.

The research team consists of the master's student Mariane Alves Corrêa Bittencourt, from the Professional Master's Program in Health Education at EEAAC at UFF, responsible for the idealization, execution and development of the research and prototyping of the instructional video and Profa. Dr. Helen Campos Ferreira, responsible for the orientation of the work, for the Leadership of the CNPq/TICPES Research Group that supports and gives technical scientific support for this study, which carried out the analysis of the pertinent constituent elements of the instructional video, in addition to the evaluation of the final report of the research to be presented to MPES.

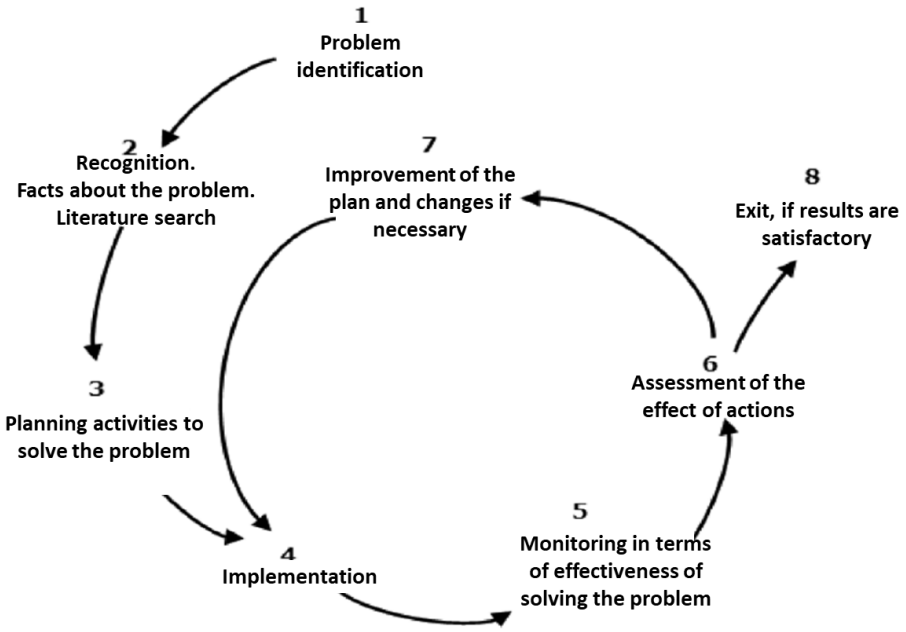
The method developed was action research, which according to Sommer and Mick (1984) "can and should be used in the health area, especially by nursing, in the discussion about professional practice, to mobilize professionals for a critical and reflective practice". This method was chosen because it is considered participatory, in order to consider the involvement of the subjects involved in the study problem and, therefore, only if there is an action on the part of the group of people under observation, the character is practical and not only prosaic. For this reason, the group involved were nursing students under preceptorship, in order to ascertain whether the instrumentalization offered could help in the acquisition of skills to work with pregnant women who use alcohol and other drugs.

In this way, it has become a methodological alternative in the field of nursing, as it provides the participants with the resolution of the problems raised, with the participation of the researcher in the field of data collection, reducing the distance between the researcher and the research subjects. Due

to its emancipatory character, it promotes professional recognition, with the overcoming of obstacles.

The steps of action research adapted by Maca and Marshall (2001) were developed:

Figure 2 – The steps of an action research project.



Source: Adapted from McKay and Marshall (2001).

The research was operationalized in the following phases:

3.1 PROBLEM ID

It was empirically identified, based on reflections experienced from the researcher's professional performance and, subsequently, from information based on the scientific literature, the need to contribute to the development of competencies and skills of nursing students, with regard to primary care offered to pregnant women who use alcohol and other drugs, in order to improve the care provided to them by future professionals. Thus, the research problem was: do nursing students feel prepared to work in primary care for pregnant women who use alcohol and other drugs?

3.2 RECOGNITION THROUGH SURVEY OF THE SCIENTIFIC LITERATURE OF THE STATE OF THE ART

For the initial development of this study, a bibliographic survey was developed that covered the entire elaboration of this study, with the purpose of understanding the competencies of nurses in the care of these pregnant women, explaining the researched reality and proposing possibilities for solving gaps observed in the training of nurses on this theme. A state-of-the-art analysis was carried out, which verified the scarcity of studies on the subject. The following descriptors were used: "Nursing education", "Nursing education", "Drug users" and "Pregnant women".

3.3 PLANNING OF ACTIVITIES FOR THE DETECTION AND SOLUTION OF THE PROBLEM

A survey was carried out in order to identify gaps in the students' skills on the theme that involves nursing care for pregnant women who use alcohol and drugs, in order to compose the teaching facilitator tool. This phase comprised the following steps:

a) **Elaboration and validation of a questionnaire applied to nursing students:** A structured script containing open and closed questions (APPENDIX A) was prepared by the researcher for application to the nursing students participating in the research. However, prior to this stage, in order to validate the questions of the instrument elaborated, after approval by the CEP/FM/UFF and the Estácio de Sá University/UNESA/RJ, the questionnaire was presented to 03 random nursing students to assess their comprehension. This validation occurred through responses to a validation questionnaire developed and applied by the researcher (APPENDIX C). This approach took place remotely, through the "Google Forms®" website. It is noteworthy that these students were not included in the sample size calculation and were randomly selected. Once the textual comprehension was validated, the questionnaire was considered adequate to be applied to nursing students in the 10th period.

b) **Elaboration and validation of an interview script to be applied to CAPS AD professionals:** A structured interview script containing open and closed questions (APPENDIX B) was prepared by the researcher applied to CAPS AD professionals. Before approaching the professionals, the interview script was presented to 3 randomly selected nurses, who could approach the comprehension of the text, validating this instrument. We searched for nurses with professional experience in the areas of mental health and primary care, and who, therefore, knew the dynamics of care for pregnant women. The structured script was presented to these professionals and, subsequently, they answered a virtual questionnaire evaluating this content (APPENDIX D). This questionnaire was elaborated by the author, and its application was in order to validate the understanding of the questions and also the fulfillment of the research objectives. This process took place remotely, through the Google Forms® platform. It is noteworthy that these nurses were not included in the study's sample size calculation. Once the textual comprehension was validated, the interview script was considered adequate for application to CAPS AD professionals.

c) **Application of the questionnaire to the students participating in the study**: After approval by the CEP/FM/UFF and Estácio de Sá University/UNESA/RJ, the researcher contacted the students and invited them to participate in the research, which took place by filling out an online questionnaire through the website "Google Forms®"; This modality

was chosen because of the practicality of data collection and the ease of completion by the students, without prejudice to the clinical internship or class activities (APPENDIX A), due to the possibility of being completed at the best time and place for them, in order to preserve the identity of the participant and the confidentiality of the information. There was no need for the participants to travel to fill out the form. The collection of this information took place during 01 month, between the months of April and May 2023. During this period, the participants were identified, direct contact was made with them, and data collection was approached. Clarifications of the research were granted during the invitation to participate online and, subsequently, the link to fill out the questionnaire was sent. They filled out the Informed Consent Form directly through the website, and a copy was sent to their registered e-mails, automatically. It is noteworthy that, initially based on this research project, it was intended to approach students during the clinical field of mental health, at CAPS AD. However, during the data collection stage, they were in another mental health device due to a reorganization of the educational institution, and the approach to these students was carried out at CAPSi, so some students in the group had already done an internship in another discipline in a previous period. The inclusion criteria were: nursing students regularly enrolled in the 10th period, who were in the course of the discipline "Mental Health" in a curricular internship in this area, regardless of gender, age and academic performance coefficients. Exclusion criteria: academics who are licensed by health, prevented from communicating at the time of data collection. The participation of the student had a direct benefit, related to the collaboration, which favored the improvement in training with significant strategies applied to learning, in the contribution to expand scientific knowledge for the area of nursing education in the area of mental health, in addition to generating information that will allow reflection on issues involving health education activities. training of professionals and health care related to pregnant women who use alcohol and other drugs.

d) **Application of the interviews to the professionals:** After approval by the CEP/FM/UFF and Estácio de Sá University/UNESA/RJ, structured interviews were also conducted with the professionals of the multidisciplinary team of the CAPS AD (APPENDIX B). This group was included because it considers the importance of the insertion of nurses in the multidisciplinary team, in order to understand what team members expect about the work of this professional as a member of the team. The following criteria were selected: Inclusion criteria: Health professionals who have been working in the service for at least 3 months, without distinction of sex, gender or professional performance. Exclusion criteria: Professionals who are on leave or vacation and incommunicado during data collection.

Participation was voluntary and consisted of answering a structured interview with the researcher for fifteen minutes. A place and time of preference was scheduled for the professional, without prejudice to their work. They occurred in the health device, in the team's living room, before their daily activities at times when there were no users in the CAPS AD. The participation also did not imply additional costs, there was no form of payment for the participation and, also, there was no expense with the making of the video. Due to the COVID-19 pandemic, the interview complied with protective measures. In this research, the professional's contribution was to expand scientific knowledge in the area of health education, in addition to generating information that allowed reflection on issues involving health education activities, professional training and health care related to pregnant women who use alcohol and other drugs. Before the beginning of the interviews, the author made the necessary clarifications about the research, presenting the terms of free and informed consent (in two copies) to the professionals. Its objectives, risks and benefits were informed in order to ensure the authenticity represented by the interviewees' statements. The interview took place during the months of February and March 2023, in a single session, with a maximum duration of fifteen minutes, was recorded on an MP4 mobile device and later transcription, according to their consents, maintaining fidelity and availability to listen to the recordings of their speeches at any time during the research.

e) **Data construction**: There was no recording of images of the interviewees, only recording of their testimonies, which, when authorized, were transcribed to compose part of the data of this research and which will be used in scientific events and scientific publications. For this purpose, only the information resulting from the analysis of the interviews and questionnaires was used. To carry out the interviews and the questionnaire, a script was elaborated, composed of open questions about the proposed theme: "The competencies of the nurse in the care of pregnant women who use alcohol and other drugs". In this script, it was intended to address the subject, starting with the problematization of the use and abuse of alcohol and psychoactive substances by pregnant women, the difficulty and complexity of their treatment, the nurse's performance and the necessary competencies for the performance of this professional; The identities of the groups of participants for analysis were preserved, and they received codes P (professional) and AC (nursing student) in continuous Arabic numerals P1, P2, P3.... AC1, AC2, AC3... After compiling all the collected data, they were analyzed in order to develop a technical educational product as a teaching strategy.

f) **Production of an instructional video as a teaching strategy:** In order to favor the approximation and deepening of nursing students on the theme in question, bringing to the

students' reflection on the need to acquire skills to be developed for the nurse's performance in the care of pregnant women who use alcohol and other drugs. From the analysis of the testimonies collected through the interview scripts, the video was elaborated, following a script and definition of the most appropriate tool for its construction, through discussions between the author and the advisor for a better elaboration of the same. The best style for this video was also defined, in order to empathetically serve the audience for which it was intended, nursing students. The production stage consisted of the construction of the video with figures from the free image banks available on the internet and free of copyrights that were defined by the researcher, together with the help of her advisor. Tutorials available online were used for the process of building and editing the video, in addition to the use of a free website available online, called: "Render Forest®". The video was made in animation format, using free versions available on the internet, where on the website itself it was possible to produce, edit and add content, photos and images as needed. For the production of the video, images of the participants or of the pregnant women attended at the service were not used. Another important factor for composition and finalization was the time in which the video passed, lasting 03 (three) minutes, so that it was not long, and could allow the dispersion of those who would watch. After the video was completed, it was possible to share it on social networks and download it to be saved on external hard drives, computers, flash drives, and others. It is worth mentioning that the video prepared is intended to be used by nursing professors and preceptors with students, with the intention of being a trigger video, in order to facilitate the approach to the subject, bringing broad discussion and reflections on the theme.

1. **Implementation phase:** After the creation of the video, it was shown during the participation of the students in the internship field through a conversation circle. This arose as the possibility of giving feedback to the participants of the subject, since the video arose from the demands brought by them. The initial proposal during the elaboration of this research project was to carry out this conversation circle with the academics, their professors and also the professionals who were working at the CAPS AD. However, at the time of data collection, the students were interning in another mental health device, and it was not possible to integrate with the entire group of participants at the same time. It is intended, in the future, to hold a new meeting, carrying out this activity also for the professionals of the service.
2. **Monitoring of the use of the didactic material:** After the exhibition of the video, a conversation circle was held with the participants, the students and their respective preceptor, in order to verify if the production was in accordance with what was expected

and if the teaching strategy applied was adequately useful to solve the problem, considering the positive and negative points of the tool produced.

a) **Considerations about the didactic material:** After the action, a debate was held about the teaching strategy and its effects on the training of the students, by, during the conversation circle with the students, their respective professors and preceptors.

b) **Re(view) of the points requested by the students:** The teaching instrument presents the possibility of being reformulated, according to the requests proposed by the students, for the accuracy of the educational action, which will take place in future opportunities, with specific observations of the follow-up of the care provided to pregnant women who use alcohol and other drugs, under the supervision of the researcher.

c) **Product registration:** Insertion and maintenance of the developed tool as content to be applied in future classes that used the service as a clinical field of internship.

In this way, the specific objective of the product of the Master's Program in Health Education was achieved, the methodological procedure used in the interpretation of the testimonies was based on the content analysis of Bardin (2011), being defined as: A set of techniques for the analysis of communications in order to obtain, by procedures, systematic and objective description of the content of the messages, indicators that allow the inference of knowledge related to the conditions of production/reception (inferred variables) of these messages.

According to the above-mentioned author, the criteria for organizing an analysis are: Pre-analysis, exploration of the material and treatment of the results. The treatment of the results includes coding and inference.

Santos (2012) says that in the initial phase of pre-analysis, the material is organized, composing the corpus of the research. The documents are chosen, hypotheses are formulated, and indicators are elaborated to guide the final interpretation. To this end, it is essential to consider the following rules: (I) exhaustiveness, it is suggested to exhaust the entire subject without omission from any party; (II) representativeness, concerned with samples that represent the universe; (III) homogeneity, in which case the data must refer to the same theme, be collected using the same techniques and similar individuals; (IV) relevance, it is necessary that the documents are adapted to the objectives of the research; and (V) exclusivity, an element shall not be classified in more than one category.

We worked with guiding questions, as follows: in relation to the indicators that guided the final interpretation: exhaustiveness: all testimonies were read and the registration units were extracted; About representativeness: from the registration units, thematic units were formed that allowed to give meaning to the inferences supported by the conceptual theoretical contribution; homogeneity: of the thematic units, the subjects that the participants informed were essential to contain the video; relevance: the testimonies attest whether or not there are learning gaps and what would be the skills to

be acquired; Exclusivity: in the data of the testimonies, each unit of registration composed only one thematic unit. No quantitative analysis was carried out, considering that it is a case study with a qualitative approach, whose meaning was captured in the units of records and themes in the search for links that supported the instructional video.

Bardin (2011) presents the treatment of data as criteria for thematic categorization, in the form of classification and aggregation of Registration Units. Category, in general, is a way of thinking and reflects reality, in a summarized way, at certain times. And, in this process of categories, the units of signification are chosen by themes.

Three categories of analysis were constructed:

1. Experience with pregnant women who use alcohol and drugs;
2. Assistance to pregnant women who use alcohol and drugs by health services;
3. Experiencing the Built Strategy- instructional video.

After the analysis of the interviews and the constitution of the analysis categories 1 and 2, the didactic material was developed as a teaching strategy aimed at providing nursing students with knowledge and skills on the subject.

This strategy was proposed, because video is a dynamic audiovisual tool, easily applicable in the teaching-learning process that involves several elements: Images, sound, text and animations, in order to arouse in the viewer interest in the subject addressed. In addition, it emerged as a triggering tool in order to bring nursing students closer to the theme in question, bringing to reflection the relevance of the nurse's work with pregnant women who use alcohol and other drugs.

3.4 ETHICAL ASPECTS

The information from this study, favorable or not, was used only for scientific purposes, and the researcher had the right to disseminate it at events in the area supported by the authorization given by the interviewees when signing the Free and Informed Consent Form and later donated to the CNPq Research Group "Information and Communication Technologies in Health Education Processes" for the formation of a research database.

Requests for letters of consent were sent to the institutions that constitute the scenarios of this research so that the research can be carried out.

It was necessary to select the sample, which is the delimitation of the universe of the investigation. Sampling is used, in the case of a very large universe, however, if this universe is concentrated and with a small quantity, it is essential that all elements are researched (GIL, 2021; THIOLLENT, 2005).

The researcher presented the participants with the objectives of the study, the reason for the research, and was asked, if they agreed to participate, to sign the Free and Informed Consent Form

(ICF), in two copies, according to Resolution No. 422/12 (BRASIL, 2012b) and 510/2016 of the National Health Council/Ministry of Health (CNS/MS) (BRASIL, 2016). The study was only possible after the approval of the Research Ethics Committee, which, before the start of data collection, evaluated the project and attested to its relevance. To fill out the online questionnaire, the Free and Informed Consent Form (ICF) was attached to the same link before the questionnaire was applied and, after consent, a copy was automatically sent to them by e-mail.

The Code of Nursing Ethics was followed, respecting the ethical and legal aspects of the study, with regard to the performance and participation in teaching and research activities, specifically those recommended in Chapter III, Art. 89: "To comply with the current norms for research involving human beings, according to the specificity of the investigation" and in Art. 90: "To interrupt the research in the presence of any danger to the life and integrity of the person".

Priority was given to respecting the research participant in their dignity and autonomy, acknowledging their vulnerability, assuring their willingness to contribute and remain or not in the research, through express, free and informed manifestation. Thus, the Free and Informed Consent Form (ICF) was elaborated and presented to the study participants, and those who volunteered in the research signed the informed consent form.

In relation to academics and professionals, the risks dimensioned for the research were: when participating in the research, they included exposure to minimal risks, whether physical, psychological, economic or social. That is, they might feel embarrassed when answering the questions. And, there may also be risks related to possible security weaknesses in the recording and storage of your testimony and the possibility of breach of confidentiality of the information obtained and use of the data.

Thus, the interviews were conducted by the researcher, seeking to minimize as much as possible the possible discomfort related to this practice. If this occurred, the participant would have the right to interrupt his/her participation without any prejudice, or suggest breaks, in order to ensure that he/she feels comfortable as a research participant and, if necessary, could receive the appropriate assistance, free of charge, for as long as necessary by the multidisciplinary team of the CNPq Research Group: Communication and Information Technology in the Teaching and Health Processes (psychologists, nurses, educators).

After collecting the testimonies, all content was transcribed for data analysis and stored for five years. This material was stored in digital files, but only the researcher and her advisor will have access to them. The principal investigator downloads all material to a single, local electronic device.

And, as a protective measure, under this aspect, the researcher grouped the testimonies in a single folder/file with a password without sharing in a drive by the researchers. The data received the expected encoding, making it impossible for third parties to view them.

It is understood that this study was adapted to the scientific principles that justify it and with

concrete possibilities to respond to the uncertainties, as it is based on scientific facts whose assumptions are pertinent to the specific area of nursing. Thus, the prevalence of the expected benefits over the foreseeable risks and/or discomforts was always sought, as well as the use of an appropriate method to answer the questions studied.

Based on the Letter of Consent of the Estácio Campus Nova Friburgo University and the approval of the Collegiate Unit of the same, the project was submitted to the Research Ethics Committee of the Faculty of Medicine of the Fluminense Federal University (CEP-FM/UFF) and, after approval, data collection was carried out. The analysis of these data, as well as the writing of the Course Completion Paper and its defense and presentation, followed the project schedule.

The participants were free to withdraw from participating in the research at any time during the study, regardless of the signature of the informed consent form, without any prejudice and maintaining their anonymity.

4 DATA ANALYSIS AND DISCUSSION

Initially, the results of the interviews with the health professionals are presented, and later, the questionnaires applied to the nursing students are presented. However, it is necessary to characterize the participants and, subsequently, the results are analyzed and discussed.

4.1 CHARACTERIZATION OF THE PARTICIPANTS

Of the professionals interviewed, members of the CAPS AD multidisciplinary team, the predominant were female (05 women and 02 men), are in the age group of 28 to 61 years old, and 02 had been working at CAPS AD for less than one year, 02 for one year, 02 for five years and 01 for eight years.

The table below shows the characterization of CAPS AD professionals.

Chart 3 – Characterization of CAPS AD professionals

Characteristics	P 01	P 02	P 03	P 04	P 05	P 06	P 07
Professional Category	Nurse	Psychologist	Psychologist	Craftsman	Psychologist	Nursing technician	Social Worker
Sex	Female	Female	Male	Male	Female	Female	Female
Age group	35 years	28 years old	41 years old	61 years old	28 years old	37 years old	60 years
Length of experience at CAPS AD	05 months	01 year	05 years	05 years	01 year and 6 months	09 months	08 years
Acting as preceptor	No	Yes	Yes	Yes	Yes	Yes	Yes
Courses in which he served as preceptor	-	Psychology	Psychology and Speech-Language Pathology	Speech-Language Pathology and Audiology, Nursing	Psychology	Medication e Psychology	Medicine, Social Work, Biomedicine, Speech Therapy

			and Audiology	and Medicine			and Psychology

Professional Category	Sex	Age group	Length of experience at CAPS AD
Nurse	Female	35 years	05 months
Psychologist	Women's (2) Men's (1)	28 years old 28 years old 41 years old	01 year and 6 months 01 year 05 years
Social Worker	Female	60 years	08 years
Nursing technician	Female	37 years old	09 months
Craftsman	Male	61 years old	05 years

Source: the author, 2023.

Regarding the performance as preceptor in the teaching of academics, only 01 did not have such action, the others (06) worked directly or indirectly with preceptorship with students who performed internships at CAPS AD that include the following courses: Psychology, Nursing, Social Work, Speech Therapy, Medicine and Nursing Technician.

It is noteworthy that the CAPS AD receives academics from several higher education institutions and all professionals act in some way as preceptors of in-service teaching. This follow-up is not restricted to the specific professional category of the course, as it is the pillar of the work developed in the multidisciplinary device. Therefore, a professional from another area of expertise can accompany a student from a course that is not in their specific area of training. Such actions take place, mainly in group consultations, therapeutic workshops, meetings and assemblies, home and hospital visits, and in coexistence activities. Also, during the period in which data collection took place, there were no nursing students interning at the device, however, the service has already received students from both the undergraduate nursing areas and nursing technicians.

Among the areas of activity of the professionals interviewed in the CAPS AD: 01 nurse; 03 psychologists, 01 social worker, 01 workshop worker (with academic training in biology and chemistry) and 01 nursing technician.

According to Brasil (2004), the minimum team of CAPS AD professionals should be composed of the following professional categories:

- 1 psychiatrist;
- 1 nurse with training in mental health;
- 1 clinical physician, responsible for screening, evaluation and follow-up of clinical complications;
- 4 higher education professionals among the following professional categories: psychologist, social worker, nurse, occupational therapist, pedagogue or other professional necessary for the therapeutic project and 6 secondary level professionals: nursing technician and/or assistant, administrative technician, educational technician and craftsman.

This is the minimum number of professionals in the technical team to work in the CAPS ad to care for 25 patients per shift, with a maximum limit of 45 patients/day.

The main attributions of each of these professionals in the multidisciplinary team are described in the following table:

Table 4 – Attributions of CAPS AD Professionals

Professionals	Assignments
Nurse	➢ Plan, schedule, evaluate and execute nursing care for individual patients and groups; ➢ Create and maintain the therapeutic environment aimed at carrying out CAPS AD activities; ➢ Organization and direction of nursing services and their technical and auxiliary activities; ➢ Organization and direction of nursing services and their technical and auxiliary activities; ➢ Work with patients, family members and staff to meet their basic needs for physical and mental health; ➢ Giving lectures, guidance, coordination and elaboration of works in the area of mental health for CAPS AD, families and community; ➢ Organize the maintenance of the nursing service; ➢ Home visits; ➢ Attendance in therapeutic workshops; ➢ Host; ➢ Individual, group, elective and urgent care, follow the protocol for care in the nursing area.
Psychiatrist	➢ Attend and monitor patients with diseases inherent to the specialty, within the required standards; ➢ Prescribe treatment; ➢ Participate in programs focused on public health; ➢ Carry out observations in psychiatric clinics and prepare corresponding psychiatric reports, with therapeutic diagnosis and indication.
Psychologist	➢ Provide individual and group care to CAPS AD patients by applying the techniques inherent to the profession; ➢ Perform psychological evaluations and practice related tasks; ➢ Directing individual and group health and psychosocial care teams; ➢ Perform psychodiagnoses; ➢ Request evaluations from other professionals; ➢ Provide crisis care to all those involved in the spaces where they occur; ➢ Conduct home visits and consultations; ➢ Monitor home and hospital admissions.
Social Worker	➢ Plan and execute activities and programs in the social field; ➢ Welcoming users, assisting them with the use of techniques inherent to the profession; ➢ Guide the socioeconomic selection for the granting of social benefits and medicines; ➢ Individual and group care for users and family members.
Clinical Physician	➢ Diagnosing, guiding and promoting the execution of preventive plans and programs, aimed at patients in general, and their families, being technically responsible for the prescription of medicines to CAPS AD patients. Assistance in screening, evaluation, follow-up of clinical complications and detoxification.
Nursing technician	➢ Provide nursing care to CAPS AD users, such as: administering medications, assisting them in activities of daily living within the CAPS AD environment; ➢ Individual and group consultations; ➢ Host; ➢ Home visits;

	➢ Detoxification services; ➢ Participation and attendance in therapeutic workshops.
Craftsman	➢ To work with therapeutic workshops, developing artistic, manual and handicraft activities.

Source: (BRAZIL, 2004; COREN-SC, 2017; PREFEITURA MUNICIPAL DE BASTOS, 2016).

In relation to nursing students, it should be clarified that the Undergraduate Nursing Course of the aforementioned HEI is offered in two distinct shifts in theoretical classes, in the morning and evening. However, the supervised internships follow the determinations of the Ministry of Education, with the inclusion of students in the primary care network and the SUS hospital network, with a preference for the day shift.

We interviewed 05 students, who were in the 10th period of graduation and in the clinical field of mental health, predominantly female (05 women and no men), in the age group of 24 to 40 years old, and 01 did not answer the question. Of the interviewees, only 01 had already worked in the nursing area, as a nursing technician, another (01) student reported having had the opportunity to work with pregnant women who use alcohol and drugs during internships in the clinical field of maternity and the other five did not have any practical experience with such clientele. These specific characteristics can be found in the table below.

Chart 5 – Characterization of nursing students

Characterization	**AC 01**	**AC 02**	**AC 03**	**AC 04**	**AC 05**
Sex	Female	Female	Female	Female	Female
Age	24 years old	27 years old	Not informed	40 years	24 years old
Nursing and function	No	No	No	Yes/ Nursing Technician	No
Working with pregnant women who use alcohol and other drugs	No	No	No	No	Yes
Place of work with pregnant women who use alcohol and other drugs	-	-	-	-	Internships in the maternity ward

Source: the author, 2023.

Due to the COVID-19 pandemic, the number of students in the clinical field of mental health was diluted and 07 students remained. However, after data collection, two students withdrew from the study: one gave up continuing and the other went on sick leave, making it impossible for them to participate.

In view of the thematic dimensions contained in the questionnaire, three categories of analysis were outlined.

4.2 FROM THE ANALYSIS OF THE TESTIMONIES

4.2.1 Experience with pregnant women who use alcohol and drugs

With regard to professional practice and specific experience with pregnant women who use alcohol and drugs, few professionals report having cared for these pregnant women, either currently, during their work at CAPS AD or throughout their professional career. Only 03 professionals reported working with this public.

These reports are compatible with data in the literature, whose pregnant women have difficulties in accessing health services, especially specialized centers such as CAPS AD. The vast majority do not receive guidance or referral to seek the service, and when they do, it is not effective. Pregnant women arrive late at the service and, on many occasions, after having already had the baby, accessing the service through conflicts with the law or when there is a threat of losing custody of the child or when this has already occurred. In addition, when they access specialized services, adherence and permanence to treatment occur infrequently.

> "At the hospital, I have had contact with pregnant women with mental disorders, but without using alcohol and drugs in the past..." (P05).
>
> "I have had this experience both at the CAPS AD level and at the time when I worked as a social worker at the hospital, when it is common for people to be admitted to the emergency room intoxicated... What we perceive is that precisely the health team has little preparation, little knowledge of how to deal with these people, including pregnant women, who use substances... They still have a very prejudiced view that it is a lack of things to do, a lack of a job, if you know that you do it badly because you do it, you do it because you want to... We really feel the lack of preparation of these professionals" (P06).
>
> "Here at CAPS we have already had some pregnant women. One of them was a young adult who was already in her third pregnancy, the first child she had at the age of 15 and she had been using it since adolescence. But we were unable to continue the treatment because she simply abandoned the treatment and ended up moving out of the city" (P06).
>
> "The user, Maria[1], came to us as a puerperal woman who is still accompanied... We also had others that didn't stay in the service..." (P04).
>
> "I had more contact in the postpartum period... They get that dryness, anxiety. They don't have to worry about whether or not they can breastfeed while using it" (P07).
>
> "There should be a better dialogue with the network. It is at this moment when we know that there are these pregnant women who consume substances, but they never get here, we know that they exist, but we can't reach them, I think it should be a more direct referral" (P02).

The experience of the professionals does not establish a clear and objective conduct for the care of the clientele, which is the focus of the research. In the daily care routine, it is perceived that it is a theme that is not addressed, the professionals assume a gap of lack of knowledge of the actions to be carried out and also of the lack of preparation during training.

When analyzing the students' answers to the questionnaire applied, in this category, only 01

[1] Fictitious name

student reported working in the nursing area, as a nursing technician, however, he did not have the opportunity to work with pregnant women who use alcohol and other drugs, either as a technical professional or as an academic. Another academic reported having worked with this public during his internship in the clinical field of maternity.

With regard to questions 1 and 2 of the questionnaire, questions and their answers have been organized in the table below:

Chart 6 – Answers about Working with pregnant women who use alcohol and other drugs during Undergraduate Nursing

1. In your experience as a nursing student, did you have the opportunity to accompany any pregnant woman who used alcohol and drugs? 2. If so, in which clinical field of internship did this follow-up take place?		
Participants	**Answers**	**Answers about the location where the follow-up took place**
AC 01	*No*	*"No"*
AC 02	*No*	-
AC 03	*No*	*"I didn't have a chance to follow up"*
AC 04	*No*	*"I didn't keep up"*
AC 05	*Yes*	*"Maternity"*

Source: the author, 2023.

With regard to the preparation during the academic training of the interviewed professionals, in the undergraduate course or technical nursing course to work with pregnant women who use alcohol and other drugs, the reports were consistent with the data collected on the profile of this population in the literature, showing that most of them reported not having received guidance on this subject. This theme, which involves the use of alcohol and drugs, has not been addressed or little explored, specifically with regard to pregnant women who use alcohol and drugs.

Only 03 participants reported having presented an approach to the subject during their training, but in a superficial way.

Thus, when asked about the skills acquired to work with pregnant women who use alcohol and drugs in their academic training, they reported that this subject was not addressed.

> "I didn't have this approach even in elective courses" (P03).
>
> "I don't remember having that approach during my undergraduate studies. If there was something superficially within the discipline of hospital psychology, I don't even consider it" (P05).
>
> "I've been a graduate for a long time. I remember having a mental health class, but I didn't have access to the alcohol and drugs axis, it focused a lot on mental disorders... There was no mention of alcohol and drugs" (P06).
>
> "In the discipline of women's health, the care of pregnant women from alcohol and drugs was superficial, nothing very deep" (P07).
>
> "From my work in mental health, I felt the need to have sought qualification on my own, in a multiprofessional postgraduate course in mental health" (P07).

> "The need for the service made me look for a specialization..., but the focus is always on individualized care, for example, pregnant women, the elderly..." (P04).

In relation to the students, when asked if the theme was addressed at any time during the undergraduate course, according to question 03 of the questionnaire, the subject was addressed according to the report of 03 students. These occurred in the disciplines: Women's Health (01 response) and Collective Health (02 responses). There were no reports regarding the discipline of mental health.

Despite mentioning the disciplines in which the approaches take place, little was said about how the subject was addressed. Analyzing these testimonies, it was understood that the approaches occurred during nursing care, in general, which were pointed out to pregnant women, focusing on the risks that the use of substances can cause to the mother and fetus.

The questions can be found in the table below and the respective statements were quoted in full according to the answers provided:

Chart 7 – Answers on training to assist pregnant women who use alcohol and others Drugs During Undergraduate Nursing

1. During your academic training, was the theme: "nursing care for pregnant women who use alcohol and drugs" addressed? 2. Specify the discipline and approach.		
Participants	**Answers**	**Answers about the location where the follow-up took place**
AC 01	*No*	*"No"*
AC 02	*Yes*	*"Clinical teaching in public health... But in general, involving the pregnant woman and the risks"*
AC 03	*Yes*	*"In Public Health"*
AC 04	*No*	*"I didn't have the chance"*
AC 05	*Yes*	*"Women's health, during care"*

Source: the author, 2023.

Although the approach occurs, it is perceived from the reports that it is not uniform, involving all students, with regard to the group studied, also translating some gaps in the approach to the subject, which could arise in a broad way, involving more undergraduate disciplines.

Considering that some students are in the last period of graduation, and that they were able to work in the most diverse clinical fields offered by the course, they reported that they have not yet had the opportunity to work with pregnant women who use drugs, with regard to theory and clinical practice.

They were asked to cite 03 specific actions in which the nurse could develop specific care for this group of pregnant women. They answered:

> "Schedule regular appointments with shorter intervals to monitor the pregnant woman and promote the safety of the baby" (AC 01).

> "Receive this patient, hold a conversation circle, offer care and propose methods to help, refer to other places of treatment so that she can help this pregnant woman" (AC 02).

He did not answer (AC 03).

"Humanized prenatal care, show pregnant women the importance of breastfeeding" (AC 04).

"Follow-up by consultations, explain to the pregnant woman the risks, offer help and help" (AC 05).

The literature shows that the appropriation of this subject in the academic environment favors the preparation of these health professionals for the development of humanized and qualified care for pregnant women who use these substances, through effective and efficient interventions that contemplate all their individualities and needs based on their various aspects and contexts.

It is in the academic sphere that it is possible to bring reflections and arouse interest on the subject, in addition to promoting the development of research, which is still scarce, and which allows the promotion of care strategies specifically aimed at this public, based on the perspective of citizenship and the uniqueness of the subjects.

The studies associate barriers in the access of these pregnant women to health services, due to the posture of some professionals or inefficient approaches on the part of professionals that can hinder access. They associate this problem with the training of professionals, suggesting that the subject should be explored with more focus on this public, since their training.

They also reveal the existence of professionals who, in their conduct and care, do not adopt specific measures of care for pregnant women who use substances. As revealed by Kassada, Marcon and Waidman (2014), who in their study identified the problem of women who reported the use of substances during prenatal care, but did not have issues related to the consumption of licit or illicit drugs addressed in the consultations.

Another problem highlighted, as described by Marangoni *et. al.* (2017) the difficulty of these pregnant women to seek health services, especially prenatal care, and when it occurs, they do not admit the use of illicit substances, fearing disapproval or reprimand of the use by health professionals. Thus, this use can be underdiagnosed, and teachers and preceptors do not have the ability to care for this clientele (KASSADA *et. al.*, 2013).

In the study conducted by Peters *et. al.* (2020), results reveal that pregnant women do not report the use of alcohol and drugs during the first nursing consultation, and when it occurs, it is late. In addition, it was noticed that the nurses had difficulties in maintaining bonds with the pregnant women, because when the use of substances was detected, they were referred to the high risk, hindering the therapeutic bond and the continuity of care by nurses.

In order to provide comprehensive and humanized care to pregnant women who use alcohol and other drugs, it is necessary that they are welcomed by the nurse in primary care and, through welcoming listening and bonding, with reliability to the pregnant woman with the health professional,

she feels safe to report the use. Subsequently, according to the evaluation, it may be necessary to refer the patient to specialized services, such as high-risk prenatal care and the Psychosocial Care Centers for Alcohol and Other Drugs (CAPS Ad). It is of fundamental importance to maintain the primary care link with this pregnant woman and the follow-up in the form of joint responsibility between the services for the maintenance of her care (RIBEIRO et. al., 2018 *apud* PAIVA *et. al., 2021).*

It is necessary for the nurse, together with the primary care team, to keep an eye on the attendance of pregnant women at the return of the scheduled care, if necessary, to carry out an active search in case of non-adherence, in addition to carrying out educational actions that address the gestational cycle, the commitment to the baby's health and possible conditions of health problems (SES-GO, 2019 *apud* PAIVA *et. al.*, 2021).

4.2.2 Assistance to pregnant women who use alcohol and drugs by health services

The professionals referred to the need for health services to be able to offer possibilities to reduce bureaucratic activities between services, with referrals of pregnant women in a more effective and satisfactory way to specialized services (Primary Care, CAPS, High-Risk Prenatal Outpatient Clinic, Guardianship Council), acting with greater communication and interlocution between services, with expanded access to health and psychosocial care networks for pregnant women who use alcohol and other drugs.

They feel that there is a need to strengthen their access to health care networks, through competencies such as empathy and welcoming actions. They say that all clinical, obstetric and psychosocial follow-up of pregnant women is possible, facilitating the development of concrete actions that minimize risks to maternal and fetal health.

> "Communication is very flawed. There was no communication with the obstetrician who treated the pregnant woman, it was not possible to discuss the cases, very troubled..." (P01).
>
> "It has to start from the reception and preparation of this professional. People have to be prepared to deal with this public, to have a little more knowledge of the area" (P 06).
>
> "Welcoming this pregnant woman, knowing her life story... Try to understand the context, if this pregnant woman is doing prenatal care, offer this type of information to her, work with her how important this is, if she is not doing it..." (P06).
>
> "First is the understanding of this pregnant woman's situation, that she doesn't do this because she wants to, it's not a choice; to look more sensitively at their situation. A more specific prenatal care for their problem, try to address the issue with them to reduce the problem a little" (P 07).
>
> "For this specific pregnant woman, there has to be a more reserved environment, for a more thorough examination, it's a different picture..." (P04).
>
> "You have to have a special look... Individualized. An environment suitable for providing care and also someone qualified" (P03).

It can be seen that they point out ways to create competencies that are fundamental actions for the care of this clientele: individual care, communication with the team external to the CAPS AD, specific preparation for the care of this clientele, opting for a reserved environment, thorough examination and qualified care.

The participants were asked to cite three competencies for such care, with the objective of materializing the essence of care for this pregnant woman, they presented: communication, valuing the knowledge of each specific professional, especially the nurse, which can be highlighted: welcoming listening, empathy; individualized interventions, non-imposition of rules, promoting the development of a critical sense of the pregnant woman about her self-care, critical analysis of her life situation and minimizing family conflicts.

> "I think you have to develop a welcoming listening; I think communication is fundamental; and conflict resolution because we deal a lot with the families of these users and there is always a very large conflict zone. Knowing how to mediate a conflict is a skill that a person must have" (P06).
>
> "There has to be an interlocution with the network, it is fundamental, maternity, the reference of the UBS... There has to be an integrated work" (P03).
>
> "I believe that a welcoming listening, because trying to put the pregnant woman inside a box you will not be able to reach her. Interventions have to be within a possible means, such as: going on a diet when the person barely has enough to eat at home, it has to be with the resources they have. I think that imposing too many rules has to bring more care, self-care, make her develop a critical sense for her to do her self-care, so that she realizes that such aspects are relevant to her" (P02).
>
> "Knowing how to listen, having that availability... The technical knowledge also to know what the abuse causes to the mother and the child, basically that" (P07).
>
> "Empathy is one of the first points, if you are not empathetic with this user, specifically with the pregnant woman, you have to look at the physical and emotional changes that are happening with this pregnant woman" (P04).

In order to analyze the view of health professionals about the work of nurses, inserted in a multidisciplinary team of a specialized mental health service, in order to understand what team members expect from the work of this professional in CAPS AD, participants were asked to cite three other competencies that they observe to be specific to the nursing professional. which were: welcoming directed to listening and care; evaluation and follow-up related to clinical and obstetric care; guidance on care during pregnancy to prevent injuries resulting from substance use, damage to maternal and fetal health, and postpartum care with the baby and breastfeeding.

> "If you pay attention to this issue of the pregnant woman, ask for and follow up on exams, about diseases that can harm the baby... A lot of guidance about breastfeeding, whether it is feasible or not because of its use in the postpartum period, being present in this... Relapses are very common, so you have to pay close attention to this issue, in addition to the STIs that may or may not have been caught" (P01).

> "These issues are more related to the clinic. Attention to comorbidities as well, the nurse will know how to take the necessary interventions. And the welcoming of the person arriving for the first time at the service breaks the role of the CAPS as a place for crazy people, because the nurse takes care of the body, regardless of where it works, I think it can break this stigma of the CAPS, I think it is not so far from the logic of those who are doing prenatal care, for example" (P02).
>
> "Interlocution with the network, I think it's nursing... Monitoring of the pregnant woman's health and guidance on health" (P03).
>
> "The welcoming, the care..." (P04).
>
> "I think that clinical and medication care, as well as matrix care, the nurse can be important in this action" (P05).
>
> "Issues related to self-care, I see this very much linked to nursing; health education, nursing has a competence that it develops throughout the course; and welcoming" (P06).
>
> "The awareness of prenatal care, even if she is a user, she does prenatal care correctly... Always be up to date with the exams, advise that whenever she has any type of relapse, any problem that she should report it to her technician, the nurse, the doctor... To try to reduce the risks to the baby" (P07).

There is a vision centered on the biological monitoring of women's bodies, the maintenance of their health with control of exams, the progression of pregnancy and fetal health, medicalization, matrix support of their conducts and behavior, health education, guidance on self-care, and actions developed in the pre- and postpartum periods. However, they did not report being an agent of mental health, with singular actions typical of nursing.

In the understanding of nursing students, care for pregnant women who consume substances should be humanized, empathetic and welcoming, with nurse monitoring, through nursing consultations, educational actions, such as groups and conversation circles, referrals to specialized services and active search in case of non-continuity of treatment.

> "Be receptive, develop bonds and educational means to help them, refer them to specific care and ensure access, guide and monitor the pregnant woman" (AC 01).
>
> "Affective, understanding that this woman is a user and that she has an addiction. Always try to follow up on prenatal care, if you don't show up, carry out the screening together with the community health agent. Sometimes they feel pressured by the situation they are in or even embarrassed and do not comment on the subject. Hold lectures, moments of conversation with pregnant women, not just users, do something dynamic, present the methods that can help them" (AC 02).
>
> "He did not answer" (AC 03).
>
> "In a humanized way" (AC 04).
>
> "Follow-up through nursing consultation" (AC 05).

It is important to highlight the reality related to the difficulty of access to health services by pregnant women who use alcohol and other drugs, especially in specialized services, with referrals that

do not occur or that are unsatisfactory and occur late. Thus, comprehensive care is different from the Basic Health Unit, where it should and is monitored by the prenatal care provider and there is no integration of care with those who accompany her mental health.

In addition, the difficulty of promoting adherence and continuity of treatment are still major challenges for health teams. Among the mental health professionals interviewed, few had the opportunity to serve this public in their professional career, either at CAPS Ad or in other health institutions.

Studies reveal that this difficulty in accessing services has repercussions on the performance of prenatal exams and consultations, which can cause an increase in the vulnerabilities in which these pregnant women find themselves, associated with obstetric and fetal complications. In addition to the difficulties related to the issues of the service itself, individual and social demands can contribute to the increase in the difficulty of access, having repercussions on the care provided to them, since part of the pregnant women are unaware of public health policies and how specialized services work; these are the ones with the highest prevalence of alcohol and drug consumption (PORTO *et. al.*, 2015). Associated with this problem is guidance and referrals to specialized care services (CAPS AD or mental health services) in a deficient manner (LIMA *et. al.*, 2015).

Another important factor is the fact that these pregnant women fear prejudice due to the use of substances, failing to report their use during prenatal care, which is also neglected by professionals. And, according to a study conducted by Kassada *et. al.* (2013), prenatal care presented a lack of continuity in care or inadequate referral to another health service, after which pregnant women reported drug use, in addition to the lack of support from prenatal care to cope with the problem.

This study also confirms the need to prepare health professionals, still in their academic training, about the phenomenon of alcohol and other drug use, especially during pregnancy. The professionals interviewed corroborate that in their training the alcohol and drugs axis was not even addressed, specifically relating it to pregnant women.

It is believed that, from a more comprehensive focus during professional training, it can awaken in students reflections on care strategies for this population and provoke a change in conceptions linked to morality about this clientele, favoring changes in perception, paradigms and expanding the way of care possibilities.

It should be noted that actions to qualify professionals through continuing education and pedagogical preparation favor the experience of a reception that is sensitive to the demands and specificities of health of pregnant and postpartum women who use alcohol and other drugs, especially in the primary care setting, both in the scope of prenatal and psychosocial care.

Through such actions, it is possible to promote possibilities of reflection and self-criticism about the organization of the care developed by professionals with people in problematic use of alcohol

and other drugs, their families and the community itself, thus being able to expand knowledge and knowledge, in addition to enabling transformations in practices and in the network of services, thus becoming a decentralized, bottom-up and transdisciplinary process (GALASSI; SOUZA; SILVA, 2016).

The recruitment of these pregnant women should be as soon as possible, since it is during the prenatal period that they need to be oriented about the care and risks for the pregnancy and the fetus, associated with guidance on childbirth, puerperium and care for the newborn, in addition to social and psychological support, necessary to maintain a pregnancy with the least possible damage. And this is a general competence to be practiced by all those involved in this assistance.

In view of the specificity and complexity of health care for these pregnant women, a multidisciplinary and intersectoral approach is suggested among the various services that make up the health care network, in order to expand and promote longitudinality in care and not limited only to the prenatal period, being continuous care, so that affective and psychosocial support is maintained.

It is also during this period that the therapeutic relationship is built and strengthened, allowing individualized and targeted care, with active listening, dialogue, trust and adherence to the guidelines provided during care, associated with harm reduction actions, seeking to reduce damage to the mother-baby binomial. Thus, embracement and bonding are essential tools to ensure the quality of care, implying that nurses are able to use these instruments during their consultations (KLEIN; GUEDES, 2008 *apud* LIMA *et. al.*, 2015).

Among the actions developed by the professionals of the multidisciplinary team in the CAPS AD, it is possible to include actions in which the figure of the nurse stands out: The welcoming, promotion and maintenance of bonds, active listening, so as to reach the pregnant woman who uses alcohol and drugs in her singularity as a person, considering her social context and valuing the joint construction of health actions from the perspective of the subject's autonomy and co-responsibility for care. In addition to actions that promote the reduction of harm to maternal and fetal health, through guidance, health education actions and follow-up throughout the gestational and postpartum periods.

Thus, considering that the nurse is an important member of the minimum team of the CAPS ad and that these services have been consolidated in recent spaces of practice of this professional, it is necessary to invest during the academic training of this category in terms of qualification during the service through training. This study reiterates this need also for other categories of health professionals, so that it can have repercussions on qualified health care, more specifically for pregnant women who use alcohol and other drugs.

It is in primary health care, especially in the Basic Health Units and Family Health Strategy, that the first contact of these pregnant women with health services occurs. It is the gateway for them to carry out prenatal care and the use can be identified, in this sense how to proceed in the interview?

What signs indicate the possibility that the pregnant woman is using alcohol and other drugs? How should the approach to the subject be?

The moment of the nursing consultation, which is private to the nursing professional, during prenatal care aims to offer conditions that promote the health of pregnant women, through welcoming, prenatal care and the identification of risk factors as early as possible. In addition, it promotes the clarification of doubts and the appropriate guidance. It is an opportune time to comment on the harms of alcohol and drug use and the repercussions of each disease on the maternal, fetal and newborn organisms that may occur as a result of this consumption (BRASIL, 2012a; PETERS *et. al.*, 2020; PAIVA *et. al.*, 2021).

The care of pregnant women who use alcohol and other drugs is extremely complex and requires professional skills and abilities in order to offer them comprehensive and quality care. However, studies reveal that nurses do not have adequate training to work with them, evidencing gaps in training.

Rizzo *et. al.* (2020) in her study with nurses who work in the care of pregnant women who use crack, it was evident that they did not receive adequate training to work with pregnant women who use substances, a fact that hinders and brings fragilities in their prenatal care.

This study points to the need for nursing professionals to be prepared for the health care that should be provided to these pregnant women, which involves strategies of approach without social paradigms and the reorganization of services, ensuring that they are welcomed and respected for their choices, thus favoring the participation of their users in prenatal care.

The study carried out by Paiva *et. al.* (2021), pointed out that the nurses interviewed have limited knowledge about the effects of alcohol and Fetal Alcohol Syndrome (FAS), as well as other studies that reveal limited knowledge about APS, or the effects of alcohol use during pregnancy. This information demonstrates the existence of gaps in the training of these professionals during graduation. According to these studies, in the discipline of Mental Health Nursing, APS is not addressed as a theme related to the study of psychoactive substance abuse (SANTOS; STEPHANIO; FIGUEIREDO, 2017 *apud* PAIVA *et. al.*, 2021).

This fact is evident in relation to the students. It was questioned whether the students, in the last period of graduation, felt prepared to assist pregnant women who used alcohol and other drugs. In all the reports, they did not state that they did not feel able to work with this public and did not discuss why and how they feel about this situation.

> "No" (AC 01).
>
> "No, I don't feel prepared, since it's a delicate situation" (AC 02).
>
> "I don't feel" (AC 03).

"Not yet" (AC 04).

"No" (AC 05).

The study carried out by Lima *et. al.* (2015), pointed out that the actions performed by nurses on these pregnant women are still insufficient and that alcohol, drugs and pregnancy are still permeated by obstacles during the work of these professionals. It reveals the need for this professional to be well trained for the development of a directed and planned work with this public in order to obtain effective results in the recovery of the pregnant woman's health and in the preservation of fetal health.

Since nurses are extremely relevant professionals in the care of pregnant women who use alcohol and other drugs, in the scope of all levels of health care, it is necessary to train these professionals, from the moment of their academic training, so that they can be able to act, from the detection of substance use to adequate care for these pregnant women (KASSADA *et. al*., 2013).

Cebrid (2010 *apud* KASSADA; MARCON; WAIDMAN, 2014), reiterate the need to sensitize nurses and other health professionals to the importance of comprehensive, humanized and qualified health care for pregnant women, especially those who use substances, in order to promote health protection, disease prevention, early diagnosis and treatment.

Other studies also reinforce the need for nurses to be well qualified to meet the specificities of this population. It is necessary for these professionals to have knowledge about the effects of drugs during pregnancy so that they can direct their actions with greater chances of success (BRASIL, 2006 *apud* SOUZA *et. al*., 2018; LEOPERCIO; GIGLIOTTI, 2004 *apud* SOUZA *et. al.*, 2018).

It is worth mentioning another problem evidenced in some studies, which cite the limitation on the part of the Ministry of Health in not widely disseminating educational campaigns on the subject, in addition to not offering training courses for professionals who work in Primary Health Care, especially professionals who work in prenatal care for pregnant women in use of licit and illicit substances. given the need to better understand the singularities of each woman with this profile, in order to ensure the quality of the care offered to them (PETERS *et. al.*, 2020; PAIVA *et. al.*, 2021).

These findings also corroborate the need for government investments, based on the creation of specific programs and public policies for women, especially pregnant women who use alcohol and drugs, establishing clear assistance policies that involve harm reduction and a broad work that involves discussions and popular clarification, including using the media with the purpose of reversing this situation and awakening reflections on the population that aimed at breaking taboos and prejudices towards society (LIMA *et. al.*, 2015; RIZZO *et. al.*, 2020).

In addition, from an empirical perspective, from this analysis, it is possible to observe the need to strengthen primary care, with expansion and increase in the supply of health services, in order to expand the territorial coverage, together with the qualification of professionals working from

continuing education actions.

As future nurses, they were asked about how they think nursing care should be provided to pregnant women who use alcohol and other drugs. Among the answers, the following were cited: follow-up through nursing consultations, receptivity, bonding, empathy, prenatal follow-up and health education actions and referral to specialized services.

The nursing consultation during prenatal care aims to ensure nursing care for pregnant women. In association with health education activities, nurses will be able to provide comprehensive care aimed at improving the health conditions of this public.

Prenatal care is the time to clarify doubts and reinforce pregnancy-related guidelines for women and their families. Nurses, when developing educational actions by conducting groups in a dynamic way, involve participants in a discussion that allows them to expose their doubts in a welcoming and prevention environment (AMORIM et. al., 2019 *apud* PETERS *et. al., 2020).*

The aforementioned study, among others, also reveals the difficulty of participation of pregnant women who use alcohol and other drugs in health educational activities, in addition to not reporting the existence of substance use (MARANGONI *et. al.*, 2017). Thus, nurses need to develop and perform skills in their work process that facilitate their arrival at the services, allowing them to feel safe to report the use to the professional. It should also develop strategies that allow them to be interested in participating in health education actions, whether individually or in groups.

Embracement and bonding are essential work tools in the nurse's work with pregnant women who use alcohol and other drugs during prenatal care. These promote the pregnant woman's trust in the professional, favoring treatment adherence (RIZZO *et. al.*, 2020).

Due to the low adherence of these pregnant women to health services, aggravating the risk of maternal and fetal complications, the active search through home visits (HV) becomes an essential tool. It is from this activity, carried out mainly by community health agents (CHA) and nurses, that the health team will understand the social reality of this public, which allows the knowledge and planning of specific actions according to the demands presented (LIMA *et. al*., 2015). Through this activity, it is possible to facilitate access to the services offered in primary care, promoting the early recruitment of pregnant women and the development of bonds with professionals and the service.

In order for the health teams that assist pregnant women who use alcohol and other drugs to be able to offer comprehensive care, based on the needs of these users, they must develop fundamental skills, in order to identify pregnant women at risk as early as possible and develop attitudes of sensitivity, acceptance and empathy; know how to listen, have an affective interaction to facilitate the bond and a basic knowledge about mental illness and the therapeutic models that affect them. enable them to plan care activities and usual procedures (MARCOLINO *et. al.*, 2018; PAIVA ET *et. al.*, 2021).

The study carried out by Lima *et. al.* (2015), which interviewed pregnant women treated at primary health care units in Maceió/AL, demonstrated that the quality of prenatal care provided by nurses to pregnant women who use substances is still unsatisfactory, with regard to the guidance and referrals necessary to solve this problem. Despite the guidance received on the risks and consequences of the use of alcohol and other drugs, the pregnant women stated that they had not received referrals for treatment and follow-up at the Psychosocial Care Centers for Alcohol and Drugs (CAPS Ad), in addition to information related to harm reduction during prenatal consultations.

This study concluded that, although professionals have knowledge about the use of alcohol and other drugs during pregnancy and their consequences, they still do not have concrete care strategies to work on reducing and suspending use.

Kassada, Marcon and Waidman (2014) also identified this problem in their studies, which pointed out that alcohol and drug users felt judged, did not receive support and adequate follow-up to cope with substance use.

In the study conducted by Peters *et. al.* (2021), nurses develop actions related to prenatal care and the respective educational activities with pregnant women and their families, based on actions proposed by the Ministry of Health, respecting the diversity of these actions. However, the participation of pregnant women in the treatment offered also showed low adherence on their part.

These findings highlight the difficulties presented by this population and the needs of health professionals to reinvent themselves in search of alternatives that can break through such care barriers.

The research also showed that pregnant women, in addition to receiving prenatal care, also received care in health networks, with care in specialized primary care services, through referral to CAPS-AD and interspersed consultations between specialty outpatient clinics.

The care of pregnant women who use alcohol and drugs requires specialized professional attention to the health needs of these pregnant women, which must be identified in the prenatal period and referred to specialized services in order to ensure comprehensive care at the different levels of care in order to assist and understand their complex demands (PETERS *et. al.*, 2020; CABRITA *et. al.*, 2015).

The early identification of the use of alcohol and other drugs during pregnancy enables access to specialized care services, the CAPS AD, which are responsible for the elaboration, with the pregnant woman and her family, of strategies to cope with the use of substances, through actions aimed at abstinence from substances or harm reduction measures. within a perspective of autonomy and co-responsibility of care.

4.2.3 Experiencing the Built Strategy – Instructional Video

Regarding the creation of a teaching-learning instrument to facilitate the understanding of this theme, the students were asked about this possibility, they reported: 04 participants reported that they consider an instrument important, 01 participant suggested that this instrument be 01 video. However, the other participants did not suggest which instruments could facilitate the process of acquiring competencies and skills to work with these women. One participant did not answer the question.

Chart 8 – Nursing students' answers about an instrument that facilitates the teaching of apprenticeship

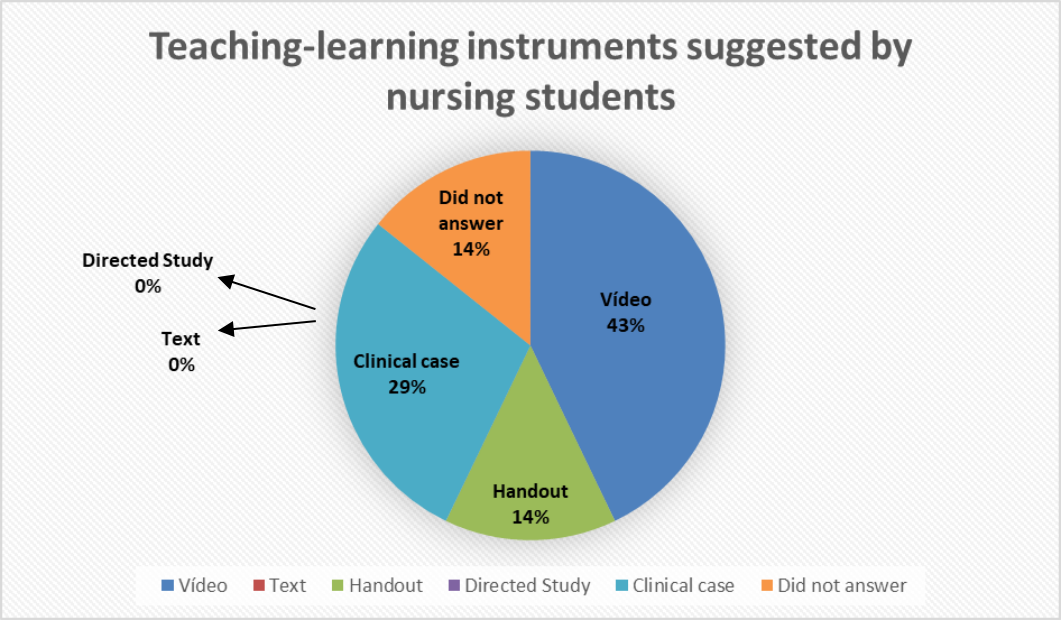
1. Do you think it would be interesting to have a learning tool to facilitate your understanding of the theme "primary nursing care for pregnant women who use alcohol and other drugs"? What kind?"		
Participant Identification	**Participant Responses**	**Suggestions offered**
AC 01	Yes	"Video"
AC 02	Yes	"How to approach the patient, I don't have an understanding of the subject"
AC 03	Yes	-
AC 04	Yes	-
AC 05	-	-

Source: the author, 2023.

The questionnaire also offered 05 alternative instruments that students identify as likely facilitators of the teaching-learning process for this subject, which were: Video, text, handout, directed study and clinical case. In this question, there was the possibility of marking more than one alternative. 03 participants reported the video; 01 participant cited a clinical case study and 01 participant cited a handout. 01 participant did not answer the question. The text and directed study instruments were not mentioned.

The answers provided by the academics are illustrated in the following graphic:

Graph 1 – Teaching-learning instruments suggested by nursing students



The students were asked if a didactic video would facilitate teaching and learning on the subject. 03 academics responded positively. 02 did not answer this question.

> "Yes, because it is didactic" (AC 01).
>
> "Yes, because it offers a dynamic that is easy to understand and visualize" (AC 02).
>
> "Yes" (AC 04).

The questionnaire also asked for suggestions of aspects that the students considered to be important and that should be included in the video on the subject. 03 students answered, 02 students did not answer.

> "Direct content, without difficult lines, something didactic and that manages to "hold" the attention of those who are watching" (AC 01).
>
> "About what each licit and illicit drug can do to the body during pregnancy. About how it affects the baby and the pregnant woman. What are the risks. How the pregnant woman can be receiving support, show the institutions and places that can support her" (AC 02).
>
> "Care of the Newborn" (AC 04).

It was concluded, through this analysis, that the theme: "Nursing care for pregnant women who use alcohol and other drugs" was little explored during the training of the students, in its entirety, with the presence of gaps in the approach to this subject. Thus, it was understood that there was a need for a facilitating instrument to address this theme in order to contribute in an aggregating way.

Based on the steps developed by the research, and based on the answers of the nursing academic participants, it was decided to develop an instructional video that would facilitate the understanding of nursing students about the care provided to pregnant women who use alcohol and drugs.

It was understood that the video would be a tool of easy elaboration and applicability and with dynamism to approach the content. In order to collaborate with the teaching-learning process, during academic training, the suggestion of this teaching tool and the content were focused and elaborated, based on the responses of nursing students.

5 PRODUCT

The following is a description of the preparation of the video and its respective stages.

5.1 ELABORATION OF THE VIDEO

From the analysis of the collected testimonies, it was decided to develop a video with a strategy to facilitate the teaching of the theme that was intended to be addressed.

According to Ashaver and Igyuve (2013 *apud* RODRIGUES JR. *et. al*., 2017, p. 2):

> The use of an educational video can mean a sophistication in the teaching-learning relationship, since, through it, it is possible to capture the attention of the public, as well as arouse their curiosity in relation to the topics addressed, given that society lives in a culture where visual ability and the ability to process information are constantly exercised.

Still, according to Perrenoud (1999), for the elaboration, it is necessary to work on conception, organization and monitoring. Thus, the elaboration of the video took place in 3 stages: pre-production, production and post-production (RODRIGUES JR. *et. al.*, 2017). The period of preparation of the video, including all phases, was 3 months (February to March 2023).

The pre-production phase, according to Lima *et. al.* (2019), "involves the planning and preparation of the material, deciding on the visual, stylistic, and technical aspects; In production, you have all the elaboration of what was planned."

In this stage, the script of the video was carried out and the best tool for its construction was defined. For the elaboration of the script, the research carried out during the study was used as a scientific basis, in addition to contents suggested by the academics. We also sought to insert suggestions provided by the students who participated in this study, through a questionnaire.

During the preparation of the script, the format in which the video would be made was defined, *the explainer video*, which is a quick video profile in the animation format. This style was adopted in order to adapt the skills of the master's student, who worked as a videographer, in order to meet the needs of information to be transmitted.

The format of the video was defined in the animation style, as it was considered a video more focused on the profile of the public that was intended to be reached, the nursing students. According to Lima *Et. Al.* (2019), "the use of animations is interesting because it draws the attention of learners, making the subject more attractive".

For the realization of this video, the online software Renderforest® was used, using the animations in template formats, already available by the software for the composition of the video.

The production stage was the construction of the video itself, using the aforementioned tool. This lasted a week, during which the researcher used online tutorials about video construction techniques using the chosen software. Also at this stage, the script was revised, with the content of the information to be included in the video.

As it is a free tool, it was not possible to insert many graphic effects, consisting only of the pre-established images and text. The desired information was inserted and, finally, a musical background was inserted, available by the software.

This platform was chosen because it is easy to master, since it has images available, among other tools, such as sound and background of the images, for example, in addition to being able to use the free version. Thus, it was the platform that most favored the researcher, within her skills, since the

video was prepared by her.

It should be noted that the platform in its free version has limitations for use, such as: referring to the viewing time, it only provides 3 minutes of video duration, which can cause scenes with a short duration. In addition to limitations, in case the researcher wanted to create her own animations and insert custom sounds.

According to Perrenoud (1999), the use of software that allows the creation of personalized educational programs, in which the teacher can be a programmer, based on the use of already programmed structure and procedures, which, when gathered, provide a content that depends on the teacher. From the use of this resource, the author states that there is no need for the teacher to be a specialist in computer science or programming.

5.2 SCRIPT AND ELABORATION OF THE VIDEO

Initially, the target audience was defined, in this case a trigger video, to be used by the nursing faculty to be shown to nursing students. Consideration was also given to the possibility of its use in continuing education activities for health professionals, especially those in nursing, also in a triggering manner.

The audiovisual instrument has the following objectives: To promote reflections on the nursing competencies necessary for the care of pregnant women who use alcohol and other drugs; Inform the viewer about the main substances consumed by pregnant women and the potential effects and risks for the pregnant woman and the fetus. We sought to direct the content of the video based on the students' answers, about which subjects within the theme they considered interesting.

The time in which the video would take place was also a factor thought out, so that it would not be too long and could allow the viewer to disperse.

Below is the content of the script used to prepare the video:

- Target audience of use: Nursing faculty;
- Target audience as video viewer: Nursing students;
- Video length: 3 minutes;
- Total Dinners: 26;
- Characters: "Ana" (nursing student); a pregnant woman;
- Content to be addressed: main substances consumed by pregnant women, the main effects of the use of alcohol and other drugs for pregnant women and the fetus;
- Health services that provide care to pregnant women who use alcohol and other drugs;
- Main nursing actions in the care of pregnant women who use alcohol and other drugs;
- Competencies needed by nurses in the care of pregnant women who use alcohol and drugs.

Based on the elaboration of this script, based on the topics related to the content of the video,

the researcher, during the elaboration, wrote the text while preparing the video, based on the elaborated topics. We sought to use simple words, with clear, objective and easy-to-understand content.

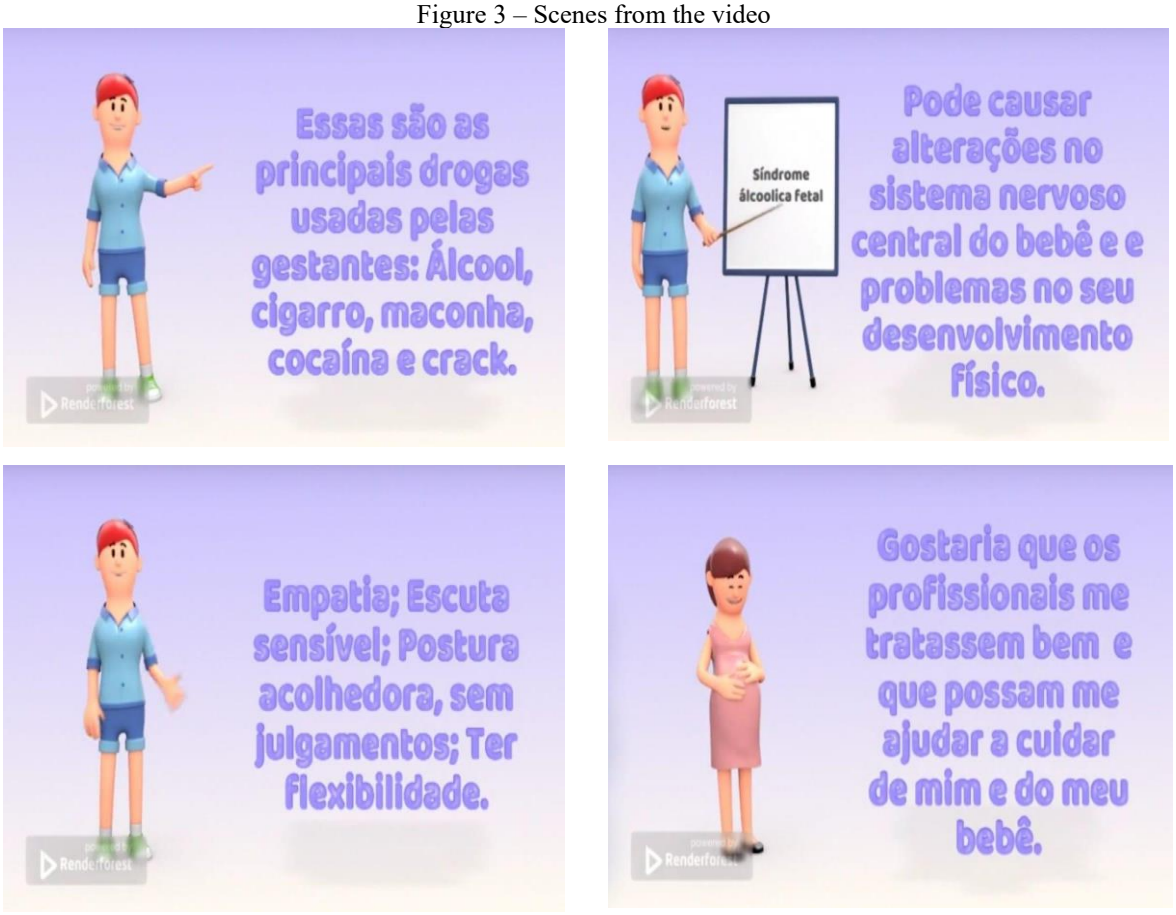
5.3 SCENES

The scenes were developed in a simplistic format, using the templates and characters that are free to use released by Renderforest®. In an attempt to make the scenes more harmonious, we sought to use light-colored backgrounds and the musical background with instrumental music.

The choice of characters had the purpose of representing the audience that was intended to present the video, a nursing student represented by a female figure named "Ana", with a jovial and dynamic appearance that presents the content of the information.

At the end, the character is represented by the figure of a pregnant woman, with content of how she would like to be treated by the health services. Below are some images of the scenes for illustration.

Figure 3 – Scenes from the video



5.4 POSTPRODUCTION

The post-production and finalization phase of the video required some revisions regarding the refinement of some scenes and the adjustment of the timing. It was sought to be brief, with short and objective scenes, simple and coherent, in order to sensitize those who will watch it.

5.5 VALIDATION

For video validation, it is intended that this occurs during the evaluation of the final dissertation presented to the examining board. The board will be composed of 03 examiners who will evaluate this study and the video presented as a product.

During the qualification exam, it was suggested to reduce some textual content and increase the exhibition time of the scenes containing this content. A more direct and specific focus on the specific competencies of nurses for the care of pregnant women who use alcohol and other drugs in primary health care was also suggested.

We sought to meet the suggestions offered by the examining board in the best possible way, adapting them within the possibilities that the software offers. After these adjustments, the video will be shown during the final defense of the dissertation of this work in order to obtain its validation.

After the final elaboration of the video, for the completion of the fieldwork through this study, a brief conversation circle was held with students participating in the research.

5.6 CONVERSATION CIRCLE

After the elaboration of the video, it was proposed to hold a conversation circle with nursing students in their clinical field of internship in mental health. Thus, it constitutes a part of the evaluation of the developed product, even if empirically.

The 05 students who participated in the study participated in the circle, through the answers to the questionnaire applied, their respective internship preceptor and the researcher. At the time the circle took place, the students were doing an internship at CAPSi (Center for Psychosocial Care for Children and Adolescents).

This methodology was sought in order to contribute to the learning about the theme with the help of the video. The purpose of this study was to present the video, suggested by the nursing students as an instrument to facilitate learning about the theme: "Nursing competencies in the care of pregnant women who use alcohol and other drugs".

The conversation circle took place at the end of the internship day and lasted approximately 40 minutes. It began with the presentation of the researcher, followed by the presentation of the others. In this moment of presentation, their expectations and experiences in the clinical field of mental health and also about the use of alcohol and drugs during pregnancy were also requested.

Then, to start the circle, an initial video available on the Youtube® website was shown, a report showing the reality of pregnant women using alcohol and drugs. We sought to start with this video in order to bring to the discussion the reality of vulnerability in which these pregnant women find themselves.

At this time, they were also able to talk about some experience with pregnant women with this profile, only 02 students informed that during the course they had contact with a pregnant woman who used alcohol and drugs, in a superficial way, in the internship of the discipline of collective health. During the circle, an academic ended her participation by withdrawing from the circle.

Then, the video prepared by the researcher was presented. The video is intended to be a facilitating, introductory material for discussions about nursing care for pregnant women who use alcohol and drugs.

We discussed the difficulties of pregnant women in accessing health services and the difficulties and challenges to be overcome in order to expand care and strategies to attract these pregnant women to receive health care. From this perspective, we talk about the importance of the nurse through nursing care to this public and their care possibilities. Empathy and considering the context of vulnerability in which pregnant women are inserted, welcoming, care provided by specialized services and integration of health services were highlighted as actions. The importance of family planning assistance to these women and strategies to approach this type of care for them were also addressed.

Regarding the opinions presented after the exhibition of the video, as a conclusion, the researcher asked about the use of the video and 02 students, verbally, pointed out positive aspects, when considering it a facilitating tool for teaching, which include the use of animation resources and playfulness as a teaching-learning resource. They expressed interest in watching the video again. They reported that they wanted other meetings to continue the discussion of this and related themes. No negative points were mentioned about the video.

It should be noted that the wheel had limitations. The students participated in a very timid way, where the discussion focused on the biggest speeches of the 02 participants, despite the researcher's efforts to ensure that everyone could speak.

In addition, the videos were shown on the researcher's laptop and the circle took place in an open space, close to the street and with the circulation of people, impairing the sound. Regarding the display of the image, there were no major losses because it was in a small number of people. The circle also took place at the end of the internship shift, with a duration that limited the discussion.

However, it can be concluded, empirically, that it occurred in a positive way, with the exhibition of the audiovisual material created, fulfilling its function as a triggering element to start discussions on the theme. Evaluative questionnaires were not applied to the instrument, as the conversation circle and the video were shown only as feedback on the nursing students' answers.

It is intended, in the future, to address this subject with the professionals of the multidisciplinary team of CAPS AD, also participants in the study, so that the video contributes to

reflections on the part of professionals working in practice. However, up to the present moment of this study, it was not possible to have a second moment of exhibition of the elaborated video.

Thus, the main focus of the approach to carry out the methodological action proposed at this time was the nursing students.

This activity was carried out with the nursing students so that they were considered the main protagonists for the production of the video, as a way to meet the demands suggested by them in the answers to the questionnaire applied. In addition, it is also intended to contribute to the instrumentalization of nursing faculty in the approach to this theme.

After the creation of the video, it was shown to the students during the internship in the clinical field, according to stage "e" of this action research. A conversation circle was held with discussion about the theme, which was possible to reinforce the difficulties that they have about understanding the subject. The circle lasted approximately 40 minutes and an initial approach was made with a brief introduction of the subject and a trigger video, obtained by the YouTube platform that consisted of a report on the subject, in order to sensitize the participants to the discussion. The participants were the same group that answered the questionnaire and it was possible during the circle to resolve some points in which they had doubts, including about the content of the questionnaire itself. Then, the video created by the author was shown and after the screening, the participants reported that it was satisfactory because it was easy to understand and didactic.

It is intended to hold a new meeting and invite professors and preceptors involved in the training of these nurses in order to expand access to the video and obtain new contributions and suggestions to validate this instrument. In this way, to capillarize the engagement in the teaching-learning process on the theme of this study.

6 CONCLUSION

The use of alcohol and other drugs during pregnancy has potentially serious consequences for maternal and fetal health. Pregnant women who use substances, inserted in a context of extreme social vulnerability, have difficulties in accessing health services. Thus, they represent an important public health problem and are considered to be at high risk.

By identifying the knowledge gaps about the competencies of nursing students for nursing care to pregnant women who use alcohol and other drugs, who use the CAPS AD as a clinical field, about the proposed theme, I came across the following topics: lack of preparation of preceptors and professionals; lack of knowledge on how to approach clientele; limited understanding of the type of care to be provided; lack of preparation of nursing students to offer the necessary care to pregnant women and, especially, a lack of competence, even though the population of students was in the last period of the undergraduate course.

By bringing nursing students closer to the theme in question, bringing to reflection the relevance of the nurse's work with pregnant women who use alcohol and other drugs, I glimpsed an untreated theme, with timid scientific literature and, on the other hand, professionals who learn to provide care by experiencing the professional routine, which prevents greater propositional dialogues that allow the concrete systematization of the care to be given to pregnant women, establishment of follow-up and monitoring conducts of the care provided.

Bringing to the discussion the demands of this population and the possibilities of nursing actions in the adequate care of pregnant women who use alcohol and drugs in primary care is challenging, because this public health problem, which is concrete, which should be intersectoral and interprofessional, but which is still invisible, is not being included in the nursing curriculum. being treated as "psychiatric problems". It is then up to the teacher and the preceptor to join efforts in the creative proposition of tools that can facilitate teaching for the generation of skills for themselves and students.

Producing a video, as a teaching strategy, so that nursing students can develop competencies about primary care for pregnant women who use alcohol and other drugs in the CAPS AD, implies that nursing professionals seek to play a solid role in the care of these pregnant women, being apprehended by the student as an important link in health promotion and prevention of injuries and damage to the mother and fetus.

Therefore, it is necessary that they can be trained for this action, in order to reduce and face the constant challenges that permeate the care of these women. They must guide their actions and work processes in order to offer full support to this problem, through a comprehensive and welcoming posture from the perspective centered on the subjects and not only on the consumption of substances.

Based on the findings of this study, it is concluded that health professionals presented a gap in their academic training regarding adequate training related to the care of pregnant women who use alcohol and other drugs. With regard to nursing students, this fact was also evidenced, since some revealed that this subject had not been addressed, and when it was, it was superficial and general. In addition, they also report that they do not feel prepared to work professionally in the care of these pregnant women.

These results corroborate the findings in the scientific literature, which show that nursing professionals did not receive training, either in training or in the setting of their professional practice, to work with these pregnant women. The studies also associate this fact with the weaknesses in the care offered to pregnant women who use substances, since professionals are still unable to implement in practice effective strategies for expanded care, which includes these pregnant women in their care demands.

They also highlight the need for the development of research that offers subsidies for the work

of health professionals. In order to meet these notes, this research met the objective of developing an instrument, through a technical educational product, in the form of an instructional video as a teaching strategy for nursing students.

It is noteworthy that the didactic tool produced was developed in order to assist nursing professors and preceptors in the promotion of nursing competencies necessary to care for pregnant women who use alcohol and other drugs, as a triggering element, promoting reflections and discussions on the theme in academic environments.

Finally, the need for government investments to expand care policies for this population and investment in strengthening primary health care through the growth of service offerings between territories was highlighted. In addition, they should offer subsidies for the work of health professionals, through actions of permanent education, training and qualification of preceptors with pedagogical performance and improvement of the training of nurses.

DEDICATION

To my Elisa, my "divine Promise", the one who gave meaning to my life.

To ALL pregnant women, may they be seen with an empathetic and welcoming look, regardless of the circumstances.

THANKS

God, in his infinite grace and mercy, allowed me, once again, to fulfill a dream that was to attend the master's degree and finish this stage. In the face of so many difficulties, he sustained and strengthened me, making all this possible. He granted me my best and happiest mission: Motherhood, which came along with the master's degree and gave new meaning to my life, further intensifying my humanized look at pregnant women.

My supervisor, Dr. Helen Campos Ferreira, who welcomed the theme of this work and experienced this journey together with me, contributing immensely to its realization. For the commitment, dedication, support and support that made me not give up on this dream. The guidelines that have always come with great generosity and love.

To my husband Aldo, for his friendship, love, understanding and support throughout this arduous journey. For the company, especially in the most special moment of our lives, the arrival of our daughter. Her active and constant presence offered me the necessary support to finish this final stage of the master's degree.

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APPENDIX A – Student Interview Guide

Characterization of the participant:

Code: AC _____

Full Name: _____

Age:_____

Do you work in nursing? ( ) Yes ( ) No

How long? _____

Specify the area of expertise: _____

What period is in the nursing course? _____

Thematic dimensions:

1. In your experience as a nursing student, have you had the opportunity to accompany a pregnant woman who uses alcohol and drugs? ( ) Yes ( ) No

2. If so, in which clinical field of internship did this follow-up take place?

_____

3. During your academic training, was the theme: "Nursing care for pregnant women who use alcohol and drugs" addressed? ( ) Yes ( ) No

Specify discipline: _____

Specify the type of approach: _____

4. Do you feel prepared to work with a pregnant woman who uses alcohol and drugs?

( ) Yes ( ) No

Why? _____

5. In your opinion, what should nursing care be like for pregnant women who use alcohol and drugs?

_____

6. For you, what are at least three specific nursing actions that nurses should develop to assist pregnant women who use alcohol and drugs?

___

7. Do you think it is interesting to have a learning tool to facilitate your understanding of the theme of primary nursing care for pregnant women who use alcohol and other drugs?
( ) Yes ( ) No Which type? ___

8. Which learning tool do you identify as very facilitating for your understanding of this topic? (choose at least one type)
Video ( ) Text ( ) Handout ( ) Directed study ( ) Clinical case study ( )

9. In your opinion, would a didactic video facilitate your learning about the topic?
( ) Yes ( ) No Why?

10. What aspects do you think should be part of this video about primary nursing care for pregnant women who use alcohol and other drugs?

___

APPENDIX B – Script for the interview with professionals

Characterization of the participant:

Code. P _____

Full Name: _____

Age:_____

How long have you been working at CAPS AD? _____

Specify the area of expertise: _____

Do you act as a preceptor in teaching academics?

( ) Yes ( ) No

Specify:_____ How long? _____

Thematic dimensions:

1. In your professional practice, have you had any specific experience with pregnant women who use alcohol and other drugs?

( ) Yes ( ) No

Specify: _____

2. Did you, during your academic training, have you the opportunity to acquire skills to work with pregnant women who use alcohol and other drugs?

( ) Yes ( ) No

Specify how: _____

3. What are three basic conditions of how this pregnant woman should be cared for by health services?

___

4. What are three basic competencies that a health professional should have to work with these pregnant women?

___

5. Understanding that the training of health professionals involves interprofessional education, cite three actions that are considered to be specific to nurses in primary care for pregnant women who

use alcohol and other drugs.

___

APPENDIX C – Validation of the questionnaire for nursing students

You are being invited to participate in the research "Elaboration of an instructional video for nursing students, in primary care, about the care of pregnant women who use alcohol and other drugs".

This project consists of facilitating the learning of nursing students about adequate primary care for pregnant women who use alcohol and other drugs and producing didactic material in order to add scientific knowledge about this care. Thus, it aims to develop an instructional video about the appropriate primary care that nurses should provide to pregnant women who use alcohol and other drugs. The study investigates the facilitation of teaching for the acquisition of the reach of the competencies of nursing students in primary care, in order to better assist pregnant women who use alcohol and other drugs in the CAPS AD. Among other activities, it is intended to establish competencies, skills and attitudes for such care.

Their contribution is fundamental to the professional training of nurses. Their participation is voluntary and consists of answering a questionnaire structured to validate the interviews that will be conducted with nursing students.

The interview will take place in a single session. All material will be stored in digital files, but only the researcher and her advisor will have access to them. You are the one who decides whether or not you would like to participate in this study/research. If you decide to participate in this project, you must sign this Agreement and answer the questionnaire. Even if you decide to participate, you are still free to withdraw from the activities at any time without any justification. This will not affect their participation in other activities in any way and will not cause any harm to their relationship with the researcher, their workplace or the University.

We emphasize that this research will only be carried out with the consent of those involved and after the approval of the project by the Ethics Committee.If you have any questions or would like further information, please contact the Ethics Committee of the Faculty of Medicine of the Universidade Federal Fluminense (CEP FM/UFF), by e-mail or telephone, from Monday to Friday, from 8:00 a.m. to 5:00 p.m. etica.ret@id.uff.br Tel./fax: (21)26299189.The Research Ethics Committee is a collegiate body responsible for monitoring the actions of this project in relation to its participation, in order to protect the rights of the participants of this research and prevent possible risks.

Thank you for reading this information.

Given the explanations, do you think you are sufficiently informed about the research that will be carried out and freely agree to participate as a collaborator? Yes ( ) No ( )

1. Full name and age: ____

2. Course, institution in which you study and period in which you are studying for an undergraduate degree.

_____

3. During your undergraduate studies, have you already taken one of these courses: Women's Health or Mental Health?
Yes ( ) No ( ) Which one(s) of these? _____

4. In your opinion, are the questions contained in the questionnaire read clear and easy to understand?
Yes ( ) No ( )

5. From 0 to 10, what grade would you give to this quiz? _____

6. Leave your Suggestions for this quiz:

_____

_____

_____

_____

APPENDIX D – Validation of the structured interview script for CAPS AD professionals

You are being invited to participate in the research "Elaboration of an instructional video for nursing students, in primary care, about the care of pregnant women who use alcohol and other drugs".

This project consists of facilitating the learning of nursing students about adequate primary care for pregnant women who use alcohol and other drugs and producing didactic material in order to add scientific knowledge about this care. Thus, it aims to develop an instructional video about the appropriate primary care that nurses should provide to pregnant women who use alcohol and other drugs. The study investigates the facilitation of teaching for the acquisition of the reach of the competencies of nursing students in primary care, in order to better assist pregnant women who use alcohol and other drugs in the CAPS AD. Among other activities, it is intended to establish competencies, skills and attitudes for such care.

Their contribution is fundamental to the professional training of nurses. Their participation is voluntary and consists of answering a questionnaire structured to validate the interviews that will be conducted with the professionals of the CAPS AD multiprofessional team.

The interview with these professionals will take place in a single session. All material will be stored in digital files, but only the researcher and her advisor will have access to them. The completion of this questionnaire will also occur only once and only the researcher and her advisor will have access to the information filled in.

You are the one who decides whether or not you would like to participate in this study/research. If you decide to participate in this project, you must agree to these Terms and then answer the questionnaire. Even if you decide to participate, you are still free to withdraw from the activities at any time without any justification. This will not affect their participation in other activities in any way and will not cause any harm to their relationship with the researcher, their workplace or the University.

We emphasize that this research will only be carried out with the consent of those involved and after the approval of the project by the Ethics Committee.If you have any questions or would like further information, please contact the Ethics Committee of the Faculty of Medicine of the Universidade Federal Fluminense (CEP FM/UFF), by e-mail or telephone, from Monday to Friday, from 8:00 a.m. to 5:00 p.m. etica.ret@id.uff.br Tel./fax: (21)26299189.The Research Ethics Committee is a collegiate body responsible for monitoring the actions of this project in relation to its participation, in order to protect the rights of the participants of this research and prevent possible risks.

Thank you for reading this information.

Given the explanations, do you think you are sufficiently informed about the research that will be carried out and freely agree to participate as a collaborator? Yes ( ) No ( )

3. Full name and age: ____

4. Area of operation: ___
5. During your professional experience, have you worked in the areas of women's health, primary care or mental health?

_____

_____

4. In your opinion, are the questions contained in the interview script read clear and easy to understand?

_____

_____

5. Do you consider the questions in the script to be appropriate for application to health professionals?

_____

_____

6. From 0 to 10, what grade would you give to the interview script you read? _____

7. Leave your suggestions for this interview script.

_____

_____

_____

_____

_____

INFORMED CONSENT FORM

INFORMATION FOR PARTICIPANTS
(NURSING STUDENTS OF CAPS AD)

Title of the study protocol: *"Elaboration of an instructional video for nursing students in primary care about the care of pregnant women who use alcohol and other drugs"*

Student researcher: Mariane Alves Corrêa Bittencourt – marianebittencourt203@gmail.com – Cell.: (22)997074193

Lecturer in charge: Helen Campos Ferreira – helenferreira@id.uff.br – Cell.: (21) 996280921

Proposing institution/department: Professional Master's Degree in Health Education (MPES) /EEAAC/UFF

You are being invited to participate in the research *"Elaboration of an instructional video for nursing students, in primary care, about the care of pregnant women who use alcohol and other drugs"*. Before deciding whether to participate, it is important that you understand why the study is being done and what it will involve. Please take the time to carefully read the following information, and ask questions if something is unclear or if you want more information. Don't be in a hurry to decide whether or not you want to participate in this survey.

This project consists of facilitating the learning of nursing students about adequate primary care for pregnant women who use alcohol and other drugs and producing didactic material in order to add scientific knowledge about this care. Thus, it aims to develop an instructional video about the appropriate primary care that nurses should provide to pregnant women who use alcohol and other drugs. The study investigates the facilitation of teaching for the acquisition of the reach of the competencies of nursing students in primary care, in order to better assist pregnant women who use alcohol and other drugs in the CAPS AD. Among other activities, it is intended to establish competencies, skills and attitudes for such care.

You were chosen because you are in the clinical field of internship of the Undergraduate Nursing Course and need to acquire skills to provide care to pregnant women at CAPS AD, under the guidance of preceptors and supervision of professors. Thus, their contribution is fundamental to the professional training of nurses. Their participation is voluntary and consists of answering a structured interview with

the researcher. She will schedule a place and time of her preference, without prejudice to her internship, which can even be at the teaching unit or at the health unit, in a reserved environment, without personal exposure in order to preserve her identity and the confidentiality of the information. The interview will be developed in a single session, with a maximum duration of fifteen minutes, will be recorded on an MP4 mobile device and subsequent transcription, according to your consent, maintaining fidelity and availability to listen to the recordings of your speeches at any time during the research. Your participation will not incur any additional costs, there will be no form of payment for your participation and, also, there will be no expenses with the realization of the instructional video. Due to the COVID-19 Pandemic, protective measures will be maintained. All material will be stored in digital files, but only the researcher and her advisor will have access to them.

When participating in the research, the risks dimensioned in it include exposure to minimal risks, whether physical, psychological, economic or social, and all the principles necessary to preserve its integrity will be adopted by the researchers. That is, you may feel embarrassed when answering the questions. Thus, the interview will be conducted by the researcher, seeking to minimize as much as possible the possible discomforts related to this practice. If this happens, you have the right to interrupt your participation without any prejudice, or suggest breaks, in order to ensure that you feel comfortable as a participant in the research and, if necessary, you will receive the assistance that is appropriate, free of charge, for as long as necessary by the multidisciplinary team of the CNPq Research Group: Communication and Information Technology in Teaching Processes and Health (psychologists, nurses, educators).

After the collection of the testimonies, all content will be transcribed for data analysis and stored for five years. All material will be stored in digital files, but only the researcher and her advisor will have access to them.

Regarding the risks related to the possible security weaknesses of the recording and storage of their testimonies and the possibility of breach of confidentiality of the information obtained and use of the data, the responsible researcher will download all the material to a local and unique electronic device.

Participant's Rubric:_____

Researcher's Rubric: _____

And, as a protective measure, the researcher will group the testimonies in a single folder/file with a password without sharing in a drive by the researchers. The data will receive the expected encoding, making it impossible for third parties to view it.

Their participation will have a direct benefit, related to collaboration, which will favor

improvement in education with significant strategies applied to learning, will contribute to expanding scientific knowledge in the area of nursing education in the area of mental health, in addition to generating information that will allow reflection on issues involving health education activities, training of professionals and health care related to pregnant women who use alcohol and other drugs.

The information obtained through this research will be confidential and we ensure the confidentiality of your participation. The data will not be disclosed in such a way as to enable their identification, they will be later archived and their name will not be disclosed, only the answers will be analyzed for the composition of this study and their testimonies will be coded as: Nursing Student AC (1); Nursing student AC (2) and so on.

You are the one who decides whether or not you would like to participate in this study/research. If you decide to participate in this project, you must sign this Term and you will receive a copy signed by the researcher, which you must keep. Even if you decide to participate, you are still free to withdraw from the activities at any time without any justification. This will not affect their participation in other activities in any way and will not cause any harm to their relationship with the researcher, their workplace or the University.

We emphasize that this research will only be carried out with the consent of those involved and after the approval of the project by the Ethics Committee. If you have any questions or would like further information, please contact the Ethics Committee of the Faculty of Medicine of the Universidade Federal Fluminense (CEP FM/UFF), by e-mail or telephone, from Monday to Friday, from 8:00 a.m. to 5:00 p.m.: E-mail: etica.ret@id.uff.br Tel./fax: (21)26299189. The Research Ethics Committee is a collegiate body responsible for monitoring the actions of this project in relation to its participation, in order to protect the rights of the participants of this research and prevent possible risks.

Thank you for reading this information.

If you wish to participate in this study, please sign this Informed Consent Form and return it to the researcher. You should keep a copy of this document for your own warranty.

I_____, I declare that I have been informed and agree to be a participant in the research project described above. It was clear to me what the purposes of the study are, the procedures to be performed, its discomforts and risks, the guarantees of confidentiality and permanent clarifications. It was also made clear that my participation is free of charge. I voluntarily agree to participate in this study and will be able to withdraw my consent at any time, before or during it, without penalty or prejudice to me.

Research Participant Signature: ___



Researcher's signature:

Niterói, _____

INFORMED CONSENT FORM

INFORMATION FOR PARTICIPANTS
(CAPS AD PROFESSIONALS)

Title of the study protocol: *"Elaboration of an instructional video for nursing students in primary care about the care of pregnant women who use alcohol and other drugs".*

Student researcher: Mariane Alves Corrêa Bittencourt – marianebittencourt203@gmail.com – Cell.: (22)997074193

Lecturer in charge: Helen Campos Ferreira – helenferreira@id.uff.br – Cell.: (21) 996280921

Proposing institution/department: Professional Master's Degree in Health Education (MPES) /EEAAC/UFF

You are being invited to participate in the research *"Elaboration of an instructional video for nursing students, in primary care, about the care of pregnant women who use alcohol and other drugs".* Before deciding whether to participate, it is important that you understand why the study is being done and what it will involve. Please take the time to carefully read the following information, and ask questions if something is unclear or if you want more information. Don't be in a hurry to decide whether or not you want to participate in this survey.

This project consists of facilitating the learning of nursing students about adequate primary care for pregnant women who use alcohol and other drugs and producing didactic material in order to add scientific knowledge about this care. Thus, it aims to develop an instructional video about the appropriate primary care that nurses should provide to pregnant women who use alcohol and other drugs. The study investigates the facilitation of teaching for the acquisition of the reach of the competencies of nursing students in primary care, in order to better assist pregnant women who use alcohol and other drugs in the CAPS AD. Among other activities, it is intended to establish competencies, skills and attitudes for such care.

You were chosen because you have professional experience in the care of these pregnant women at CAPS AD, making it possible to contribute to the professional training of nurses. Their participation is voluntary and consists of answering a structured interview with the researcher. She will schedule a place and time of her choice, without prejudice to her work, which can even be at the health

unit, in a reserved environment, without personal exposure in order to preserve her identity and the confidentiality of the information. The interview will be developed in a single session, with a maximum duration of fifteen minutes, will be recorded on an MP4 mobile device and subsequent transcription, according to your consent, maintaining fidelity and availability to listen to the recordings of your speeches at any time during the research. Your participation will not incur any additional costs, there will be no form of payment for your participation and, also, there will be no expenses with the realization of the instructional video. Due to the COVID-19 Pandemic, protective measures will be maintained. All material will be stored in digital files, but only the researcher and her advisor will have access to them.

When participating in the research, the risks dimensioned in it include exposure to minimal risks, whether physical, psychological, economic or social, and all the principles necessary to preserve its integrity will be adopted by the researchers. That is, you may feel embarrassed when answering the questions. Thus, the interview will be conducted by the researcher, seeking to minimize as much as possible the possible discomfort related to this practice. If this happens, you have the right to interrupt your participation without any prejudice, or suggest breaks, in order to ensure that you feel comfortable as a participant in the research and, if necessary, you will receive the assistance that is appropriate, free of charge, for as long as necessary by the multidisciplinary team of the CNPq Research Group: Communication and Information Technology in Teaching Processes and Health (psychologists, nurses, educators).

After the collection of the testimonies, all content will be transcribed for data analysis and stored for five years. All material will be stored in digital files, but only the researcher and her advisor will have access to them.

Regarding the risks related to the possible security weaknesses of the recording and storage of their testimonies and the possibility of breach of confidentiality of the information obtained and use of the data, the responsible researcher will download all the material to a local and unique electronic device.

Participant's Rubric:_____

Researcher's Rubric: _____

And, as a protective measure, the researcher will group the testimonies in a single folder/file with a password without sharing in a drive by the researchers. The data will receive the expected encoding, making it impossible for third parties to view it.

Your participation will not have a direct benefit to you, however, the benefit related to your collaboration in this research is to contribute to expand scientific knowledge in the area of health

education, in addition to generating information that will allow you to reflect on issues involving health education activities, training of professionals and health care related to pregnant women who use alcohol and other drugs.

The information obtained through this research will be confidential and we ensure the confidentiality of your participation. The data will not be disclosed in such a way as to enable their identification, they will be later archived and their name will not be disclosed, only the answers will be analyzed for the composition of this study and their testimonies will be coded as: Professional (1); Professional (2) and so on.

You are the one who decides whether or not you would like to participate in this study/research. If you decide to participate in this project, you must sign this Term and you will receive a copy signed by the researcher, which you must keep. Even if you decide to participate, you are still free to withdraw from the activities at any time without any justification. This will not affect their participation in other activities in any way and will not cause any harm to their relationship with the researcher, their workplace or the University.

We emphasize that this research will only be carried out with the consent of those involved and after the approval of the project by the Ethics Committee. If you have any questions or would like further information, please contact the Ethics Committee of the Faculty of Medicine of the Universidade Federal Fluminense (CEP FM/UFF), by e-mail or telephone, from Monday to Friday, from 8:00 a.m. to 5:00 p.m.: E-mail: etica.ret@id.uff.br Tel./fax: (21)26299189. The Research Ethics Committee is a collegiate body responsible for monitoring the actions of this project in relation to its participation, in order to protect the rights of the participants of this research and prevent possible risks.

Thank you for reading this information.

If you wish to participate in this study, please sign this Informed Consent Form and return it to the researcher. You should keep a copy of this document for your own warranty.

I, ___ It was clear to me what the purposes of the study are, the procedures to be performed, its discomforts and risks, the guarantees of confidentiality and permanent clarifications. It was also made clear that my participation is free of charge. I voluntarily agree to participate in this study and will be able to withdraw my consent at any time, before or during it, without penalty or prejudice to me.

Research Participant Signature: ____

Researcher's signature: 

Niterói, _____

The Maria da Penha law in the basic education curriculum

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ABSTRACT
Obsma is an initiative of Fiocruz, and is a project for Brazilian students from public and private schools whose objective is to strengthen students' desire to learn, understand, research and investigate, as well as to encourage work that contributes to the improvement of the environment and the country's health. The article in question aims to support the school as an institution and combat violence against women through education. For the elaboration of the present work, a methodological approach of a qualitative nature of the exploratory type was used. It is believed to allow for a better understanding of meaning and engage researchers more directly, leading to robust interpretations. Based on this question, it is believed that the root of violence lies in the lack of education itself, therefore, it is necessary to use the school as a learning space, not only in alphabetical order, but also used to generate values, morality, respect and equality including this theme in the basic education curriculum.

Keywords: Basic Education, Law, Curriculum, Woman.

1 INTRODUCTION

The World Health Organization (WHO), in 1946, defined health as "a state of complete physical, mental and social well-being, and not merely as the absence of disease or infirmity." In this sense, it is opportune that discussions about the way of thinking, acting, and articulating actions that promote quality of life are present in the school environment. The perspective of dialoguing on the theme "violence against women and girls" in the school environment seeks a congruence between article 3 of the Maria da Penha Law, whose text ensures that women have conditions for the effective exercise of their rights to health, and the proposal suggested by item 9 of Law 14,164/21, which determines the inclusion of content on the prevention of violence against women, as an anticipatory measure to ensure that women live a healthy life in all respects. A concept that the BNCC also ratifies in one of the ten general competencies: "To know oneself, appreciate oneself and take care of one's physical and emotional health, understanding oneself in human diversity and recognizing one's emotions and those of others, with self-criticism and the ability to deal with them".

Now, as of the amendment on June 10, 2021 through Law 14,164/2021, article 9 now has the following text:

> Amends Law No. 9,394, of December 20, 1996 (Law of Guidelines and Bases of National Education), to include content on the prevention of violence against women in basic education curricula, and institutes the School Week to Combat Violence against Women.

In this context, on June 10, 2021, Law No. 14,164/2021 **was enacted, which amends Law No. 9,394, of December 20, 1996 (National Education Guidelines and Bases Law), to include content on the prevention of violence against women in basic education curricula, and institutes the School Week to Combat Violence against Women.**

> Article 1 Article 26 of Law No. 9,394, of December 20, 1996 (Law of Guidelines and Bases of National Education), is hereby amended as follows:
> Art. 26. The curricula of early childhood education, primary and secondary education must have a common national basis, to be complemented, in each education system and in each school, by a diversified part, required by the regional and local characteristics of society, culture, economy and learners.
> § 9 Content related to human rights and the prevention of all forms of violence against children, adolescents and women will be included, as cross-cutting themes, in the curricula referred to in the caput of this article, observing the guidelines of the corresponding legislation and the production and distribution of appropriate didactic material for each level of education. (Text given by Law No. 14,164, of 2021)

The analysis corresponds in spite of the same Law in its Article 2, which proposes:

> Article 2 [1]The School Week to Combat Violence against Women is hereby instituted, to be held annually, in March, in all public and private basic education institutions, with the following objectives:
> I - contribute to the knowledge of the provisions of Law No. 11,340, of August 7, 2006 (Maria da Penha Law);
> II - to promote critical reflection among students, education professionals and the school community on the prevention and fight against violence against women;
> III - integrate the school community in the development of strategies to confront the various forms of violence, especially against women;
> IV - address the mechanisms of assistance to women in situations of domestic and family violence, their protective instruments and the means for registering complaints;
> V - train educators and raise awareness in the community about violence in affective relationships;
> VI – promote equality between men and women, in order to prevent and curb violence against women; and
> VII - promote the production and distribution of educational materials related to the fight against violence against women in educational institutions.

The Brazilian Health and Environment Olympiad (Obsma) is a biennial educational project promoted by the Oswaldo Cruz Foundation (Fiocruz) to encourage interdisciplinary activities in public and private schools across the country. The main objectives include recognizing the work done by school teachers and students and working with governments to disseminate actions in education, health, and the environment (FIO CRUZ OLYMPICS, 2022).

[1] https://www.jusbrasil.com.br/topicos/394701347/artigo-2-da-lei-n-14164-de-10-de-junho-de-2021

Open to students from 6th to 9th grade in Brazilian public and private schools, the Olympiad is recognized by the Ministry of Education (MEC) and aims to enhance learning, understanding, research and investigation among young people. Founded in 2001, Obsma encourages work that contributes to the improvement of the environment and health in Brazil, in addition to bringing scientific knowledge closer to everyday school life and giving visibility to teachers and schools (OLIMPÍADA FIO CRUZ, 2022).

Thus, it is opportune to discuss ways of thinking, acting and expressing actions that improve the quality of life in the school environment. The perspective of dialogue in the school environment on the theme "Violence against women and girls" seeks coherence between article 3 of the Maria da Penha Law, whose text ensures the conditions for the effective exercise of women's right to health, and the conditions established by Law 14.164/21 in its article 9, which included the content on the prevention of violence against women as an anticipatory measure to ensure women a healthy life in all aspects (BRASIL, 2021).

In this context, education is key to preventing and ending violence and, therefore, making use of the role that schools play in a fundamental way to combat violence against girls and women.

The word violence originates from the Latin word violence: the verb *violare*, which means to deal with violence. It refers to the term vis: force, violence, use of physical force (ANPED, 2017).

Violent character, instead of acting with force, acting with violence, using brute force, committing violence (BRASIL, 2006) to impose a physical or moral restriction on a person to force that person to do what is imposed on him: physical violence, psychological violence. Cruel acts, violent regimes. The act of using force to oppress, to force someone to do something; oppression, violence against women (ANPED, 2017).

Domestic violence against women is an old problem, an unequal relationship inserted in a society that always places women in an inferiority complex. It exists in all social classes and has an enormous complexity to be addressed, largely due to cultural factors rooted in society (TELES, 2022).

Inter-American Convention on the Prevention, Punishment and Elimination of Violence against Women (OAS) - Convention of Belém do Pará - Ratified by Brazil on November 27, 1995 and promulgated by Decree No. In 1973/1996, violence against women was described as "any gender-based act or conduct that causes death, physical, sexual or psychological harm or suffering to women in the public and private spheres".

The World Health Organization (WHO) conducted a study in 2002 and published the results in the World Report on Violence and Health, which also defined violence as:

The use of physical force or actual or threatening power over oneself, another person or group, or community that causes or has the potential to cause injury, death, psychological harm, stunting, or deprivation (ANPED, 2017).

Furthermore, Barroso (1982) states that, according to the Council of Europe, domestic violence can be understood as any act, omission or conduct that, directly or indirectly, causes physical, sexual or mental suffering..., through deception, threats, coercion or in any other way, to any woman whose purpose and purpose is to intimidate, punish or humiliate her, or subject her to stereotypical roles related to her gender, or deny her human dignity, sexual, physical, spiritual autonomy, and moral integrity, or harm her personal safety, self-esteem, or personality, or impair her physical or intellectual abilities.

Violence against women can, therefore, be understood as "gender violence", an expression that emerged in the 1970s and was highlighted by the feminist movement, as women are the main targets of gender violence (PINHEIRO, 2007, p. 30). The authors confirm that the term "violence against women" refers to the intimidation of women by men, who act as aggressors, dominators, and punishers.

For Saffioti (1992, p. 60-64), violence against women is the result of the socialization of sexism, a man, because he is a man, believes that he has the right to beat a woman, and a woman, educated to obey a man's wishes, takes this fate for granted. Discrimination against women is linked to the patriarchal-racist-capitalist system of domination-exploitation, a symbiotic relationship that ends up consolidating the power of whites and adult men.

Domestic violence against women is deeply rooted in cultures and social classes and is now a matter of public order (PINHEIRO, 2007). Thus, contrary to the popular saying "in a couple's fight, yes, you take the spoon" (LUCINDA; CANDAU, 1999).

Silva (2017) explains that domestic violence against women is a widespread social phenomenon, as it can be found in any family, regardless of social class. According to Carvalho (2016, p. 48-49), domestic violence is based on relations of inequality and power between men and women linked by blood, paternity, affection or friendship. The aggressor exploits the privileged conditions of marriage, joy, trust and friendship, dating, intimacy, privacy, etc. between himself and the victim, as well as his hierarchical or power relationship with the victim.

In Soares (2005), it is impossible to generalize, but an evolutionary pattern is identified in the dynamics of domestic violence, with tensions in relation to minor incidents in the first phase, then serious incidents in the critical phase and eventually even homicides. However, according to the author, in the final stage comes the promise of repentance and love and regeneration.

In this sense, Leite (2015) points out that it is in this critical phase that the true aggression occurs, as all the tension accumulated in the first phase dissipates, resulting in the lack of effectiveness of the aggression of Control and Violence. As the authors explain, women should seek help at this stage, as the next stage is the one that guarantees the repeated aggressions that characterize the cycle of domestic violence.

The third and final phase of this cycle is known as the "honeymoon" because the abuser often

exhibits an excessive fear of losing his partner and does everything in his power to please her. Despite the attack, the woman quickly surrendered to her tormentor again and easily found an explanation and justification for her partner's behavior (TELES, 2002).

In the context of family relationships, this feeling is known as battered woman syndrome. The victim believed that he could not escape the situation he was in. Small acts of kindness by the aggressor – real or perceived – create hope that the regrets are real and that the violence will stop (TELES, 2002, p. 27).

Consistent with the above, Zaira de Andrade Lopes (2000, p. 61) argues that this cycle marks the specificity of this violence and the difficulty of combating it, as couples involved in domestic violence develop pathological bonds that feed back into each one in the family. Others, such as hatred and resentment, coexist in a rising tide of violence, which often makes it difficult to crack down on public officials.

Finally, love and hate are ambiguous, relationships between partners are complex, the concepts and origins of female subordination are multiple, the heterogeneity of feminism and the flow of concepts of violence (RAMOS, 2019).

2 METHODOLOGY

The methodological foundation that guides the development of this research was structured, both in terms of the purpose and the means used in data collection and work, through different methodological procedures such as: processing and analysis of primary and secondary data, which will support the study and production of knowledge about sexual violence in adolescence and its reflexes in adulthood, which was worked on in conversation circles in the classroom, in the 9th grade, on topics of violence against women and girls.

Also, then, a simple audio podcast was recorded, being recorded on the cell phone itself, with the participation of 03 (three) students, selected within the conversation circle, for the recording of the audio podcast.

The article regarding the purposes, classifies as descriptive, and exploratory, because it is based on the analysis and theoretical, bibliographic characterization on the proposed theme in the light of the Brazilian legal system, and with little research on the has in the school environment, which is configured as an exploratory research.

It is noteworthy that the development of descriptive research, as Gil (2008) points out, has the advantage not only of deepening the knowledge of the reality studied, substantiating and explaining the occurrence of factors that contribute to the reason and motive of things, but also of indicating possible improvements in the comparative light of the theoretical-normative-empirical framework.

The main objective of this article is to disseminate the Maria da Penha Law, favoring the development and autonomy of study on the subject with greater capacity for reach and access, generating engagement of the entire school community in order to deconstruct the culture of gender violence.

Having as secondary objectives, to raise awareness among students against the practice of domestic and family violence against girls and women and to train educators to develop activities in the school environment, with the purpose of deconstructing the culture of violence against the female gender, which is historically rooted in the social environment and integrating the community in the fight against violence against girls and women; train educators; promote critical reflection among students, education professionals and the school community on preventing and combating violence against women; with the purpose of deconstructing the culture of violence to the detriment of the female gender, which is historically rooted in society. (Agência Câmara de Notícias, 2022).

2.1 RESEARCH CONTEXT: PARTICIPATION IN THE 11TH BRAZILIAN OLYMPIAD OF HEALTH AND ENVIRONMENT OF FIOCRUZ

The Olympiad is an educational project promoted by the Oswaldo Cruz Foundation (Fiocruz) to stimulate the development of interdisciplinary activities in public and private schools across the country.

Education is a fundamental factor for the prevention and eradication of violence, so we believe that schools play a fundamental role in deconstructing violence against girls and women. By taking the content of the Maria da Penha Law to schools, the objective is to work on the formation of a new consciousness with young people, making them citizens with new behaviors and true agents of transformation of reality.

The **"Em"POD"eradas"** Project is an initiative aimed at students and educators of the Professor Camilo Dias State School, in Boa Vista, which **aims to** show the importance of the Maria da Penha Law, in addition to helping to raise awareness among students about the need to combat violence against women and girls, all with a view to preventing Domestic Violence.

He was the winner of the *Northern Regional Highlight award at the 11th* Brazilian Health and Environment Olympiad of Fiocruz in 2022, in addition to receiving the special award, with a medal of Honor for Merit, "Girl Today, Scientist Tomorrow", which honored the pioneering scientist Maria Deane. She also received *the "Safe Women" Seal* from the Court of Justice of the State of Roraima (TJ/RR). The main *objective of the creation of the podcast* was to promote dialogue with girls who are students of basic education on the problem of violence against women and girls.

It was born in a current context, where there is a need for actions aimed at this public, considering that education is the best means to prevent and combat violence, being an efficient

mechanism in the eradication of violence against girls and women in the domestic, educational, religious and family environment.

Understanding education as the main pillar of development, people are the starting point of the project's development. The Base of the Common National Curriculum (BNCC) expresses the commitment of the Brazilian State to promote a comprehensive education aimed at the reception, recognition, and integral development of all students (BRASIL, 2023). In this sense, the project intends to dialogue, through a podcast, with the students of the Professor Camilo Dias State School, in Roraima, to confront violence against women and girls.

This dialogue occurs as a pretext for movement-based preventive measures to rethink patterns of behavior that generate violence and awareness as a source of values that contribute to social change.

Therefore, disseminating the Maria da Penha Law through dialogue with young students, recognizing the harm that domestic violence represents for human development, is the way to promote awareness in favor of the prevention of violence against women and its consequences.

This, with the objective of promoting the rapid and comprehensive dissemination of the Maria da Penha Law in the school environment, as allowed by the amendment brought by Law 14.164/21; bridging the gap between misinformation and legal knowledge through efforts to raise awareness of violence against women and girls among students; engage communities in the fight against violence against girls and women; train educators; Encourage students, education professionals and school communities to reflect critically on preventing and combating violence against women and girls.

2.2 CHILDHOOD AND ADOLESCENCE

In Brazil, ECA Law No. 8,069, of July 13, 1990, refers to adolescence, the age group of 12 to 18 years, as a reference for the elaboration of laws and programs that guarantee the rights of this group since 1990.

This law guarantees that the family, the community, society as a whole and the public authorities have the duty of absolute priority to guarantee the fulfillment of the rights related to life, health, food, education, sports, leisure, professionalization, culture, dignity, respect, freedom and coexistence with the family and the community (art. 04 of the ECA, 1990).

It is important to remember that the objective of this study is not to exhaust all discussions about violence against young people, but rather to discuss, on a scientific basis, how educational practices can help combat violence against young people in schools.

The understanding of education as the main pillar of human development is the starting point for the development of this work.

This dialogue occurs as a pretext for movement-based preventive measures to rethink patterns of behavior that generate violence and awareness as a source of values that contribute to social change.

Therefore, giving visibility to the Maria da Penha Law through dialogue with young students, recognizing the harm that domestic violence represents for human development, is the way to promote the formation of an awareness based on the prevention of violence against women and its consequences.

The events aimed to reflect and critically debate on violence against women and girls and ways to combat it.

2.3 BASIC EDUCATION AS A TOOL TO PREVENT VIOLENCE AGAINST WOMEN

Schooling is an important instrument for discussing practices related to social development, in addition, the school must respect and apply the concept of pluralism, including practices that reflect on the ills experienced by society, such as violence. Education professionals need to identify the mechanisms of gender-based violence that occur daily in schools.

Dealing with school violence against women from the perspective of dialectical historical materialism as a point of discussion needs to address other themes that culminate in this predatory human behavior and educational action, machismo, patriarchy as an illustration, ills of school courses on the subject, emotional education in teaching projects, etc.

The discussions on how to confront this violence involve allusions to the historical facts of human life from childhood to adulthood.

In the old days, it was not uncommon to categorize colors by gender, where blue was identified as boy, which represented masculinity, strength, and power over girls; Color is the color of delicacy, femininity, fragility, and emotions that awaken the discreet attitude that a woman deserves.

In this thinking, propagating a culture that operates in power relations between men and women is fundamental to sustaining families, economies and values so that society accepts violence as an essential component of control and order. Thus, according to Cagicas (2000), in this thought, the author draws attention to the naturalization of violence and the objectification of women when they become the property of men and in a certain way reinforced by the values of the time, with a framework for judging what is good for them.

Therefore, it is important to start discussing issues of identity construction from the school environment, since childhood is considered an important stage in the absorption of knowledge and in the expression of behaviors that are naturally imprinted in the child's living environment.

With this in mind, the ECA highlights in its Chapter IV that it is the State's responsibility to guarantee education through food, health and assistance programs. (BRAZIL, 1990). Thus, the right to education is also a support for actions related to the protection of children, which is consistent with all levels of society, because the more education, the less violence.

In view of this, it is necessary to see the political role of the school, including its contribution to learning to confront violence against women, to demonstrate vulnerability and reality in a pedagogical and mobilizing way. Confirming Gadotti (2008), the public domain does not take into account the regional and educational diversity of the country and, thus, the political system partially meets educational needs and problems.

Gadotti (2008) also believes that activities inside and outside the school need a democratic environment, conducive to inclusion and that seeks equal opportunities for people, so that educators know how to solve problems and explain them.

Another mechanism for promoting child development and reducing violence is Article 205 of the Federal Constitution, which establishes that education is "the right of all and the duty of the State and the family, and should be promoted and directed to full development, preparing them for the exercise of citizenship and qualification for work" (BRASIL, 1988).

We know that the Maria da Penha law is a watershed because it effectively punishes the perpetrators of domestic violence, but the norm is also an opportunity to measure pedagogical practices that translate the letter of the law into attitudes; It makes no sense to discuss issues such as educational, social and family responsibilities separately. Article 1 of the Maria da Penha Law thus defines its objective, which is to curb and prevent gender violence in the family, within the family or in intimate relationships.

According to (FREIRE, 2016, p 23), education as a transformative practice broadens the context of coping with violence against women when the individual is able to reflect on their behavior and their role in society with the objective of a relationship. People will clarify the ambiguous dimensions that arise from their proximity to the world.

Indeed, dealing with such a socially mysterious issue through mediation may seem like a long-term challenge, but it is important for dignity. The school must also demystify some of the misplaced issues, because the repression of the impunity of the aggressor expressed in the norms of criminal law must dialogue with the norms of education.

This is because the root of violence is the lack of education itself, so it is urgent to use the school as a learning space not only alphabetic, but also to generate values, ethics, respect and equality.

Finally, as one of the expected results of the project would be to institute the School Week to Combat Violence against Women in the State Education Network of Roraima, as determined by law 14.164/21.

In this way, to promote dialogue with the school community, and to draw attention to violence against women and girls, as a preventive measure based on the movement to rethink behavioral patterns that generate violence and awareness as a source that generates values that contribute to the transformation of society.

Integrate the community in the fight against violence against girls and women; train educators; promote critical reflection among students, education professionals and the school community on preventing and combating violence against women; with the purpose of deconstructing the culture of violence to the detriment of the female gender, which is historically rooted in society. (Agência Câmara de Notícias, 2022).

3 CONSIDERATIONS

Violence against women is the result of a sexist and exclusionary society with strong patriarchal roots. We are talking about a criminal classification based on the integrity of women, but also about the psychological issues that lead to families full of intense and repressive episodes.

Schools must, therefore, find possibilities to respond to violence against women, and this must be done through pedagogical practices and programming that enable dialogue and debate on inequality, diversity and encourage respect for gender. It is important that school spaces create permanent pathways that promote the collective empowerment of girls in a positive and reflective way. They need to develop and monitor public educational policies for teacher training to confront violence against women, and this public action needs to be an act of deconstruction and breaking of patterns of toxic masculinity.

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Blue session: Audiovisual and inclusion in basic education

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ABSTRACT
The article presents the description of a Blue Session practice carried out with a 1st grade class of a municipal school of Basic Education of the Municipal Education Network of Novo Hamburgo/RS. A Blue Session is a movie session with lower sound and with the light on, where it is allowed to move, talk and interact, characterizing itself as an audiovisual proposal adapted for children with sensory disorders. The proposal, involving all students in the class, was directed to students with Autism Spectrum Disorder (ASD) in the class and also had the participation of two more students with autism from the same school who attend Age Group IV and the 2nd year. The objective was to hold a Blue Session at the school exhibiting three short films for the children, adapting the room according to the particularities of students with ASD. Also the stimulus to reflection, emotional catharsis and the elaboration of writing hypotheses by the students for the words related to the short films watched, as well as the socialization among the students and the realization of collective activities as principles of citizenship. The study is focused on a qualitative perspective, of an applied nature with an exploratory objective, in order to collect more information about the field investigated, in this case the perceptions of students with ASD from the visualization of audiovisuals and different ways of expressiveness. The analyses were carried out with the theoretical scope of studies on Digital and Audiovisual Literacy from an inclusive perspective. As a result, contributions were made to the reception of the different manifestations of students with ASD, the encouragement of expressiveness and reflections from the visualization of audiovisuals, expanding the children's repertoire.

Keywords: Audiovisual, Inclusion, TEA.

1 INTRODUCTION

According to the DSM - 5 (Diagnostic and Statistical Manual) published by the American Psychiatric Association (APA), Autism Spectrum Disorder - ASD is a condition that affects brain development and people's behavior in a triad of symptoms: limitations/challenges in communication, difficulties in social interaction and restricted and/or repetitive behaviors. These symptoms are

commonly manifested in early childhood, causing impairments throughout the development of these individuals. Since the beginning of the twentieth century, studies have been carried out with the purpose of elucidating the causes of ASD, as well as inclusive actions and effective treatments have been developed in order to provide quality of life for people diagnosed with the disorder.

Bernier, Dawson, and Nigg (2021) warn that genes do not act in isolation, interacting with other genes and the environment, through maternal and paternal experiences from the period before pregnancy, during gestation, and after birth, throughout development. Thus, it is no longer possible to think of unified approaches for individuals with ASD, given the complexity and uniqueness of the disorder, as well as characteristics that make each person a unique being in the world.

Since children with ASD usually have limitations in social relationships, it is increasingly necessary to think about actions within the school that stimulate interactions in the group - based on playful and easy-to-understand proposals for all, promoting an honest and generous inclusive education, in addition to encompassing the integrality of individuals. With this in mind, the audiovisual becomes a powerful resource to instigate and welcome diversity within the school, in addition to being an attractive element and propeller of other strategies that can contemplate the interests of children with ASD.

This study presents the report of a teaching practice anchored in Digital Literacy (Elicker and Barbosa, 2021) based on the proposition and realization of a Blue Session for students of a 1st grade class of a Basic Education school of the Municipal Education Network of the Vale do Rio dos Sinos Region/RS. In this session, three students from the aforementioned institution who have ASD participated: a 1st year student, a 2nd year student and a student from Age Group 4 of Early Childhood Education. Here, we will name them A1, A2 and A3, with student A1 being part of the 1st year class and students A2 and A3 being from different classes, 2nd year and FE4, respectively.

The Blue Session[1] is a project conceived in the city of São Paulo/SP by two psychologists and a project manager specialized around ASD. The project arose from the need to offer entertainment options for families with children who have the disorder in a sensitive way and who could feel welcomed in its manifestations. It is a cinema session with dubbed films, lower sound, milder ambient temperature and with the light on, where it is allowed to come and go as you want, move, talk and interact, characterizing itself as an audiovisual proposal adapted for children with sensory disorders, in the company of their families. The main objective of the Blue Session is to be an extension of the work carried out in the classroom, as well as a therapeutic dynamic with the child, qualifying the interaction with parents and other colleagues. Figure 1 represents the Blue Session project.

[1] https://www.sessaoazul.com.br/

Figure 1 - Image of the project on a social network



Source: Image taken from the internet

Currently, the project is carried out in the main cities and capitals of the country, including: Rio de Janeiro, Nova Iguaçu (Rio de Janeiro), São Paulo, Campinas, São José dos Campos (São Paulo), Curitiba and Foz do Iguaçu (Paraná), Belém (Pará) and Brasília (Federal District). In Porto Alegre (Rio Grande do Sul), the Blue Session project has not yet been carried out in a systematic way, taking place only in one cinema[2] of the city as an activity alluding to World Autism Awareness Day (Blue Day).

In addition to the introduction, in section 2 the methodology is described, in section 3 we find the development of the practice carried out with the students - using the digital screen and audiovisuals. In section 4, analysis of the practice developed and results from the reported experiences. Finally, section 5 presents considerations and reflections on the benefits of the Blue Session at school.

2 METHODOLOGY

The study is focused on a qualitative perspective, of an applied nature with an exploratory objective, to collect more information about the investigated field - in this case, the perceptions of students with ASD regarding the visualization of audiovisuals and different forms of expressiveness. The analyses were carried out with the theoretical scope of studies on Digital and Audiovisual Literacy from an inclusive perspective. According to Prodanov (2013), in an exploratory study, planning follows a more flexible line, in which it is possible to study and deepen the theme from different angles, shaping the trajectory of the research and formulating hypotheses.

The Blue Session was conceived and inspired by the practice of Digital Literacy, seeking to provide contact with the audiovisual language represented here by Pixar's animated shorts, providing an opportunity for contact with the art of cinema. Cinema originates from the initial experiments with

[2] https://iguatemi.com.br/praiadebelas/blog/blue-day

the cinematograph in the nineteenth century, first with the French inventor Léon Bouly (1892), it was patented by the Lumière brothers (1895).

In its early days, cinema allowed the recording of frames that, when shown in sequence, created an illusion of movement. This movement of still images (photographs) generated a phenomenon called "persistence of vision". This phenomenon causes an illusion in the human eye, as the visualized object remains on the retina for a fraction of a second after its absorption. In this way, the images are associated on the retina without being interrupted, providing a sensation of continuous movement.

The effect of the persistence of vision is seen in the first cartoons that were produced for television. However, with the evolution of 3D (proximity and depth), 4D (chair movement) and 5D (aromas, temperature, smoke and lighting) cinemas, the quality of audiovisual productions has been growing.

In learning, the application of activities that involve image and sound presents several aspects that contribute to cognitive development. The audiovisual has its inspiration based on reflection, appreciation and emotional catharsis, and can be associated with content explored in the classroom in the daily school life, thus being a resource for literacy and literacy in Basic Education. Language practices: orality, reading/listening, production and writing, should be developed in different formats, as highlighted by the BNCC's Reading Axis:

> The Reading Axis comprises the language practices that result from the active interaction of the reader/listener/spectator with written, oral and multisemiotic texts and their interpretation, examples being readings for: aesthetic enjoyment of texts and literary works; research and support of school and academic work; performing procedures; knowledge, discussion and debate on relevant social issues; sustain the claim of something in the context of public life; have more knowledge that allows the development of personal projects, among other possibilities. Reading in the context of the BNCC is taken in a broader sense, referring not only to the written text, but also to static images (photo, painting, drawing, scheme, graphic, diagram) or in motion (films, videos, etc.) and to sound (music), which accompanies and co-signifies in many digital genres (BNCC, 2017, p.73).

The study is justified by the importance of providing opportunities for contact with audiovisual language, as another powerful resource for literacy and literacy, in addition to valuing and welcoming the various forms of expression, fostering inclusion within school spaces.

3 DEVELOPMENT

The authors, in partnership with the head teacher of the 1st grade class, organized a practice in the context of the Blue Session. The school's computer lab was used, equipped with an interactive screen connected to the internet. The laboratory was organized with carpet and cushions, windows with open curtains, half of the ambient lights on providing the atmosphere of the Blue Session: partial lighting and low sound. There was a free space for the movement of students during the session.

The selected films were two Pixar animated shorts: La Luna (2011) with a duration of 7 minutes and Day and Night (2010) - 6 minutes, in addition to the audiovisual "The Butterfly Girl" by Roberto Caldas, with a duration of 3:25, all in figure 2.

Figure 2 - Images of the short films used for the Blue Session



Source: Google Images

The first short film, "La Luna" (2011), tells the story of a boy who starts working with his father and grandfather and gets to know his family's work: taking care of and maintaining the faces of the moon. The second short film, "Day and Night" (2010), features two characters, one representing the Day - and the other, the Night. They get to know each other and discover their differences, from their qualities to their needs, and with that, their lives gain a new perspective. The third and final short, "The Butterfly Girl" (2013) presents its narrative with images of a girl who tries to plant a flower and continues to face some difficulties to keep her flower growing. With persistence, a garden is developed and always has the company of butterflies.

The students participated in the activity in the afternoon, before the break time and were accompanied by the full professor and the intern (inclusion support). The participation of students totaled 22, including the three students diagnosed with ASD - already mentioned above.

For the session, mats, cushions and chairs were made available, and it was at the discretion of the students to accommodate them, in addition to the offer of popcorn as a snack. After the screening of the short films, an activity was planned with words printed on cards (3mm weight sheets) related to each of the stories. To conclude, actions were developed to sensitize students in the organization and cleaning of the space used.

In the planning of the Blue Session, there was also a fourth short film, called "Toca" (2021). However, the same did not play due to technical issues in the settings of the interactive display and the Disney Plus app.

During the session, it was noticed that the students appreciated the proposal, interacting with each other and making comments pertinent to the films, as shown in figure 3. From this perspective, children construct knowledge from the interactions they establish with others and with the environment in which they live. Learning is not a copy of reality, but rather the result of an intense work of creation, signification and resignification.

Figure 3 - Blue Session Log



Source: Images recorded by the authors

Of the three students with autism present, A2 and A3 were able to devote attention and concentration to the films they were viewing. Student A1 remained calm only at the beginning of the proposal, with the help of the supporter, but later felt the need to walk around the room, sometimes verbalizing some words related to the session ("picoca"), sometimes emitting sounds and pointing to

the screen at the same time. He also manifested expressions of discomfort, and there was a need to calm him down with swivelling movements of the chair, as shown in figure 4.

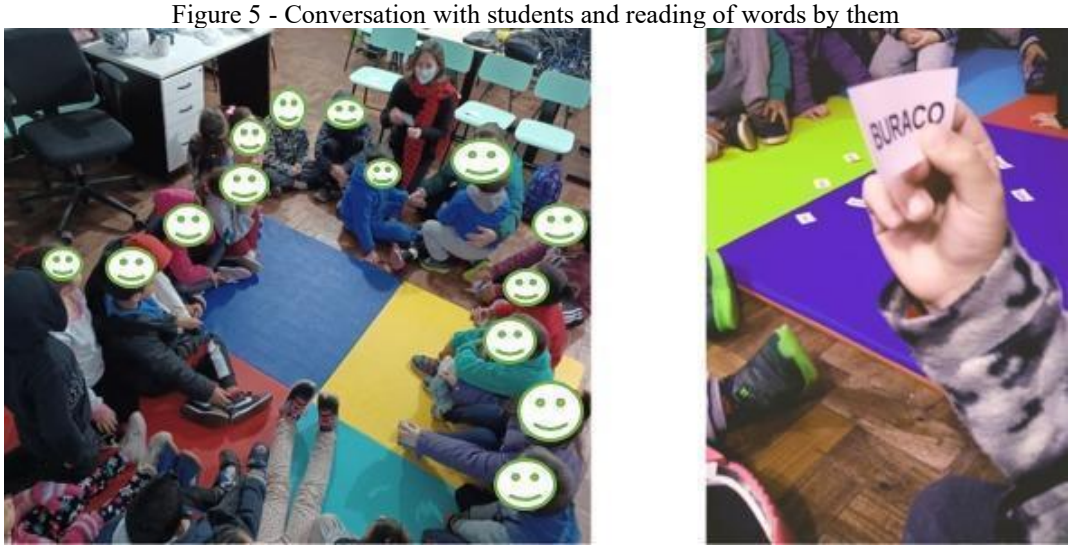
Figure 4 - Student A1 being calmed down by the teacher during the Blue Session



Source: Images recorded by the authors

After the appreciation of the short films, the teachers guided the students to the later dynamics - using words from the films. The children separated the words in the circle organized according to the themes of the short films, selecting which ones were part of the stories. Following the activity, each student was invited to read one of the words, with the help of the teachers according to the literacy process of each child and also with the help of their own colleagues, who encouraged them with the sound of syllables and reading of words, as shown in figure 5.

Figure 5 - Conversation with students and reading of words by them



Source: Images recorded by the authors

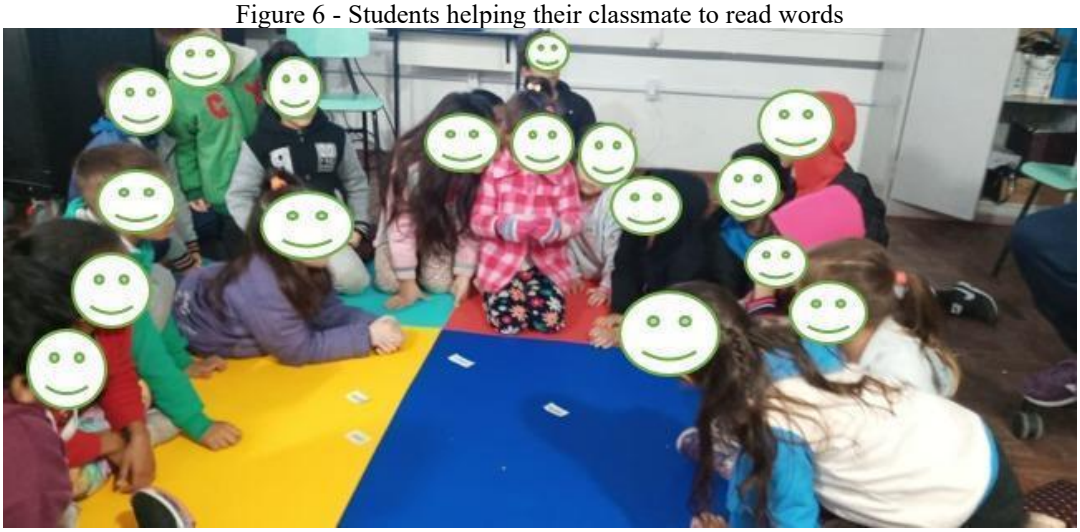
Student A2, when reading the word DREAM, verbalized the two different definitions of the word: "He has the dream of dreaming and the dream of eating!", and his opinion was accepted by the

other colleagues and contextualized to the group's food preferences. Meanwhile, both A1 and A3 did not participate directly in the proposal, but remained observing the group and handling some words exposed on the carpet. At the end of the activity, the students were instructed to assist in the organization of the space by collecting pillows and popcorn waste, which was a task well received by all participating students.

4 ANALYSIS AND RESULTS

It was noticed that, during all the planned dynamics, the group of students lived the experience in a calm and interactive way, without caring about possible changes in the behavior of their classmates with ASD. The children's receptivity and initiative in helping their peers who still show insecurity in the literacy process were also highlighted, as can be seen in figure 6.

Figure 6 - Students helping their classmate to read words



Source: Images recorded by the authors

These are genuine manifestations that exemplify the benefits provided by inclusive practices, in addition to each child's journey through their learning process. For student A3, the session was an opportunity to be with other children different from his nucleus, contributing to his socialization and perception that the school he attends has other spaces and other people who are also part of this environment. For student A2, the session provided the sharing of his knowledge, sharing with the other students his impressions of the words that were explored, in addition to contributing to his self-esteem, as he can already read sentences. For student A1, participating in the session may have been complex at times, but his weaknesses were embraced by the group, qualifying his understanding of space.

According to Orrú, "Inclusion makes a greater connection with the learning possibilities of all people, taking into account their singularities" (2017, p. 47). Thus, during the Blue Session, all manifestations were valued, perceived and welcomed by all, contributing to the strengthening of

relationships between peers and the sense of collectivity, which is also one of the propositions of Digital Literacy.

> Digital Literacy can and should be developed from the beginning of the schooling process, even before the child knows how to read and write, to develop technical skills and competencies, since digital technologies are embedded in several components of everyday languages (Elicker and Barbosa. 2021, p. 47)

Developing Digital Literacy in Basic Education, according to Elicker and Barbosa (2020), provides the involvement of the subject in the teaching and learning process. The proposed activities, with the exhibition of films in the format of a short animation on the interactive screen, materialize the idea of an application involving digital literacy. The children got involved in the proposal and reflected on the messages that the shorts brought. This movement is important so that the child can learn to interact with the audiovisual in a more reflective way, and can also develop cognitively.

However, the proposal provided a space for inclusion, where all children, together, participated in a relaxed moment, involving learning, respect, harmony and construction of knowledge. For children with ASD, the proposal brought the possibility of a joint construction.

All these elements are part of a digital literacy process, and experience has shown that the development of digital literacy also involves respect for differences. According to Mitchel Resnick (2010), it is necessary to provide opportunities for technological fluency, exploring in schools multiplicities of texts, ideas and interactions with technology. These are means to contribute significantly to the development of children, inserting them in a qualified and active way in society, aiming at the formation of citizenship.

5 FINAL THOUGHTS

Basic Education seeks to effect inclusion with educational practices that contemplate the biopsychosocial diversity of students through collaborative actions between peers: teachers, families and the school community. By including children and adolescents with ASD, we do not seek a "cure" or the adaptation of the student to the school and social environment. Inclusion allows the school community to review, rethink and recreate strategies for everyone and in all spaces, working to promote practices that welcome skills and differences, helping to improve, but also challenging and unaccommodating the teaching class.

The importance of the school as a space to enhance this diversity of stimuli in favor of the development of individuals with ASD is reiterated. The availability of resources, sensitivity to particularities and the exercise of empathy are means that bring us closer to an increasingly significant path to reduce distances and strengthen communication between people diagnosed with the disorder.

The Blue Session respects and welcomes students with ASD and challenges classmates and teachers, teaching that each one has their own needs and particularities. This playful approach contributes to the awareness and importance of respecting and welcoming the potential of each individual, without expecting an ideal model to which everyone needs to be fitted, as can be seen in the practice described and in the way in which the students showed solidarity with the episodes of decompensation manifested by their autistic classmate. These are necessary actions within schools to enable the increase of the repertoire and enable a more autonomous and meaningful life for all children, in addition to fostering the development of a more inclusive society.

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Fire prevention and protection in the school environment: A literature review

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ABSTRACT
This article deals with the importance of fire prevention and protection in schools, aiming at partnerships to primarily protect the lives of individuals present at school in situations of uncontrolled fire propagation, punctuating strategies to combat it. The main fire safety strategies (SCI), specifically, in public schools, in order to understand how the municipality has been dealing with this highly relevant subject. An empirical, qualitative, bibliographical research was used as a methodology, mainly considering the thoughts of the authors: Rego, who has dealt with this theme. It is necessary that the school forms its school brigade and adopts training in fire fighting and first aid notions, as basic safety requirements.

Keywords: Prevention, Fire fighting, Public school.

1 INTRODUCTION

This article proposed to carry out a review of the literature on the importance of fire prevention and protection in schools, aiming to safeguard the lives of individuals present in the educational institution in situations of uncontrolled fire propagation, pointing out strategies to combat it.

It is not uncommon for fires to be reported in schools and when it is inspected it is found that it did not meet the basic standards of fire prevention. Therefore, in order to avoid or even minimize these occurrences, school units must adopt preventive measures aimed at protecting people's physical and property integrity against possible accidents generated by fire.

According to the new current law No. 13556 of the year 2004, where it provides for fire safety, its competence to the military fire brigade of the State of Ceará CBMCE. This statute with planning and inspections based on the requirements that govern this safety, with the protection of life against fire in buildings and risk areas within the scope of the State of Ceará.

School fire safety fundamentally involves the preparation of students and educators (VENTURA, 2021). In this sense, the Fire Department, in partnership with schools, should help form a fire prevention and protection mindset in schools.

To this end, after the preparation of a Fire Prevention and Protection Plan (PPCI) by the school, fire simulation exercises are recommended under the instruction and supervision of the Fire Department.

1.1 GENERAL OBJECTIVE

The general objective of this study is to analyze the importance and strategies of fire safety in the school and its partnership.

Protective measures are the same for all schools. Among them is the mandatory installation of fire extinguishers, hydrants or hoses, alarm, lighting and emergency signaling.

Buildings must have escape routes, emergency exits, and access that allows the fire engine to enter (PADIAL, 2013).

1.1.1 Specific Objectives

a) To investigate the problems found in the literature of authors who have dealt with this theme;

b) Notice the points of non-compliance and propose adaptations against the risks against fire in the school;

c) Identify and point out appropriate resolutions so that there is an awareness of the risks that may occur in the school, proposing strategies for a prevention and evacuation plan.

It was observed that, according to the problem situations, once the practices of the actions of the school routine are identified and characterized, the planning in a preventive and organized way against the fires can be of a large ditch to be developed during the school year, where its administrative and formal genesis reveals a need for care and safety precautions.

Considering the complexities that permeate the fire safety process in the school. It is then up to the school to provide guidance on the issue of safety at school and how to prevent and know how to act in case of any form of incident.

Thus, it is of great importance that we seek to make everyone aware of the importance of the school environment as a safe place for them to maintain their lives with tranquility in their teaching and learning process in a comfortable way. In the search for quality and good results.

Several bibliographic studies were carried out during the process, as well as observations, aiming to improve our knowledge about the importance of safety and against the risks of fires in the perception of the school community.

2 LITERATURE REVIEW OF AUTHORS WHO HAVE DEALT WITH THIS TOPIC

According to the literature, Fire Safety can be understood as a broad concept that brings together several protective measures, including: fire prevention; fire protection; firefighting; Oxidizer: It is the element that activates fire and intensifies combustion, through its combination with the gases or vapors of the fuel (FAGUNDES, 2013 p. 22).

According to Ono, 2013 apud Gomes, 2014, says that in this way he ensures the objective of these measures, in general, and thus keeps the risk and probability of fire at a tolerable level.

The result based on the success of any public activity, that is, also private, is directly proportional to the fact that it protects man as a fundamental piece, against the risks to his physical integrity, where in the course of his work, or even in the conditions in which it is carried out (REGO 2011). In this context, this study consists of analyzing the importance and strategies of fire safety in the school to achieve the objectives of and confirm or not the hypotheses elaborated.

Therefore, it can be considered that, through the detailed discussion of the authors who have dealt with this theme, they are aware of the existence of the risk of fire in the school. It is necessary for the school to form its school brigade and adopt a training program in firefighting and first aid notions.

That technicians, professionals, politicians and citizens should discuss in a more serious way, the improvement at the municipal level on fire safety in Brazil, especially beyond the legislation. In addition to this concern, there is also the care to systematically map such strategies in order to obtain in the end a broad panorama of how our professionals are dealing with this extremely delicate subject. Such elements aim to ensure rationalization, organization and prevention in the work against fire, so that the care of the actions makes it possible to avoid any catastrophe of the rich against fire in the school.

This work is relevant because it is necessary to take action to fight the fire and evacuate. In addition, the implementation of a safety culture within a school, with a well-designed program, project or planning class so that they can orient themselves, anticipating problems, increases the concern for decision-making for managers and teachers and students, thus avoiding losses and tragedies.

Based on the authors' study, regarding the theme dealt with here, with the findings that were made throughout the research. Thus, evidencing the relevance of this process and its implications in the daily practice of their practice in the social reality in which they are inserted, especially in relation to basic safety requirements, such as the number and correct allocation of fire extinguishers, exchange of expired loads, emergency signaling and lighting.

3 METHOD

It was used as a methodology of an empirical, qualitative research of bibliographic nature for the theoretical basis of this study in order to achieve the objectives outlined and confirm or not the hypotheses elaborated.

According to Marconi and Lakatos, (2017).

The study is bibliographic, where it aims to put the reader in contact with everything that has been studied in the literature of these authors who have dealt with this theme, observed or established

on the subject in question. A set of information to be documented, with a bibliographic nature for the theoretical basis necessary for the study.

The description of the methodological procedures, methods used for the development of the research, identifying their investigation strategies, results and discussions pertinent to the researched theme.

4 DISCUSSION

Therefore, it can be considered that, through the detailed discussion about the existence of fire risk in the school, through a review of theorists who have dealt with this topic, it is necessary for the school to form its school brigade to monitor and adopt a firefighting training program with notions of first aid.

The success of any public or private activity is directly proportional to the fact that it protects its fundamental part – Man – against risks to his physical integrity that may arise from his work or the conditions in which it is carried out (REGO, 2011). As well as, (ONO, 2013 apud GOMES, 2014), it says that in this way it ensures the objective of these measures, in general they are ensured.

In this context, this study consists of analyzing the importance and strategies of fire safety in schools.

School buildings, they also need to adapt to the various requirements of the fire department, especially basic safety in relation to issues such as number number, correct allocation of their extinguishers, the replacement of these loads that are expired, their emergency signaling, as well as lighting in the emergency sector, entrance and exit.

SEDUC, as well as the SME and the fire department, joined forces to work and adapt the buildings of public school buildings, with safety standards. The goal is to build a network of support and protection for all students and municipal schools.

Among the engineering sectors of the state and municipal departments of Education of Fortaleza, that is, the SME together with the coordination of technical activities of the fire department met to deal with the execution of integrated actions between these institutions.

This meeting put into practice the search for a continuous improvement of projects aimed at preventing and at the same time fighting fire and panic in the school units of the state and municipal public networks.

The partnership aims to bring the responsible sectors closer together, multiplying knowledge and thus realigning an increasing number of buildings to safety needs.

The next steps will be to evaluate the diagnoses raised by the educators and, based on this, outline new strategies to confront violence in the student environment. For this, other meetings must take place.

5 CONSIDERATIONS

In this way, they believe that everyone who makes the school needs to be aware of the fire safety in the school spaces within the requirements in the form of law, regulations or technical safety standards. There is a need for a fire safety plan, including the control of finishing materials, emergency exits, fire brigade, fire extinguishers, emergency signage and plan emergency action to prevent accidents at school.

Through this study, it was possible to observe that the concern with the preservation of life, taking into account the conservation and maintenance of the physical structure and electrical installation, must have a fire brigade action plan, thus avoiding the beginning of fire so that it does not take catastrophic proportions with serious incidents with the municipal public school community.

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SEVEN
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Musicalization and development for babies in kindergarten

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ABSTRACT
In the learning process, musicalization is presented in a multidisciplinary character, which allows the expansion of factors related to human development, in addition to expressiveness, communication and autonomy. In Early Childhood Education, it is an essential element to meet the demand for the formation of children's behaviors and habits. However, its use should be expanded, being "music for music's sake", since working with music itself is beneficial for the development of various skills. This chapter aims to demonstrate the role of musicalization in the development of babies and the importance of the use of this resource by teachers in the conception of Early Childhood Education. To this end, an exploratory bibliographic review was carried out on the subject, presenting the existing foundations in the literature on music, musicalization, baby development, and the insertion of this aspect in Early Childhood Education. As a result, it is seen that although the literature demonstrates the benefits of the use of musicalization for the development of babies in Early Childhood Education, its application is still made with a recreational nature, due to the absence of specific training of teachers. The lack of musical knowledge and experience leads teachers to not feel prepared to use music as a protagonist in the activities.

Keywords: Musicalization, Early Childhood Education, Babies.

1 INTRODUCTION

Musicalization can be conceived as a process that makes the individual sensitive to music, through its exposure (Cristal, 2018). In the context of education, it can be presented either as a subject integrated into a curricular system, or as a resource for school teaching-learning activities, leisure or thematic events. It can also be configured as a formal teaching of the art of music, or with the use of musical products (Young, M., 2016).

In the learning process, musicalization is presented in a multidisciplinary character, which allows the expansion of factors related to human development, in addition to expressiveness, communication and autonomy (Penna, 2015; Barro et al., 2018). Its practice can be a catalyst for the quality of teaching-learning experiences, with regard to the prerogatives of Early Childhood Education.

Early Childhood Education in Brazil is understood as the first stage of Basic Education, being operated in institutional spaces, such as daycare centers and preschools, under the supervision of a

teaching and social control system, with the objective of educating and caring for children from zero to five years old (Brasil, 2010). It is an educational stage, which often suffers from the precariousness of its services, and which has very relevant social functions, such as the provision of family support to parents and the beginning of the schooling process required in our society (Kramer, 1999).

Law No. 9,394, of December 20, 1996, is considered one of the main laws that regulates the teaching-learning activities of Early Childhood Education and establishes the guidelines and bases of National Education. Article 29, enacted in 2013, states that the purpose of this school stage is the integral development of the child, in its physical, psychological, intellectual and social aspects, in addition to the action of the family and the community (Brasil, 1996, 2013).

In short, Early Childhood Education should be a space that promotes development and learning and in this context, a set of knowledge can be organized and systematized, for the formation and evolution of an individual (Santos, 2018) and musicalization is one of these knowledges, as its teaching allows a transmission of sociocultural and human values, in addition to providing the exercise of cognitive skills, motor and socio-emotional disorders (Carmo, 2021).

In a review of studies with preschool and school-age children, Welsh (2021) showed that music education can enhance academic performance, executive functions, emotional regulation, and prosocial skills of children who experience musicality in academic environments, so it is expected that musicalization will be present in pedagogical practices aimed at Early Childhood Education.

Several authors argue that music is present in the baby's life, from the gestation period (Casamayor, 2020; Oliveira et al., 2020; Carmo, 2021). The baby reacts to the sounds of the maternal and external body and, in its first weeks after birth, it already distinguishes the human voice, with its development, they accompany sounds, dance and dramatize in different sound situations (Casamayor, 2020). Movement and play arise in the face of songs, toy sounds and moments of play and, in this sense, there is an opportunity to explore these behaviors in the teaching-learning processes and to improve this sensibility with music.

In daycare centers, music is an essential element to meet the demand for the formation of children's behaviors and habits. It is present in various daily activities, such as falling asleep, playing, and festivities and celebrations (Brasil, 1998). This reveals the multidisciplinary character of music and the reactions it provokes in the environment.

However, its use should be expanded, as something that revolves around itself**: "music for music's sake",** given that working with music itself is beneficial for the development of various skills (Welsh, 2021; Ilari, 2020), as well as a perspective supported by laws and references of the national curriculum (Brasil, 1996, 1998, 2008, 2016b, 2017).

However, an existing problem, already reported in the literature, shows that most teachers of Early Childhood Education do not have academic training on how to musicalize babies and young

children, which hinders the learning process elaborated and aimed at making students the protagonists of this process (Bianchi, 2013; Tormin & Kishimoto, 2018).

2 EARLY CHILDHOOD EDUCATION

2.1 BRIEF HISTORY OF EARLY CHILDHOOD EDUCATION IN THE WORLD

The school model, in a more primitive way, appears in Greece, with teaching aimed at those who had great possessions and conducted by philosophers who, with the passage of time, were called pedagogues. This elitist model of education lasted for more than a thousand years in Europe, and with the advent of the industrial revolutions and the nascent industrial capitalism, education began to be educated, not only by the wealthy classes, but also by the children of the workers (Coimbra, 1989).

With the Industrial Revolution, from 1750 onwards, there was a need for a greater number of people who could at least read, write and count, due to the manpower to handle the machines. At the same time, the bourgeoisie sees the need to "socialize" and "educate" the working masses existing in the large urban centers, in order to form them as "good" citizens and disciplined workers. With this, we see the School emerging with clear functions: to inculcate the values, habits and norms of the class that dominates, that is, to show the place that each one should occupy in society (Coimbra, 1989, p. 15).

From the eighteenth century onwards, women were included in the labor market, so that the revolution did not only take place in the professional and corporate spheres, but also motivated a new model of women's work, outside the home, different from the domestic one until then (Hobsbawm, 2011). This new feminine reality has created a need that does not yet exist, that of creating spaces to allocate the children of factory workers.

There was also a gradual change in the view of the child's aspect, which since seniority was seen as miniature adults, being forced to perform family activities that were mixed with the conception of work, in its division and execution, with no concern with child care. The evolution of this conception of childhood and its needs, as it is seen today, occurred during the late Modern and early Contemporary Ages, where the child was seen as a human being (Le Goff, 2013).

According to Ariès (1981), the term infante", from which "childhood" etymologically originates, does not even originate or was used exclusively for children; In fact, it was a treatment of younger or hierarchically subordinate people.

2.2 EMERGENCE OF THE CONCEPT OF DAYCARE IN BRAZIL

In Brazil, the first schools, called school groups, emerged with the need to form a new active and productive popular "body". The genesis of these groups occurred with the arrival of the Portuguese Royal Family to Brazil, at the end of 1808. Still very restricted to the great commercial elite, later

coffee plantations, during the Second Reign, the school groups were mostly male, elitist and formed an aristocratic mentality that would be reproduced for many decades (Coimbra, 1989).

Early Childhood Education has been occupying a significant importance, especially since 1950, when daycare centers appeared, with a welfare character, in order to reduce the high rates of infant mortality, but they were maintained in order to help the demand of mothers working outside the home, especially in industries, to take care of very young children (Cardoso, 2012; Didonet, 2001).

Oliveira (2005) discusses the need of working mothers, a safe place to leave their small children and the indispensability close to work, in order to enable the breastfeeding of these children. However, the daycare centers were characterized as "children's deposits", whose main objective was to house the little ones, relegating the educational process to a second or even third plan. Even so, the daycare centers were extremely important for the future development of the school process and to produce reflections on its initial bases, as a historical place and procedural method of care.

The era of President Getúlio Vargas was the backdrop for the first transformations inherent in the acquisition of rights by workers, including women. In this sense, the Consolidation of Labor Laws (CLT) of 1943 determined that companies with more than 30 women workers should have a place to care for children during the breastfeeding period (Didonet, 2001).

With the promulgation of the Federal Constitution of 1988, as well as the Statute of the Child and Adolescent (Brasil, 1990/2002), the principle of the right to education from birth was born, expressly providing, in its article 208: "The State's duty to education shall be effected through the guarantee of [...] IV - early childhood education, in daycare centers and preschools, for children up to 5 (five) years of age [...]", assuring them fundamental rights that are essential to the human person (Brasil, 1988/2016a, p. 123-124, emphasis added).

2.3 EARLY CHILDHOOD EDUCATION WITHIN KINDERGARTENS

In the teaching-learning process, it is of great relevance to direct teaching practices towards models that highlight the learner as an active subject, the core of this process (Freire, 1996). In this sense, it is necessary to try to pluralize educational strategies, so that teaching practice can encompass and benefit the development of skills inherent to the student's educational process.

According to Piaget (1986), learning processes and, above all, cognitive development expand through assimilations that alter the models of thought structures and operations. Therefore, there is no construction of knowledge conceived where the student is constituted as a passive subject and retainer of information, there is a process called accommodation, where meaningful learning is an alteration/adaptation to that information conceived, in a singular way and adapted to previously established perceptions and knowledge.

The interactions of the individual with his/her environment present the main "spaces" of development, and are of paramount importance, as they contribute to the expansion of operational capacities, making different strategies in the teaching-learning process feasible for the evolution and complexity of the cognitive models that will come to characterize the student.

Such strategies and their pluralities, in which musicalization can be included, are essential factors for challenging situations, in the sense of causing new accommodations in the already existing cognitive structures, providing true knowledge and not only the understanding of information that has not been internalized. This process aims to value previous knowledge, showing it as a broad way for the educator to establish an environment rich in possibilities to enhance new accommodations (Piaget, 1986; Vasconcelos, 2007).

According to Piaget (1986), learning is an individual experience, although it is interactive and inserted in a collectivity, with established learning goals. The internalization of reorganized information, i.e., the accommodations that factually alter realities and cognitive systems, including expanding them, are constructed in an empirical way. On the other hand, they are major and reflexive abstractions, provoked by balances and imbalances that occur in learning situations and in interactions with the physical world, people, society and ideas.

The professional practice within the daycare centers, therefore, has several aspects of action, from the political-pedagogical to the implementation as a space that promotes education and qualitative development, in an attempt to deconstruct the historical image of children's deposits.

The search for the professional appreciation of those who work with early childhood education is also a prominent element in this context. Those responsible for conducting the educational processes are the teachers, who go through their academic training in a total of ten minimum semesters for their completion, in person, semi-presential or remotely.

There are also nursery assistants, who undergo specific training in an extracurricular way. They help teachers in their daily routines, making pedagogical proposals to promote the development of sensory, cognitive, motor, social and affective aspects. They encourage children's autonomy in various fields of activity and seek to satisfy students' basic needs, such as food, personal hygiene, socializing and social interaction.

Providing an environment rich in possibilities of actions and interactions is a very important part of the teaching practice in daycare centers, especially in the phase called by Piaget (1986) as sensory-motor. There are several curricular models in this context, however, it is very common that, during educational practices, the educator does not stick to a single one, thus characterizing an eclectic model of pedagogical conduct.

For Gamito (2018), there are common elements in educational practices within daycare centers around Brazil, regardless of their region or local culture, since the needs of babies and children are similar and demand actions that are presented in a common modus operandi.

Vilarinho & Ruas (2019) define the baby as a being endowed with a lot of expressiveness and high interactivity with the environment that surrounds him; therefore, it is the responsibility of those who take care of their education to contextualize and insert these little ones in an environment that enriches their formations, through interesting experiences and experiences. The development of autonomy in the little ones is one of the purposes of the educational process that the daycare center should be in charge of, however, it is not a singular and isolated content from the other elements that involve the learning of babies and children.

The role of the educator in relation to the child is to differentiate the concept of the daycare center of "yesterday" and that of "tomorrow", in order to understand him as a being who develops according to his actions and interactions with the environment and people who surround him and not only as someone who will store information or reproduce, in a mechanical and empty way, what teachers teach them (Gamito, 2018).

As Cavicchia (2010) points out, it is in the sensory-motor period, concomitantly with the period in which the child is in daycare, that the foundations of their cognitive system develop, configuring the first forms of thoughts and expressions. According to the Piagetian model, in the daycare center the little ones will make this recognition of the world that surrounds them, in a potentiated way, through their interactions, daily tasks, activities, games and other tasks, where they develop their motor, creative, communication and language skills, in addition to expanding their social relationships.

3 MUSIC AND ITS ROLE IN EARLY CHILDHOOD EDUCATION

Music is an ancestral language, marked by the emission of sounds that change in intensity, speed and timbre, interspersed with moments of pauses, silences: it internalizes and creates meanings that can be extremely beneficial to those who submit to it (Carneiro, 2019). As a living part of the artistic manifestation and a natural sharpener of sensitivity, it is a timeless tool and a powerful form of communication, being a language that, in addition to entertaining, is a constituent element of the formation of people around the world, in order to establish links of being/being with others and with oneself (Silva, 2013).

The teleological question of music, for example, transcends the aspects of accuracy as to its definition. Borrowing the Kantian sense of interpretation – or rather, expressing noumene and phenomenon – music is the noumene that adapts and produces different effects to those who sensorially have access to it. At the same time, it performs the function of causing more or less intense impacts, according to each being (Kant, 1996).

In a more ecological context, music is distinguished from the concept of musicality. Music, in and of itself, is the result of diverse cultural products generated by and for music-making: songs, instruments, dance styles, while human musicality is a co-evolved system for social bonding.

The division of what is music and musicality, in the biological conception, is capital for understanding the functionality of musicality in human evolution, in group living, encompassing multiple functions of strengthening and maintaining the social connections that sustain this bond (Savage, 2021). In this sense, musicalization is considered a learning practice in the face of the world and its social relations (Sommerhalder et al., 2015).

The relevance of music in learning and in perceiving oneself in the world as a social self is very well highlighted by researchers Targas & Joly (2009, p. 114), when they emphasize that there is a connection between making music and the sociocultural contextualization that configures the time in which one is inserted. Thus, there is a dialogue between the making of music, its actors involved and its time, so that this process is not only connected to the dexterity inherent to the production of sounds.

Music plays an essential role in social construction, in the acquisition of habits and customs, which reflects the history of peoples, over time, and can be considered the link in several cultures (Oliveira et al., 2020). It is present daily in the lives of human beings, among the social and cultural manifestations since the most remote times. It is part of different moments experienced, in happy and sad occasions. As a language, it allows people to express themselves and communicate, develop skills and capacities, reduce stress, sharpen the senses of creativity (Diwase, 2018).

Nowadays, music can be accessed easily on any device, being considered a popular source of pleasure and a powerful brain stimulator. Research indicates that through music therapy, one can improve cognition, attention, mood, memory, and learning ability and slow cognitive decline in older adults (Nawaz et al., 2018).

Music therapy is understood as one of the forms of therapies with the purpose of optimizing a certain human ability or more, conducted in a symbiotic way to musical stimuli. For example, it seeks to improve diction, communication in general, expression of feelings, and improvement in learning situations, through music (Nawaz et al., 2018).

In addition, Zhang (2020) describes that with the rapid development of cognitive neuroscience and neuroimaging technologies, much research has focused on understanding how music affects the brain. These new studies demonstrate that its use as a therapy makes it possible to reduce anxiety levels, reduce the response to psychological depression and stroke, and allow for memory enhancement at molecular levels.

In children, music contributes to integral and healthy development, enabling a full formation of the individual and helping in self-esteem, self-knowledge, expression, balance, social integration and other aspects (Finger et al., 2016). For this reason, it is considered a learning practice that helps in

cultural and psychomotor development in the educational environment (Oliveira et al., 2020). It is important, however, to carefully understand the representativeness of the musical creation process of young students, since, according to Galon (2021), we can, but should not, start from analyses concerning adult musical creative models.

The musical benefits in relation to human development are multiple and, in order to partially understand its positive results in the student, it is important to return to Freire (1996). This author emphasizes the relevance of an educational process in which the learner is the protagonist, so that the significance of the object of study starts from it, as its appropriation takes place in the dynamics of interactions and construction of meanings, where the learner and the educator are part of a whole capable of positively modifying reality.

In this context, music gains prominence in the process of producing meanings and building creativity, processes in which music education can be the conductor of a humanizing and, consequently, social space, which is inseparably instilled in schooling (Galon, 2021).

Faced with the needs of the twenty-first century and a new educational outlook based on the active education model, music is an important resource for human development, and the role of the teacher is reconfigured in the face of new generational needs, having to leave aside an antiquated profile of being just a caregiver who reproduces customs and values of patriarchal society of previous centuries and gain a new dynamic. renewing itself and giving greater meaning and importance to the learner and to the educational institution (Gamito, 2018).

However, there is a gap between the guideline and the practice, effectively in daycare centers. What can be perceived is the use of music as a curricular component, still little explored in its potentialities and possibilities as a formative agent for child development, either due to gaps in teacher training, or due to the lack of understanding of the proposal of musicalization as a curricular component, being used as a mere form of entertainment (Loureiro, 2003).

Since music was introduced in the school environment, its functionalities have been expanding, since, for this, it had to go through the phenomenon of disciplinarization, when knowledge becomes school subjects (Popkewitz, 2020). Thus, in the legislation that deals with its teaching, several elements have been inserted as part of its functions, which has helped in the regulation of its teaching, as a pedagogical practice, as we will show below.

3.1 MUSIC SEEN IN OFFICIAL DOCUMENTS OF THE BRAZILIAN GOVERNMENT

The comprehension of the definitions and deliberations of the official documents inherent to music, in the school process, is important, to the extent that, from these documents, the theoretical guidelines are determined in which the opportunities for the materialization of new realities occur, in the educational field, evidently, involving music and musicalization.

From the perspective of the 1988 Federal Constitution, Early Childhood Education began to be recognized as the first stage of Basic Education, which includes attendance at daycare centers and preschool (Brasil, 1988/2016a). This determination was of great value for future reflections on the importance of this stage; However, it is necessary to point out that music or musicalization, as curricular elements of school education, are not presented or inserted in this document.

However, with the advances achieved by Early Childhood Education, the insertion of music teaching gained strength in the Law of Guidelines and Bases (LDB) of National Education (Law No. 9394/96), when it states that the purpose of Early Childhood Education is related to the integral development of the child (Brasil, 1996), so music is no longer seen only as a form of language. but as a support to meet the demand for the formation of habits, attitudes and behaviors of individuals.

In the text of the National Curriculum Reference for Early Childhood Education (RCNEI) (Brasil, 1998), it is explained:

> There is music to fall asleep, music to dance to, to mourn the dead, to call on the people to fight, which goes back to its ritualistic function. Present in the daily life of some peoples, it is still played and danced by everyone, following customs that respect the festivities and moments of each musical manifestation. (BRASIL, 1998, p. 47).

However, there were no further specifications regarding the exercise of music and its allocation, leaving it up to the institutions to determine the way it should be taught, either as an addendum to the whole of another discipline, or exclusively and in emphasis on other areas of knowledge.

The RCNEI highlights musicalization as an auxiliary and effective tool in the school process conducted in daycare centers in favor of child development, and divides its guidelines into two major points: musical making and musical appreciation; Within these contexts, it is oriented to submit children to a process that contemplates the construction of instruments, through the exploration of materials, such as listening to musical works, so that there is, in addition to exploration, the knowledge of the diversified musical language and its elements, and emphasizes that moments of organization of sounds and silences should be provided, in order to stimulate languages and reflection on music as a cultural product (Brasil, 1998).

The document also points out guidelines on pedagogical games and games about music and musicalization, with the protagonism of music itself, in the sense of being the object of learning, in the development of skills, emphasizing the focus on itself and not on a second or third element to be added for children from zero to three years old (Brasil, 1998).

Although there are no major considerations about musicalization, in the National Curriculum Guidelines for Early Childhood Education (Brasil, 2010), since these are mentioned in the text of the RCNEI (Brasil, 1998), the importance of musicalization is again established as an inseparable part of the schooling process, including, above all, Early Childhood Education.

However, the real implementation of musicalization in the curricular structure of Basic Education gained greater visibility from Law No. 11,769, of August 18, 2008, which establishes the mandatory teaching of music in Basic Education schools (Brasil, 2008), amends the LDB and regulates the insertion of music as mandatory, but not exclusive, content. of the languages of the arts.

From this perspective, the Ministry of Education (MEC) reiterates that, in confluence with the teaching of basic notions of music and civic songs, attention should also be paid to the use of musicalization for the teaching of bodily and emotional notions, in order to gradually promote the development of relationships and transformations, taking into account the cultural diversity of Brazil (Brazil, 2009).

On the other hand, the National Common Curriculum Base (BNCC) prepared in 2015 and published in 2017, with the intention of enforcing greater equity and parameterization, once again highlights the importance of music, in the school context, and musicalization, as a relevant training element (Brasil, 2017).

Even with the implementation of Law No. 13,278/2016, which included the visual arts, dance, music, and theater in the curricula of the various levels of Basic Education (Brasil, 2016c), however, none of these publications specified whether or not this teaching should be taught in an integrated manner with other artistic disciplines, leaving this compression open to the reader's interpretation.

Another point of concern is that, unlike the previous legal provision, Law No. 11,769, of 2008, this law, by amending the sixth paragraph of that law, removes the obligation to teach music and converts it into one of the four languages of the Arts curricular component. Thus, music loses its characteristic of discipline and starts to be taken as a language, which we understand to be a great setback for the area.

Despite this, even as a language, it is still mandatory in Early Childhood Education, that is, of all the years that make up this training cycle, music must, at some point, be part of it. Therefore, it is up to the school and the teacher to use it.

4 CHILDREN'S MUSICALIZATION

Within the educational and school possibilities, especially aimed at children in the sensory-motor stage, the development of symbols and their dynamics can count on the dynamism of musicalization inserted in the educational context. Musicalization is an important artifice to aid cognitive and kinesthetic-bodily development, as the next topic will show (Prandi-Gonçalves et al., 2020).

As a pedagogical possibility, it comes loaded with plural means for the enrichment and quality of practices aimed at children's development. Musicalizing means, among other things, sensitizing, promoting the construction of cognitive paths, structuring thought, streamlining coordination,

symbolizing, socializing, knowing, and signifying. Such characteristics, within the process of human development, are fundamental for there to be solidity in the complex path that educates for human autonomy represents (Poćwierz-Marciniak & Harciarek, 2021).

According to Tormin & Kishimoto (2018), the practice of musicalization in the context of daycare centers proves to provide multiple benefits, because, precisely in this period, babies are in an intense process of development of various aspects, such as thinking, creativity, cognition, emotions, and affections that influence their development and the formation of their identity and autonomy.

Another attribute of the teaching of musicalization in Early Childhood Education is a series of benefits in the process of speech development, the construction of meanings attributed to words and other linguistic issues, since teachers employ musical strategies to create mental references in the little students, such as bath time, bedtime and other activities that require an integration of the baby into the environment and, above all, to the activity to be worked on.

As a fragment of a school curriculum, musicalization brings some important challenges with regard to its planning and adaptation to the cutouts of everyday classes. Understanding it primarily as an artistic manifestation conceptualized as emanations of the needs of expressions of those who use it, it is necessary to understand that art, and consequently music, has symbolisms and representativities that cannot go unnoticed in the eyes of the educator (Loureiro, 2003).

Learning in childhood is entirely constructed, from the multidisciplinary field, by the sum of looks, thoughts and listening. Music, in this context, explores and fosters creativity, poetry, inspiration and sensitivity. Present in various situations of life, whether moments of joy, sadness or relaxation, it harmonizes the environment and is present in lullabies, folkloric songs and even as a source of family interactions and should continue, in the same way, in the school environment (Lima; Jung; Silva, 2019).

In most Early Childhood Education schools, musicalization is worked on, as an addendum to several other distinct central themes, in fact, in the transmission of specific and thematic messages, such as Easter, Mother's Day, Father's Day and other celebrations, or in the form of a sung routine (snack time, bath time, hand washing time, etc.). In addition, it is inserted in contexts of memorizing contents, in the form of parodies or the creation of songs as elements of fixation of school content (Brasil, 1998; Loureiro, 2003).

Therefore, musical learning is thus emptied of any musical sense, leaving its making reduced. However, it is understood that educating in music implies simultaneously focusing on a multiplicity of processes that revert to a multiplicity of formative models and not to a single model (Gainza, 1995).

In this sense, music needs to be recognized as an element that promotes the development of a combination of skills and not just as a tool to provide moments of entertainment and fun. Its possibilities go beyond these aspects, as they enter the children's world as a way of solving everyday

situations-problems and a way of building social relationships between children (Prandi-Gonçalves et al., 2020).

It is important to provide practices in which both the musician and the students are protagonists of a more fruitful and well-elaborated process, and not only musicalize commemorative dates. In daycare centers, a formal learning environment, this protagonism will always be achieved through play, as playfulness is the main means of development of children in this age group.

In Basic Education, music can allow the interaction of a communicative base between the student and the content that the teacher intends to address, which will promote satisfactory experiences under current and historical conditions, for example. However, it is necessary for teachers to have prior knowledge about the musical context in which the students are inserted, as this will bring music even closer to the school, cooperating in the inclusion of significant practices for learning (Castro & Teixeira, 2020).

In Early Childhood Education, music permeates the five fields of experience provided for in the BNCC (Brasil, 2017):

- The I, the Other and the We
- Body, gestures and movements
- Strokes, Sounds, Colors, and Shapes
- listening, speaking, thinking and imagining
- spaces, times, quantities, relations and transformations (Brasil, 2017, p. 25).

Especially for children from zero to two years of age, music is extremely important for the development of perceptions, postural movements and intelligence. In addition, music contributes to the development of psychomotor and cognitive skills, promoting the formation of sensory, affective and aesthetic aspects, which are essential for any stage of human life, especially the sensory-motor period, as presented in the following topic (Maranhão, 2004).

5 THE CHILD AND MUSICALIZATION

Vilarinho & Ruas (2019) point out that the exposure of babies to musicalization stimulates them in the sense of vocal, motor, body and language development, optimizing their development within the teaching-learning process; However, due to the fact that they do not yet speak, and their communication is restricted, the sensitivity and interpretation of adults, who conduct the educational processes, are extremely relevant, so that musicalization achieves good results.

In research referring to babies and even fetuses in uterine development, Palazzi (2020) points out that sensitivity to musicalization can already be perceived from the 25th week of gestation. Since the hearing aid is formed early, being normally complete in its development, around the twentieth week, fetuses exposed to musicalization processes may present greater sensitivity to music, developing

speech more quickly, with regard to the learning process, in addition to demonstrating different tonalities and frequencies of crying, usually with lower intensity.

Still, with regard to auditory and musical aspects, it is noteworthy that, despite the baby's immaturity, adequate musical and auditory stimulation does not seem to pose a risk of hyperstimulating him, but, on the contrary, can bring several benefits to him (Mendoza & Fausey, 2021).

Babies learn from vocal, instrumental, live and recorded music, following the rhythms played and the pitch of the pitch, being able to differentiate new melodies from familiar melodies. They can, for example, decrease their physiological arousal, when listening to songs with soft melodies, and remember for a long time the songs that are sung by family members (Mendoza & Fausey, 2021).

According to Ilari (2006), the biological aspects of babies still in the seventh month, up to the third month of postnatal life, are more sensitive to the perception of lower sounds in relation to high sounds, however, this situation is reversed after the sixth month of life. Now, the knowledge inherent to the sensibilities of the timbres is important, so that the benefits offered by musicalization are more effective in the process destined to the baby, especially in the exercise of singing.

In the same line of reasoning, Raniro (2009) shows that, even in the first year of life, babies are no longer mere passive listeners, but listeners capable of discerning sounds, timbres, contours, in order to actively dialogue with their long-term musical memory, in addition to manifesting their preferences.

Ilari (2006) lists a series of benefits that musicalization instills in babies:

- Psychological effects, since music is an affective language between people, causing the strengthening of sentimental and affective bonds;
- Physiological effects, due to its soothing properties, transmitting to the fetus and babies the feeling of protection when listening to the singing of their mothers;
- Cultural effects of music are inherent to the insertion of the subject from an early age into the universe of our cultural elements and symbols, which constitute our history and identity;
- Auditory-educational effects are established in the process, since hearing is a skill and, at the same time, a form of didactic understanding of what one aims to learn;
- Aesthetic-musical values that are intrinsically present in the process, since music is an artistic manifestation and, in turn, stimulates the baby from an early age to appreciate it and its characteristics, which create their own symbols and unique meanings to those who are exposed to musical sounds.

Regarding the musicalization process for children from 0 to 2 years old, it requires sensitivity on the part of adults, because "[...] we often consider this expression as 'noise', but for them it is music" (Galon, 2021. p. 69).

Thus, musicalization, as a process, needs a change in the common sense of people who restrict certain actions of babies, because it bothers adults, and certain actions of children are extremely relevant for the discovery of new experiences, such as musicalization itself (Galon, 2021).

From this perspective, daycare, as an important part of the schooling process, should be interpreted as an essential element in the journey that favors musicalization for children from 0 to 2 years of age. Evidently, musicalization is not the exclusive role of the daycare center and its professionals, but also the responsibility of the family. However, Galon (2021) warns that, like the family structure, the school environment has a great capacity to exert considerable influence on the construction of children's creativity, and musicalization can occupy a prominent place in this process.

In a study carried out with children between 2 and 3 years of age, inherent to the musicalization process, Sommerhalder et al., (2015) conclude that the process of musicalization of babies, as it is a receptive and at the same time creative experience, can be benefited by the insertion of objects that offer playfulness to the little ones, making connections between the sounds captured and the productive capacity, externalizing what was previously internalized. The authors emphasize that the process of musicalization, when mediated by the adult, needs to gain aspects of lightness and naturalness in its conduction, so that musicalizing becomes a game.

In this way, the game in which the musicalization must be inserted and characterized is a cultural element of great productivity. In this line, it reaches the imaginary dimension in a parallel way to reality and carries out the construction of new skills or the aid to the already existing skills in children, in a process related to external stimuli (Sommerhalder et al., 2015).

With this, Galon (2021) dialogues with Sommerhalder et al., (2015), since the authors agree on the issue that creative processes do not depend exclusively on the individual, but also and mainly on the external agents that conduct such processes, such as parents and educators. Therefore, musicalization, as a creative process, has its greater or lesser fluidity, according to sociological factors, interactions and spatial issues, regarding the preparation of the environment for the benefit of musicalization, as an experiment of creativity.

Joly et al., (2016) point out that the dynamics of the musicalization process in children, inserted in the comprehensive learning process, gains a strong ally when toys, not necessarily sound, are inserted. In addition, the interactions between the student and his/her friends and between the student and his/her educator reinforce the bonds of musical learning.

"Toys (such as rattles, drums, rattles, castanets, handkerchiefs, puppets, hobby horses, stuffed animals, rag dolls)" (Joly et al., 2016, p. 257), are relevant to the musicalization process, but also other objects that encourage children's playfulness, such as textbooks, dolls and others.

In this process, the figure of the teacher becomes essential, so that music and musicalization are explored in the richest and most dialectical ways to the cognitive processes that make up the stages

of human development. Therefore, it is important to understand the teaching performance, not only from the perspective of the pedagogue, but also from the perspective of the musicalizing "agent", in which pedagogy and musicalization are intertwined, as we will see below.

6 THE TEACHER AND MUSICALIZATION

Musicalization tends to be an invaluable tool in aiding human development. Evidently, there is no magic "recipe" for educational development or even a homogeneous conception of practices that can be adopted in a teaching-learning process; however, the use of music proves to be an interesting way to enhance processes that excel in the development of physical and psychomotor skills (Oliveira et al., 2020).

When subjected to it, babies and children are involved with musicalization, in a continuous way, since their development in the mother's womb, becoming familiar with the sounds of the environment that surrounds them. The contact of these babies and young children provides the spontaneous beginning of musicalization, in a natural and intuitive way, through toys, lullabies and various songs. All these elements are important for babies and children, instigating learning based on communication, using sounds and gestures, in addition to enabling their affective and cognitive development (Piaget, 2013).

With this conception, the importance of music is also notable in Early Childhood Education, in order to develop from small fundamental concepts related to adaptation, accommodation and assimilation of the environment in which it is inserted. Thus, understanding the importance of this practice is essential, so that these professionals are prepared and trained for its application (Tormin & Kishimoto, 2018).

According to the LDB (Brasil, 1996), teacher training is carried out through higher education, in the areas of licentiate degrees; however, Galon (2021) points out that the training of teachers in the area of music is a continuous and decentralized process of large academic centers.

In this context, most of the teachers who work in Early Childhood Education have a bachelor's degree and do not have specific musical training. Music and musicalization do not appear effectively in the curricula of the Pedagogy course around Brazil (Susin, 2008). The search for improvement in this area presupposes the attendance of specialization courses, training courses and/or continuing education.

In order to carry out teaching practices applied to musicalization appropriate to the student's level of understanding, it is essential that the professional understands the importance and impact of the use of music in their development, as well as the different stages of development, their musical interests and the stages in which they find themselves, regarding sound productions, gestures and movements (Sommerhalder et al., 2015, Tormin & Kishimoto, 2018).

It is noteworthy that, since the publication of the RCNEI (Brasil, 1998), this theme was already discussed, in the six axes of work defined: movement, visual arts, music, oral and written language, nature and society, mathematics. Thus, it is emphasized that:

> [...] Music is the language that translates into sound forms capable of expressing and communicating sensations, feelings and thoughts, through the organization and expressive relationship between sound and silence. Music is present in all cultures, in the most diverse situations: festivals and celebrations, religious rituals, civic and political manifestations, etc. It has been part of education for a long time, and in ancient Greece it was considered fundamental for the formation of future citizens, alongside mathematics and philosophy (BRASIL, 1998, p. 45).

With the approval of Law No. 11,769 (Brasil, 2008), which deals with the obligation of music in Basic Education, the creation and implementation of educational policies aimed at the teaching of music as a curricular component in Kindergarten, Elementary and High School was regulated. Although this inclusion was made in the legal documents, the change is considered subtle and does not guarantee that music will be a curricular component of schools: it only clarifies that, at some point in schooling, music must participate in the process (Del-Ben, 2010).

However, music, as a content, was already part of the teaching of artistic education, according to the references and curricular parameters for Early Childhood Education, Elementary School and High School, prepared by the Ministry of Education. Thus, it is clear that the change brought about by the change is more symbolic and political than operational, showing little effect to effectively remedy the lack of early childhood music education in the public network, especially in daycare centers (Tormin & Kishimtoo, 2018).

Although the RCNEI recommends musical initiation in preschool, emphasizing the choice of repertoire and suggesting that the songs be of good quality, it demonstrates that those that can offer adequate contexts for motor and cognitive aspects, and that are interspersed with periods of silence, the age group from zero to three years of age is not effectively contemplated (Brasil, 1998).

It is understood that, despite being provided for by law, little is understood about the musicalization of babies up to two years old. The proposals presented in the document concern practices that relate to the application, especially of three-year-old children, because children of zero, one and even some two-year-olds do not speak or walk, making it impossible to apply the practice focused on song circles and the construction of instruments (Tormin & Kishimoto, 2018).

Therefore, Law No. 11.769/2008, which provides for the mandatory teaching of music in Basic Education, should be associated with a management plan by the Ministry of Education and Culture (MEC), with the objective of preparing teachers in a complementary way to their single-teacher training, thus enabling greater effectiveness and seriousness in the application of educational practices. In addition to the lag in the promotion of continuing education, the text itself presents ambiguities, when it portrays the obligation of musicalization and the veto referring to article 2, which explained

that music teaching does not need to be taught by teachers with specific training in the area of music, motivating discussions and controversies in the area of music education (Brasil, 2008).

However, the problems of implementation of this law are mainly associated with the lag of Pedagogy courses, in which musical guidance is precarious or non-existent, worsening even more in the context of daycare centers. Consequently, most Early Childhood Education teachers did not have or had little access, in their academic training, to guidance on how to musicalize babies and young children (Tormin & Kishimoto, 2018).

According to Vilarinho & Ruas (2019), there is a barrier between academic studies on the importance and benefits of musicalization for children and the effective teaching practice of musicalization, as a tool for pedagogical and personal promotion.

From this perspective, it is expected that the new guidelines of the National Common Curriculum Base for Early Childhood Education (BNCC) will generate changes in teacher training curricula, especially with regard to musicalization for babies and very young children, in terms of learning and development, especially in public daycare centers. Actions capable of bringing modifications and reflections to musical pedagogical practice are necessary (Brasil, 2017).

In addition, another major challenge for teachers in the process of musicalization is the available structure. Usually, schools do not have spaces for the exercise of music that is wide and free of restrictions or have them in a scarce way. In this sense, it is important to emphasize that musicalized classes do not only provide students with the emission of sounds, but also the production of musical instruments, experience with other objects and materials that may be inserted in musicalization and various activities that require adequate space, materials and time in the curriculum, so that they can be performed in a productive way for the student (Loureiro, 2003).

Musicalization, as a teaching practice, requires the preparation and knowledge that undergraduate training does not always promote and, therefore, the need for professional improvement often occurs in the form of extracurricular courses and in institutions smaller than universities. According to Cristal (2018), the teacher in charge of musicalization must have experienced music and be musicalized, so that there is greater legitimacy and ownership of the cause for the one who teaches.

There are no manuals that guide the teaching practices inherent to musicalization and its conduct in Basic Education. On the one hand, this is a very positive characteristic, after all, it does not hinder teaching and its methods, through the standardization that handout systems usually bring in their concepts. However, there is a disadvantage in the absence of such material, which consists in the absence of basic parameters of the school process of musicalization, such as, for example, where to start pedagogically and, also, the existence of manuals implies critical judgments about the process, which tends to enrich practices and improve methods (Cristal, 2018).

The question related to the existence or not of a manual for music educators can be solved with the guidelines well established by the political-pedagogical project of the school institution or social project. It is of paramount importance, according to Galon (2021), that the political-pedagogical project is faithfully followed, so that musicalization, as a functional component, occurs.

The teaching practice of musicalization should be a dynamic and pulsating experience in terms of creativity. However, the training of a considerable part of the teachers who work with musicalization is subjected to conservative teaching – and therein lies a problem of a reproductive nature, since research indicates that teachers tend to teach the way they were taught (Galon, 2021).

The professional identity of the educator requires from him not only his inventiveness and creativity, but also his objectivity in what he intends to achieve with the educational process, carrying out a vivid interaction with the little students, in addition to stimulating the interaction between them, so that the musicalization is carried out in the most significant way possible (Joly et al., 2016).

7 CONCLUSION

Although children's music is not the only option used in daycare, it is necessary to problematize its choice as the main option in most cases, questioning whether this predominance really meets the musical needs of children.

When considering children's music as the primary option, there is a limitation of children's musical repertoire, restricting their exposure to a wider range of musical styles, rhythms, and expressions. By exposing children from an early age to a variety of musical styles, such as classical, jazz, folk, rock, among others, an opportunity to broaden their musical vocabulary would be provided. Not only does this enrich your music experience, but it also contributes to your emotional, creative, and cultural development.

The lack of musical knowledge and experience leads teachers to not feel prepared to use music as a protagonist in the activities, using children's songs already known and widely available, of simple patterns, because they do not feel safe in exploring other musical styles.

It is essential that there is a training based on pedagogical practices based on solid studies on musicalization so that they can understand the differentiation between music and musicalization, and thus design and implement educational activities appropriate for the different age groups and levels of development of children.

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Distance higher education in Brazil: A comparative analysis in the public policy scenario

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ABSTRACT
The purpose of this article is to present a comparative analysis between the reality and the existing processes of public policy, based on the implementation of Distance Higher Education in Brazil (EAD Superior) as a teaching modality. Although established by Law No. 9394/96 of the Ministry of Education (MEC), this modality was only regulated by Decree No. 2,494 of 1998, which in turn was repealed by Decree No. 5,622 of 2005, rescinded by Decree No. 9,057 of 2017, currently in force. However, it is only from Decree No. 5,622 of 2005, in its Article 2, that the scope for all levels and programs is evident, including Higher Education, which has reached much broader proportions of extension than the face-to-face offer. Thus, this study is a bibliographic and documentary research, through several sources, which served as support for the construction of this work. Among the documents on which it was based, it is worth noting, in addition to those mentioned above, the reports of the 2008 and 2019 Higher Education Censuses, among other materials that contributed in an enriching way to the understanding of the arguments raised during the exploratory integrative bibliographic review. The results of the research allowed us to conclude that this modality of education has been providing, in a significant way, the expansion of the supply of vacancies in higher education and, consequently, the democratization of access, especially in private institutions, aiming to fulfill the purpose as a public policy.

Keywords: Distance Education, Public Policy, Democratisation.

1 INTRODUCTION

In a country with continental dimensions such as Brazil, rich in ethnic, natural, cultural and religious diversity, it is not consolidated to be surprised by the complexity present at the heart of issues related to these themes. As a result of this diversity and the relationships that are established, situations emerge characterized by the dissatisfaction of one or more groups in society, which need to be addressed for the common good; and they can be called social problems. From this perspective, for a problem to be considered social, it is essential to understand it as a disturbance to the life of society and, consequently, to insert it in the government's agenda in order to provide a solution to it through improvement instruments called public policies. (MARTINS; SOUZA, 2009).

In this sense, public policies consist of actions planned by governments aimed at solving society's problems; Thus, the latter constitute the central object of these actions. Once the problem is constituted as a public matter, some steps must be fulfilled, constituting the so-called public policy cycle, which in the Brazilian model, is based on the following phases: formulation, execution, evaluation and reprogramming. Between formulation and execution, it is worth noting the existence of the decision-making process, in which it is decided to take a course of action to address a problem. (WU et al., 2014).

Thus, decision-making in Brazilian public policy is the theme of this work, whose objective is to comparatively analyze the reality and existing processes of public policy, based on the implementation of Distance Higher Education in Brazil as a teaching modality. Since education is the central theme of all discussions involving the development of societies and especially social movements, it is from it that the positions, objectives and intentions of those who fight for a better society extend, primarily because education has a transformative potential for people's lives.

2 PROBLEMS

In order for a social problem to be identified as likely to become a public policy, it must demand social, economic, political, environmental or cultural pressures. In this sense, Distance Higher Education (EAD Superior) in Brazil emerged in the context of Public Policies in education arising from the need to democratize access to Higher Education as a possibility of expanding the number of vacancies, since it presents, among other advantages, the flexibility of place, day and time to dedicate oneself to studies; work-study and autonomy. (RUE; ARRUDA, 2015).

However, it is not enough for a public policy to be implemented for the problem to be solved, it is essential that the monitoring process takes place in order to observe its efficiency. In addition, as a later stage and final phase of this cycle, it is extremely important to evaluate the effectiveness of your results. (WU et al., 2014).

Thus, based on this assumption, the present work seeks to achieve its purpose of analyzing the reality and existing processes of the public policy of Distance Higher Education in Brazil, guided by the following question: How does the comparative analysis of the evolution of Distance Higher Education in Brazil help in its evaluation as a public policy?

3 DATA ANALYSIS

The present work is presented as a bibliographic and documentary research with a mixed focus (quantitative and qualitative). In the case of a bibliographic and documentary research, we seek to investigate the object of study based on information from graphic, sound and computerized material (BARROS; LEHFELD, 2014). About the mixed approach, there is an interlocution between the

method that analyzes the theoretical-philosophical bases of the problems and the one that quantifies them, giving them an exploratory character.

As for the comparative approach as a method, it means the use of a control method – comparison – in the empirical corroboration of hypotheses, generalizations or theories. "This moment is where the comparative method makes the 'bridge' between concepts and concrete reality" (BORSOTTI, 2007 *apud* BULCOURF; CARDOZO, 2008, p. 10). Ultimately, it is a procedure of empirical confrontation of concepts. Comparison as a method is, therefore, a contribution to the empirical controllability of political phenomena (BULCOURF; CARDOZO, 2008, p. 9).

Therefore, this research work is constituted by scientific knowledge, given its intention to seek beyond the phenomenon itself, an investigation of methods and systems that lead to an investigation of the causes of the facts in question, as well as the laws that govern it.

4 RESULTS AND DISCUSSION

From the investigation carried out, it was possible to collect the data presented below, based on the documents and literature used for this purpose. Thus, considering that in order to evaluate a public policy it is necessary to monitor it from its implementation, some relevant aspects are highlighted below because they are more in line with the purpose of the work in question.

Distance Education (EAD) has been growing and acquiring recognition as an education modality to achieve public policy goals. In Brazil it is no different, because due to the fact that it has a large territorial area with geographical dispersion of students, there is a considerable difficulty for face-to-face teaching. In this way, the need for distance learning arises, as it makes it possible to reach this public that does not have the possibility of attending face-to-face classes.

Based on this assumption, in Brazil Law No. 9,394 – Law of Guidelines and Bases of National Education (LDBEN) – of December 20, 1996, in its Art. 80 establishes the guidelines for the development and broadcasting of distance learning programs by emphasizing: "The government shall encourage the development and dissemination of distance learning programs, at all levels and modalities of education, and continuing education." However, it was only on February 10, 1998, with Decree No. 2,494, that this article was regulated, so that it brought in its Article 1 the definition of Distance Education (EAD) as being

> [...] a form of teaching that enables self-learning, with the mediation of systematically organized didactic resources, presented in different information supports, used alone or combined, and disseminated by the various means of communication (BRASIL, 1998).

Next, the sole paragraph deals with the organization of distance learning courses in terms of admission, schedule and duration, ensuring that there are no prejudices regarding the objectives and guidelines established nationally; Article 2, in turn, discusses the institutions that may issue certificates

or diplomas for the completion of elementary school for young people and adults, high school, professional education and graduation. Regarding the offer of master's and doctoral programs in this modality, paragraph 1 determines that it will be subject to specific regulations.

On December 19, 2005, Decree No. 5,622 entered into force, and the previous one was revoked. In this document, they are stated in detail, in six chapters: the general provisions evidencing a description of the characteristics of distance education as an educational modality, the regulations on the accreditation of institutions, the offer of youth and adult education, special education and professional education, in Basic Education, the offer of higher education courses, the offer of courses and graduate programs and, in the last chapter the final provisions. It is worth noting that in Article 1 of the same decree, distance education is characterized as:

> [...] An educational modality in which didactic-pedagogical mediation in the teaching and learning processes occurs with the use of communication and information means and technologies, with students and teachers developing educational activities in different places or times (BRASIL, 2005).

The student is not configured as self-taught, but as a co-participant in the teaching-learning process together with the teacher and other students. It also establishes the use of information and communication technologies as tools so that students and teachers can carry out their activities in places and times that favor them to perform better in their pedagogical tasks. In addition, paragraph 1 of the Article provides, for the methodology to be used, the obligation of face-to-face moments, among which are assessments, mandatory internships, presentation of course completion papers and laboratory activities.

Regarding the levels and modalities of education, this Decree, in Article 2, regulates that distance education may be offered in basic education, youth and adult education, special education, professional education, covering the following levels and programs: technical, secondary level; technological, higher-level education; Higher education, covering the following levels and programs: sequential, undergraduate, specialization, master's and doctoral degrees. With the regulation of this decree, specifically for people who aspired to take a higher education course, it represents an opportunity to enter the university and be able to fulfill the dream of becoming a competent and quality professional.

However, after 12 years in force, on May 25, 2017, Decree No. 5,622 is revoked, giving way to Decree No. 9,057, consisting of four chapters organized as follows: general provisions, the offer of distance learning courses in Basic Education, the offer of distance learning courses in Higher Education, final and transitional provisions. On the other hand, Article 1 presents a complement to the characterization of distance education, evidencing qualified personnel, access policies, adequate monitoring and evaluation.

> For the purposes of this Decree, distance education is considered to be the educational modality in which didactic-pedagogical mediation in the teaching and learning processes occurs with the use of information and communication means and technologies, with qualified personnel, with access policies, with compatible monitoring and evaluation, among others, and develops educational activities by students and education professionals who are in different places and times (BRASIL, 2017).

Therefore, since the creation ofDecree No. 5,622 shows a significant increase in the number of vacancies for access to Distance Higher Education, as shown in the following table. According to the 2008 Higher Education Census (MEC/INEP), the number of Higher Education Institutions (HEIs) jumped from 25 in 2002 to 115 in 2008; there are 90 more HEIs compared to those registered in 2002, representing a significant increase of 360%. And the supply of vacancies went from 24,389 to 1,699,489, that is, 1,675,100 new vacancies were created in this period. Another aspect to be observed is the ratio between applicants and vacancies, while in 2002 there were 1.22 candidates for each vacancy, in 2008, this ratio was 0.42; In other words, more vacancies, less competition, more opportunities for admission to higher education courses.

Table 27. Evolution of the Number of HEIs, Courses, Vacancies and Enrolments in Distance Education Brazil - 2002-2008

Tabela 27. Evolução do Número de IES, Cursos, Vagas e Inscritos na Educação a Distância Brasil - 2002-2008

Ano	IES	%Δ	Cursos	%Δ	Vagas	%Δ	Inscritos	%Δ
2002	25	_	46	_	24.389	_	29.702	_
2003	37	48,0	52	13,0	24.025	-1,5	21.873	-26,4
2004	45	21,6	107	105,8	113.079	370,7	50.706	131,8
2005	61	35,6	189	76,6	423.411	274,4	233.626	360,7
2006	77	26,2	349	84,7	813.550	92,1	430.229	84,2
2007	97	26,0	408	16,9	1.541.070	89,4	537.959	25,0
2008	115	18,6	647	58,6	1.699.489	10,3	708.784	31,8

Fonte: MEC/INEP/DEED

Source: MEC/INEP/DEED

Compared to 2002, the total number of new entrants increased by 135% compared to 2008. With regard to the total number of enrollments, there was an increase over the years analyzed, reaching the mark of 727,961 in 2008. Another factor to be considered is the number of graduates, which in 2002 was 1,712, while in 2008 there were 70,068, making a percentage of approximately 41% more individuals who were successful in completing their courses, as evidenced in the table below.

Table 28. Evolution of the Number of Admissions, Enrolments and Graduates in Distance Education - Brazil - 2002-2008

Tabela 28. Evolução do Número de Ingressos, Matrículas e Concluintes na Educação a Distância - Brasil - 2002-2008

Ano	Ingressos	%Δ	Matrículas	%Δ	Concluintes	%Δ
2002	20.685	_	40.714	_	1.712	_
2003	14.233	-31,2	49.911	22,6	4.005	133,9
2004	25.006	75,7	59.611	19,4	6.746	68,4
2005	127.014	407,9	114.642	92,3	12.626	87,2
2006	212.246	67,1	207.206	80,7	25.804	104,4
2007	302.525	42,5	369.766	78,5	29.812	15,5
2008	430.259	42,2	727.961	96,9	70.068	135,0

Fonte: MEC/INEP/DEED

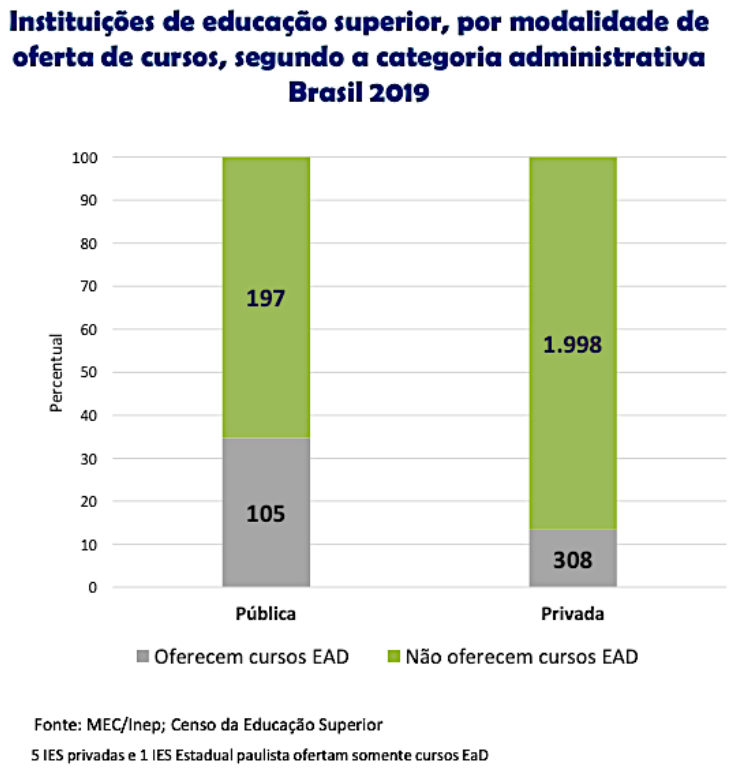
Source: MEC/INEP/DEED

Still in the wake of the presentation and discussion of the results obtained, the following will be evidenced more recent information extracted from the 2019 Higher Education Census (MEC/INEP) released in 2020.

The chart below shows the HEIs, by type of course offerings, according to the administrative category (public or private). The data reveal that, in 2019, 105 public and 308 private HEIs offered distance learning courses, that is, a total of 413 HEIs that offer distance learning courses, while in 2008 this total was 115; a difference of 298, representing 260%. In addition, it is also possible to perceive a growth of a private nature in this modality, an intense presence of the private sector, which is materialized in the total number of vacancies offered and filled.

According to the In 2019,

Higher education institutions, by type of course offered, according to administrative category Brazil 2019

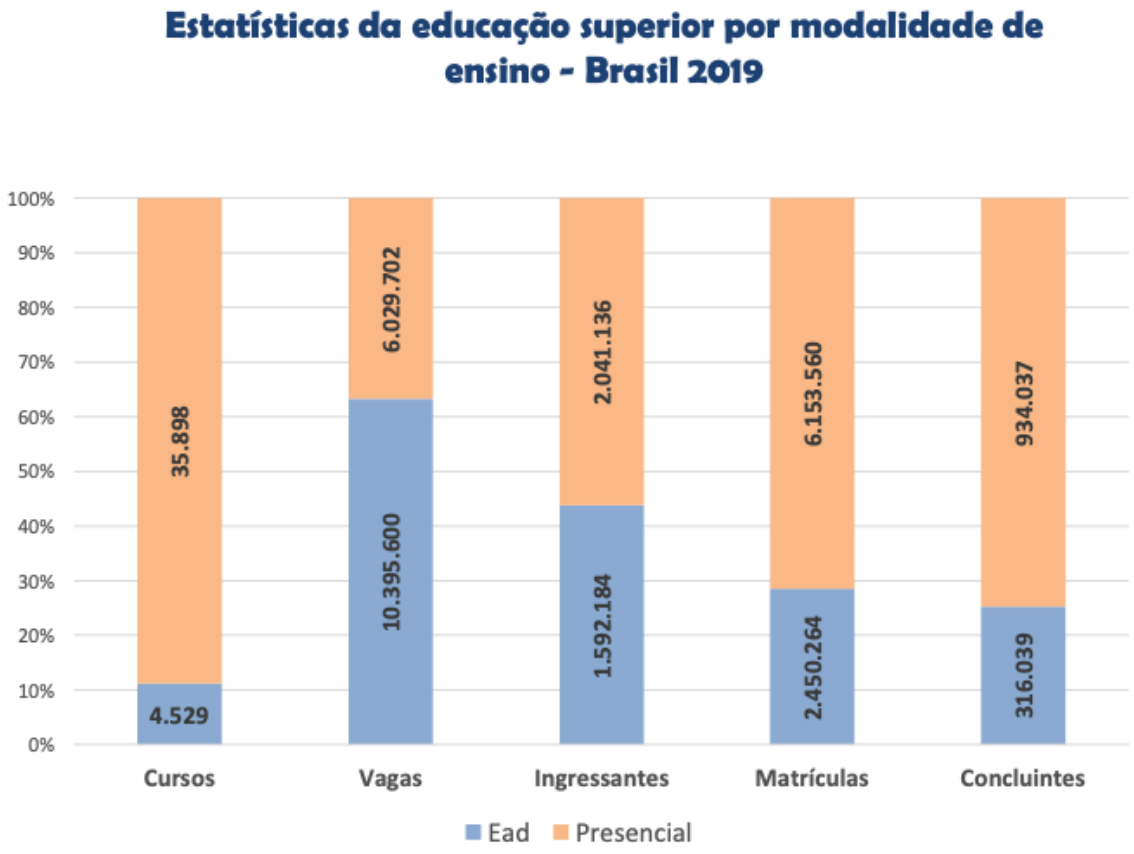


Source: MEC/Inep; Censo da Educação Superior
5 private HEIs and 1 São Paulo State HEI offer only distance learning courses

Based on the assumption that a public policy must be evaluated in order to reformulate/reprogram through adjustments and corrections in order to get closer and closer to the established goals and objectives, it is noted that since the implementation of distance education until 2019, the expansion of vacancies has been on the rise, especially with regard to the private sector. This observation suggests that the proposal presented by the aforementioned decree may be revealing signs of its fulfillment.

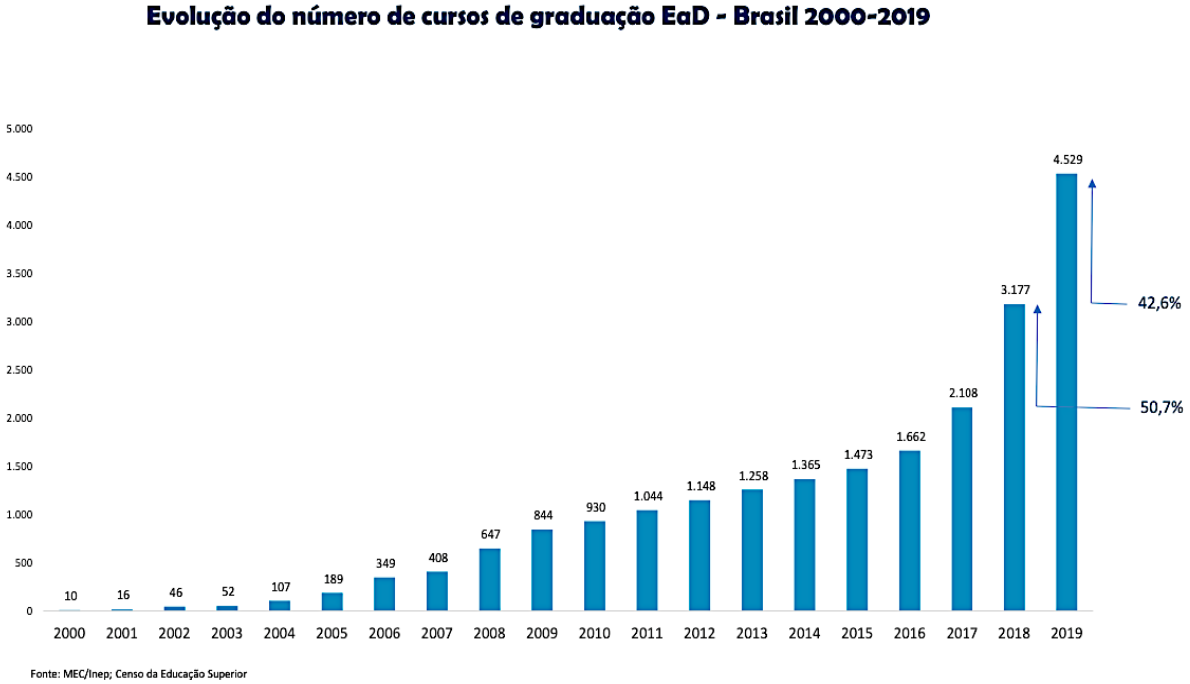
Regarding the courses implemented, in 2019 there was a number of 4,529, compared to 2008 with a total of 647. Thus, 3,882 new ones were created over the 11 years in question. The vacancies offered registered an exorbitant increase, jumping from 1,699,489 to 10,395,600, a difference of 8,696,111. In other factors, a significant growth in this observation period is also remarkable: in relation to the new entrants, 1,161,925 more were registered; enrollment increased from 727,961 to 2,450,264; and the number of graduates shows a percentage increase of 351%.

Higher education statistics by teaching mode - Brazil 2019



The data below show, in a more general way, the evolution of the number of distance learning undergraduate courses from 2000 to 2019, in a broader and more complete perspective of this period.

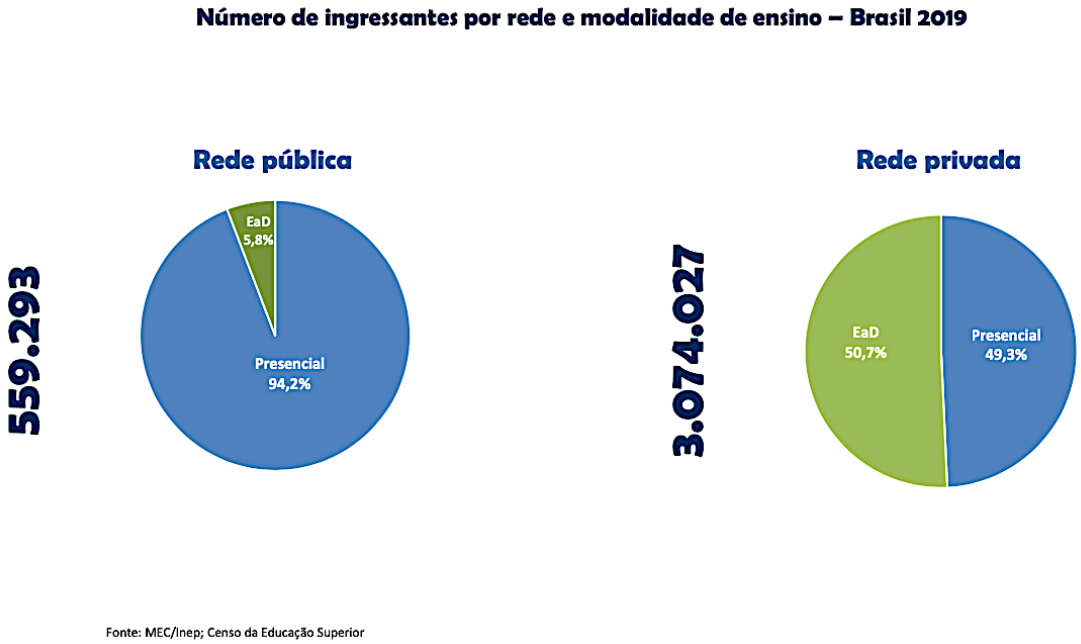
Evolution in the number of distance learning undergraduate courses - Brazil 2000-2019



Source: MEC/Inep; Censo da Educação Superior

Another situation that deserves attention is the number of new entrants. Of the 559,293 admissions in the public network, only 5.8%, that is, approximately 32,439 are in the distance learning modality. On the other hand, this percentage reaches 50.7% of the 3,074,027 entrants when it comes to the private network.

Number of entrants by school system and type of education - Brazil 2019



Source: MEC/Inep; Censo da Educação Superior

It is worth noting that the Census also presents, in descending order, the 20 largest higher education institutions, in number of enrollments in 2019. In first place is the Pitágoras UNOPAR University with a record of 363,584 enrollments, followed by the Leonardo Da Vinci University Center, with 281,712. Corroborating what was previously mentioned about the increase in the number of vacancies in the private network, it can be seen that in this list of HEIs, only one belongs to the public network, the Virtual University Foundation of the State of São Paulo, occupying the 14th place in this classification. Therefore, the possibility of distance education in Brazil has greatly expanded in terms of the preferences of the private education sector.

20 largest higher education institutions, in terms of enrollment, in undergraduate distance learning courses - Brazil – 2019

20 maiores instituições de educação superior, em número de matrículas, em cursos de graduação a distância - Brasil - 2019

NOME DA INSTITUIÇÃO	CATEGORIA ADMINISTRATIVA	ORGANIZAÇÃO ACADÊMICA	TOTAL DE MATRÍCULAS	FREQUÊNCIA %	FREQUÊNCIA ACUMULADA %
UNIVERSIDADE PITÁGORAS UNOPAR	Privada	Universidade	363.584	14,8	14,8
CENTRO UNIVERSITÁRIO LEONARDO DA VINCI	Privada	Centro Universitário	281.712	11,5	26,3
UNIVERSIDADE PAULISTA	Privada	Universidade	234.103	9,6	35,9
CENTRO UNIVERSITÁRIO INTERNACIONAL	Privada	Centro Universitário	180.740	7,4	43,3
CENTRO UNIVERSITÁRIO DE MARINGÁ - UNICESUMAR	Privada	Centro Universitário	142.890	5,8	49,1
UNIVERSIDADE ANHANGUERA	Privada	Universidade	141.522	5,8	54,9
UNIVERSIDADE ESTÁCIO DE SÁ	Privada	Universidade	134.551	5,5	60,4
FACULDADE EDUCACIONAL DA LAPA	Privada	Faculdade	51.575	2,1	62,5
UNIVERSIDADE CRUZEIRO DO SUL	Privada	Universidade	51.287	2,1	64,6
CENTRO UNIVERSITÁRIO ESTÁCIO DE RIBEIRÃO PRETO	Privada	Centro Universitário	49.855	2,0	66,6
UNIVERSIDADE NOVE DE JULHO	Privada	Universidade	49.326	2,0	68,6
UNIVERSIDADE CIDADE DE SÃO PAULO	Privada	Universidade	43.946	1,8	70,4
UNIVERSIDADE DE FRANCA	Privada	Universidade	42.211	1,7	72,1
Fundação Universidade Virtual do Estado de São Paulo	Estadual	Universidade	28.192	1,2	73,3
CENTRO UNIVERSITÁRIO CLARETIANO	Privada	Centro Universitário	25.791	1,1	74,3
UNIVERSIDADE ANHEMBI MORUMBI	Privada	Universidade	25.572	1,0	75,4
CENTRO UNIVERSITÁRIO PLANALTO DO DISTRITO FEDERAL - UNIPLAN	Privada	Centro Universitário	24.157	1,0	76,4
CENTRO UNIVERSITÁRIO INTA	Privada	Centro Universitário	22.016	0,9	77,3
UNIVERSIDADE SANTO AMARO	Privada	Universidade	20.657	0,8	78,1
UNIVERSIDADE METROPOLITANA DE SANTOS	Privada	Universidade	19.533	0,8	78,9

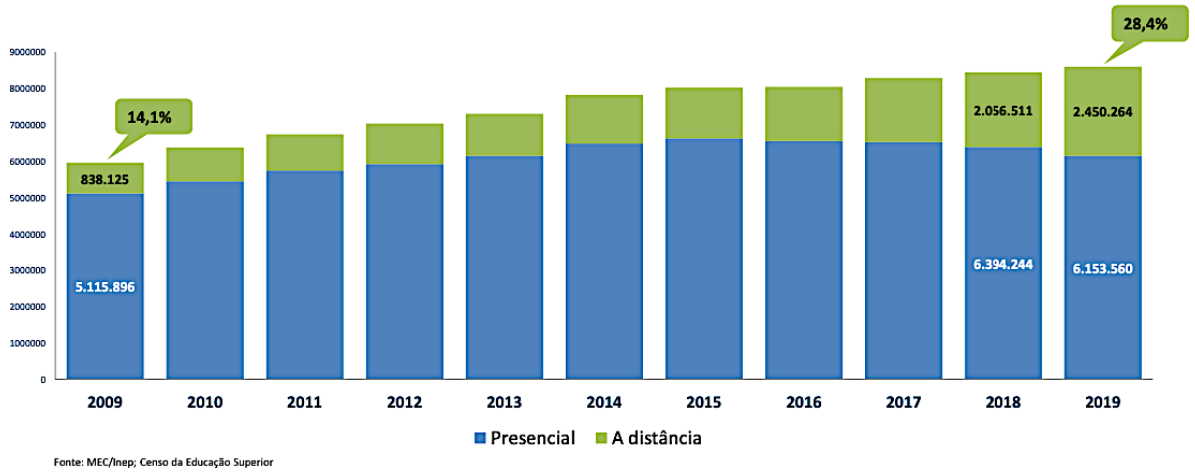
Fonte: MEC/Inep; Censo da Educação Superior

Source: MEC/Inep; Censo da Educação Superior

Finally, a last graph that shows the number of enrollments in undergraduate courses by teaching modality in the period from 2008 to 2018. Considering this period, in 2009, distance education represented 14.1% of undergraduate enrollments and in 2019, this percentage was 28.4%. It is worth noting that in 2018, distance learning surpassed the mark of 2 million students. And as you can see, since 2015, the number of enrollments in the face-to-face modality has been falling.

Number of enrollments in undergraduate courses by teaching modality - Brazil 2008 – 2018

Número de matrículas em cursos de graduação por modalidade de ensino – Brasil 2008-2018



Source: MEC/Inep; Censo da Educação Superior

Therefore, in view of the above, from the data presented resulting from this investigation, it is possible to infer that the reality of Distance Higher Education in Brazil has been in a process of evolution, especially in the context of new technologies, significantly driven by the pandemic scenario declared in February 2020 by the World Health Organization (WHO), in which severe restrictive measures were adopted by the authorities in order to block the spread of the virus COVID-19. Because of these decisions, Education in all its teaching modalities and administrative categories were impelled to make use of technological tools and digital platforms to continue the educational process, since educational institutions were closed in order to avoid approximation or even physical contact between people, emphatically ruling out the possibility of agglomeration.

Therefore, it can be seen that, although the quality of Higher Education is questionable for some authors, due to the emptying of content and commodification of teaching, it is undeniable that this modality of education as a public policy, whose proposal is the democratization of access to higher education, has been fulfilling its purpose to the extent that, With each census released, the numbers show the panorama that has been installed since its implementation to the present day.

5 CONCLUSIONS

The data of the research developed suggest that, as a public policy, Higher Education in Brazil has been fulfilling the purpose for which it is intended to expand access to higher education, more specifically increasing the number of vacancies and, consequently, the democratization of this modality of education.

With the recognition of distance education as a modality of education in Brazil, its regulation has brought benefits, since it provides opportunities for many people to take a higher education course and enter the job market as competent professionals, capable of performing their functions efficiently and effectively.

However, despite the recognition as a teaching modality, and presenting many advantages for the student, distance education still needs monitoring and evaluation of the results of implementation, because like any public policy, it is essential to be evaluated in order to obtain subsidies that allow it to be reformulated and constantly improved.

6 LIMITATIONS AND RECOMMENDATIONS

TheThe reflections presented in this work aimed to analyze, in a comparative way, the evolution of Higher Education in Brazil from the decision-making that culminated in its implementation through Decree 2.494/1998 to the current reality, making a continuous and growing trajectory regarding the expansion of the number of vacancies offered.

Therefore, and without intending to exhaust the theme discussed here, since this work analyzes

(through the Census of Higher Education) only one of the aspects of Higher Education in Brazil as a public policy, it is suggested that some points that are beyond the purpose of this investigation be included in the list of future investigations, however they are considered relevant, and, therefore, essential to the construction and improvement of scientific knowledge, but also to society, namely:

- Rancidities and advances of Higher Education in Brazil;
- The acceptance/insertion of students from these courses in the labor market;
- Aspects related to the reduced number of graduating students to the detriment of the number of enrollees;
- Democratization vs. Massification: what you need to know.

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SEVEN
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Impact of biopsychosocial education on the quality of life of the elderly: A systematic review

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ABSTRACT
The present study aimed to conduct a systematic review on the impact of biopsychosocial education on the quality of life of the elderly. Thus, we sought to conceptualize this type of education, already mentioned, as those activities developed with the purpose of encouraging and promoting health by preventing the onset and development of the disease. In this sense, a systematic review was carried out, following the norms of the PRISMA declaration, to answer the guiding questions mentioned in the introduction of the present study. For the results, twenty published studies were considered (1 article, in 2018; 2 in 2019; 1 in 2020; 1 in 2021 and 15 in 2022) that address interventions with older adults in the various physical, psychological, social, cultural, and environmental aspects that evidence the findings of the present study. Therefore, it is possible to conclude that the provision of biopsychosocial education, carried out in a systematic way, benefits and empowers the elderly, thus reflecting a great benefit for society, for the health and for the quality of life of this public.

Keywords: Biopsychosocial models, Quality of life, Health Service for the Elderly, Old.

1 INTRODUCTION

The arrival of modern times "globalization" has brought us a perceptible change in life expectancy and quality of life, in which the conditions and requirements for health such as peace, education, housing, food, income, a stable ecosystem, social justice, equity, the influence of personal and cultural appreciation of the elderly population in particular (Brazil, 2002; Lemus, 2009; Almeida, et al., 2012). This change demanded greater investment by public agencies related to curative and rehabilitative health care in this population segment (Brasil, 2008).

In this context, it is possible to perceive the existence of an education offer with biopsychosocial content that contemplates the elderly with continuous and systematic educational actions, which can awaken them to a new look at their health (Souza et al., 2015; Kleba et al., 2016). Biopsychosocial education is understood as those activities developed with the purpose of encouraging and promoting health by preventing the onset and development of the disease, taking into account the functional capacity, need for autonomy, participation and care of the elderly (Gonçalves et al., 2013; Cardoso Neto, et al., 2019).

In this sense, it is observed that, in countries with better socioeconomic conditions, biopsychosocial educational activities are provided to the elderly, aiming to improve the quality of life of this segment of society (Stegmüller, 2009; Barros et al., 2011; Tanigawa, 2012; Human Development Report, 2014; Organization for Economic Co-operation and Development [OECD], 2015; Escoval, 2016).

Due to the increase in life expectancy and the relevance achieved by the elderly in recent years, and thanks to the efforts of organizations of serious professionals in the area of activity, research and theoretical and empirical studies of aging have begun to have greater importance in Brazil and in other underdeveloped countries on the planet (Almeida, et al., 2014).

Thus, a significant positive relationship between biopsychosocial education and the quality of life of the elderly is perceived. In this regard, it is relevant to question how biopsychosocial education enhances the positive socio-affective dimensions in the fight against exclusion and loneliness? What would be the importance of including the elderly in biopsychosocial education activities in health?

This article aims to conduct a systematic review on the impact of biopsychosocial education on the quality of life of the elderly.

2 METHODOLOGY

The present study was carried out following the norms of the PRISMA declaration (Moher et al., 2009; Urrutia & Bonfill, 2010), according to the quality steps for systematic review with the exception of specific items for meta-analysis review studies. To meet the objective of this study, considering the chosen method, it was decided to include items informed by empirical research to conduct systematic reviews. The PRISMA statement consists of a 27-item checklist and a four-step flowchart designed to help authors improve review communication (Oliveira & Cardoso Neto, 2023).

To contemplate the systematic review, the following guiding questions were established: How does biopsychosocial education enhance the positive socio-affective dimensions in the fight against exclusion and loneliness? What would be the importance of including the elderly in biopsychosocial education activities in health?

The literature review took place between January and April 2023, prioritizing publications between 2018 and 2022 (Azevêdo et al., 2022; Balaguera & Arberas, 2022; Cruz, Pereira and Raymundo, 2022; Cruz, Pereira, Pizzetti et al., 2022; Damasceno et al., 2018; Fiamoncini et al., 2022; Glasinovic et al., 2022; Gallo et al., 2022; Hernández, 2022; Lucas et al., 2022; Nascimento et al., 2020; Oliveira et al., 2019; Oliveira et al., 2021; Previato et al., 2019; Sá et al., 2022; Silva et al., 2022; Souza Júnior, Siqueira et al., 2022; Souza Júnior, Viana et al., 2022; Tedeschi et al., 2022; Veras et al., 2022).

Four databases were considered to consult the indexed articles: Network of Scientific Journals of Latin America and the Caribbean, Spain and Portugal (REDALYC), Scientific Electronic Library Online (SCIELO), Latin American and Caribbean Health Sciences Literature (LILACS), Nursing Database (BDENF) via Virtual Health Library (VHL).

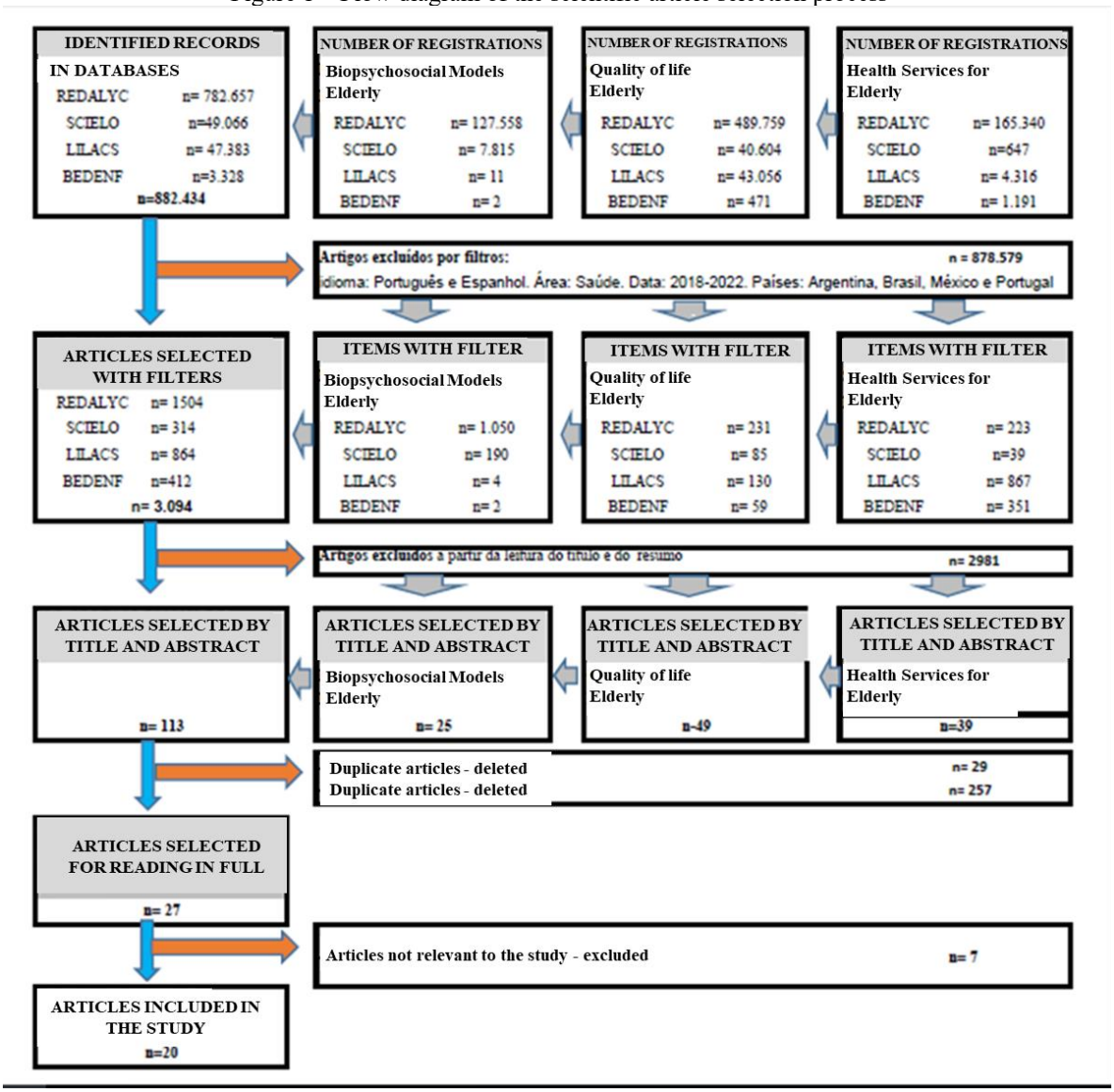
To operationalize the search in the selected databases, the descriptors (in Portuguese and Spanish) extracted from the Health Sciences Descriptors (DeCS) and Medical Subject Headings (MESH) of the Virtual Health Library (VHL) were used. The combination was performed using the Boolean operators, OR and AND, which maintained the same standardization for the databases consulted. The search terms were: "Biopsychosocial models", "Quality of life", "Health services for the elderly" and "elderly".

A total of 882,434 samples were found, of which 782,657 were identified in Redalyc, 49,066 in SciELO, 47,383 in Lilacs and 3328 in Bdenf. After applying filters: full text, Portuguese and Spanish; Subject: Health; Countries: Argentina, Brazil, Mexico, Portugal and period: 2018 – 2023. A total of 3,094 articles remained: 1,504 in Redalyc, 314 in SciELO, 864 in Lilacs and 412 in Bdenf. The titles and abstracts were read first and in the end resulted in 113 articles. After checking for duplicate and incomplete articles, it resulted in 27. These have been read and analyzed thoroughly to make decisions about their eligibility. Finally, 20 articles were considered included as observed in the flowchart; constructed for the selection process of the present study, considering the recommendations of PRISMA according to Moher et al. (2009), Urrutia and Bonfill (2010).

It is highlighted in the present research that the inclusion of the articles for the study resulted from the interpretation and personal critical analysis of the author, who chose materials with information that adequately contemplates the study presented here and that meet his expectations.

As inclusion criteria, original articles that addressed the investigated theme and allowed full access to the content of the study, articles published in Portuguese or in Spanish that were published in the last five years were considered. Exclusion criteria were: duplicate articles in the investigated databases, incomplete articles, published before 2018, non-relevance of the article after complete reading and not available in full.

Figure 1 – Flow diagram of the scientific article selection process



Source: The Author.

3 RESULTS AND DISCUSSION

Table 1 provides an overview of the number of articles included and used in the present systematic review study in order to meet the objective of the study and answer the triggering questions on the topic investigated. 27 studies were chosen first, but only 20 articles were included for definitive review. A narrative synthesis was carried out (Korea and Mesquita, 2014) to analyze the findings. The articles, considered and included, contain: the author(s) and year of publication, the title of the article and the database from which it was collected, the type of instrument or study, and the sample of each research included, as reported in Table 1.

Table 1 - Articles used in the systematic review

Order No.	Author/ Year	Title / Base	Instrument Type or study And	Show
1	Azevêdo et al. (2022)	Personal Projects of the Elderly Based on a Public Housing Policy (Scielo).	This is a quantitative-qualitative, descriptive and exploratory study.	76 seniors
2	Balaguera, Arberas, (2022)	Pilot study on the effect of telerehabilitation on the quality of life of elderly people with cognitive impairment (Scielo).	Descriptive study	28 seniors
3	Cruz et al. (2022)	Cognitive training for older adults without cognitive impairment: an occupational therapy intervention during the COVID-19 pandemic (Scielo).	Non-randomized clinical trial	90 seniors
4	Cruz et al. (2022)	Development of an online cognitive training program for healthy older adults: an occupational therapy intervention (Scielo).	Qualitative exploratory design	21 seniors
5	Damasceno et al. (2018)	University Extension as a strategy for Health Education with a group of elderly people (Lilacs).	This is a descriptive study with a qualitative approach	30 seniors
6	Fiamoncini et al. (2022)	Association between linguistic-cognitive performance and auditory self-perception in the elderly (Redalyc).	Observational, cross-sectional	61 seniors
7	Glasinovic, et al. (2022)	Medium-term effectiveness of a multidimensional program in older people in day centers in Chile (Lilacs).	Quasi-experimental	72 seniors
8	Gallo et al. (2022)	Experience with social media for health actions with the elderly during the Covid-19 pandemic (Lilacs).	Experience report, with a descriptive approach	95 seniors
9	Hernández, (2022)	Community Strategy for Developing Healthy Lifestyles in Older Adults (Lilacs).	Pre-experimental study	66 seniors
10	Lucas et al. (2022)	The association between integrative and complementary health practices and the use of dental services in the elderly in Brazil: a cross-sectional study, 2019 (Scielo).	Cross-sectional study,	22,728 elderly
11	Nascimento et al. (2020)	Health promotion activities for a group of elderly people: report by (Redalyc).	Experience report, of a descriptive nature	33 seniors
12	Oliveira et al. (2019)	Functional exercise program for the elderly – impact on physical fitness (Redalyc).	Quasi-experimental study	22 elderly women
13	Oliveira et al. (2021)	Personal satisfaction and leisure activities in outpatient elderly patients (Bdenf).	Cross-sectional and analytical study	100 seniors
14	Previato et al. (2019)	Coexistence group for the elderly in primary health care: contributions to active aging (Bdenf).	Qualitative, exploratory-descriptive study	14 seniors
15	Sá et al. (2022)	Effectiveness of educational video in the perception of elderly people about fall risks: a randomized clinical trial (Scielo).	Cluster randomized controlled clinical trial	1,773 elderly
16	Silva et al. (2022)	Gymnastics for all: a look at the development of social relationships in groups of elderly people (Lilacs).	Qualitative and exploratory	224 elderly
17	Souza Júnior et al. (2022)	Effects of experiences in sexuality on anxiety and quality of life of elderly people (Lilacs).	Cross-sectional and analytical study	550 elderly people
18	Souza Junior et al. (2022)	Relationship between family functionality and quality of life of the elderly (Scielo).	Cross-sectional study	692elderly
19	Tedeschi et al.(2022)	Functional fitness and quality of life of elderly practitioners of Lian Gong, Tai Chi and Qigong (Bdenf).	Case-control study	118 seniors

20	Veras et al. (2022)	Elderly group as a device for empowerment in health: an action research (Scielo).	Action research with Qualitative approach	26 seniors

Source: Author's own (2023).

As can be seen in the Table, all 20 articles refer to the sample studied. Regarding the distribution of articles, by year, the following were collected: 1 article published in 2018, 2 in 2019, 1 in 2020, 1 in 2021 and 15 in 2022.

The studies selected for this systematic review contribute to the answer to whether biopsychosocial education has a positive impact on the quality of life of the elderly.

In this sense, Azevêdo et al. (2022), in their studies on the personal projects of the elderly based on a public housing policy, report that the potential of the environment, such as safety, tranquility, socialization, and accessibility, provide favorable support for the performance of daily activities; reflecting on general well-being and better quality of life for this portion of the population. In addition, it was found by Souza Junior, Viana et al. (2022) that family functionality is positively correlated with the quality of life of the elderly, thus requiring the inclusion of the family in health care plans as a way to identify potential family stressors early and plan interventions to solve the problems raised. Based on these data, it can be seen that such actions positively favor biopsychosocial education as a potentiator of positive socio-affective dimensions in the fight against exclusion and loneliness of this public.

When questioning the importance of the inclusion of the elderly in biopsychosocial education activities in health, it was observed that the studies carried out by Nascimento et al. (2020), on health promotion activities for a group of older adults, stated that the evolution and development in physical variables, critical sense, and effective participation were noticeable and significant. dynamism and communication of the group, in addition to the construction of a bond among the elderly. They also reported the existence of gains for users, who benefited from physical, psychological, social activities and general well-being; based on the anguish, loss or alteration in general.

In the same vein, Damasceno et al. (2018) pointed out that the realization of groups of elderly people with didactic approaches corroborates to empower this portion of the population on topics of their daily lives and health promotion, enabling this public to make use of other means of care, by seeing the individual in his biopsychosocial and spiritual aspect.

In addition to these studies, Hernández (2022) also states that the application of the community promotion strategy was effective in improving the lifestyles of the elderly. In addition, there was evidence of evolution for positive improvement in the following factors: self-care, medication intake, sleep, interpersonal relationships and physical exercise associated with the lifestyle of the elderly after the application of the strategy.

With this same reasoning, Lucas et al. (2022) highlighted that the use of some integrative practice by the Brazilian elderly contributes positively to the use of the health service on a regular basis. Also in this sense, Sá et al. (2022) stated that the use of educational videos and verbal instructions increased the elderly's perception of fall risks, with better results in the control group.

In this sense, the results demonstrate that the development of biopsychosocial educational activities promotes autonomy and health, preventing the onset and development of diseases (Damasceno et al., 2018; Nascimento et al., 2020; Hernández, 2022; Lucas et al., 2022; Sá et al., 2022).

Regarding the changes in biological aspects observed in studies of biopsychosocial education activities, Glasinovic et al. (2022) highlighted that improvements were observed in the sit-and-stand test, gait speed, and health literacy for Spanish speakers. From this, improvements in quality of life were observed in five dimensions of the program for the elderly lasting one month, in addition to improving physical health and literacy up to the fifth month of evaluation.

In this sense, Oliveira et al. (2019) identified that all components of the participants' physical fitness were improved after the intervention of a functional exercise program in the Intervention Group (IG). Thus, they concluded the study by stating that a functional exercise program improves the components of physical fitness in elderly women.

Another study conducted by Silva et al. (2022) shows that the practice of gymnastics for all intensified social interaction among practitioners, with a notable increase in their self-esteem and feeling of recognition and social belonging, through not only engagement in activities related to the practice – such as training, travel, participation and presentations at events and festivals – but also in extra-practical meetings, such as get-togethers, which become common among the members of the groups. They also affirm that these practices are configured as an environment of intense social coexistence, which promotes the quality of life and well-being of the elderly.

These results are also consistent with the observations made in Tedeschi et al. (2022) who showed a positive result in the functional test of getting up and sitting from the chair, as well as better performance in the following domains of quality of life: pain, vitality, emotional aspects, and mental health. The findings affirmed that participation in guided body practices (Lian Gong, Tai Chi and Qigong) can contribute to the quality of life and functional fitness of the elderly.

As observed in the studies by Oliveira et al. (2019), Silva et al. (2022), Glasinovic et al. (2022) and Tedeschi et al. (2022), it is noticeable that the performance of biopsychosocial activities in a systematic way promotes improvements in biopsychosocial aspects, positively interfering in the quality of life with the elderly.

In the studies developed with older adults involving psychological aspects through biopsychosocial educational activities, it was noticed that Cruz, Pereira, and Raymundo (2022) identified that the intervention with cognitive training showed improvement of the participants in

standardized assessments, cognitive functions and quality of life, and reduction of depressive symptoms of elderly participants. Also in this vein, Cruz, Pereira, Pizzetti et al. (2022) found positive effects of cognitive training for participants. They concluded by stating that the analysis of the applied activities proved to be fundamental to systematize the sessions and monitor the performance of the participants.

In another study, Fiamoncini et al. (2022) stated that the elderly had a high prevalence of hearing changes in the last five years and auditory complaints related to aging, associated with linguistic-cognitive performance, evidencing the relevance of longitudinal monitoring, communicative and cognitive performance of the elderly.

According to the study by Souza Júnior, Siqueira et al. (2022), the findings reveal that among the dimensions of sexuality, affective relationships and better coping with physical and social adversity exerted anxiety-reducing effects. They also identified that the sexual act and better coping with physical and social adversities had effects of increasing quality of life. They concluded the study by suggesting that health professionals can invest in sexuality, to be worked on in a group and individual way, especially in the affective component; since it had a strong and positive effect on quality of life, and on physical and social adversities, which had a moderate effect.

The conclusions of this study are consistent with those of Balaguera and Arberas (2022), who showed favorable changes in the dimensions of emotional well-being, material well-being, social inclusion, and rights, positively influencing the quality of life of older adults who were in the process of telerehabilitation.

In line with the results of the studies by Cruz, Pereira and Raymundo (2022), Cruz, Pereira, Pizzetti et al. (2022), Fiamoncini et al. (2022), Souza Júnior, Siqueira et al. (2022), Balaguera and Arberas (2022), it was noticed that biopsychosocial educational activities positively interfere in psychological aspects, reflecting in the improvement of the quality of life of this portion of the population.

Other studies have been developed with a focus on social aspects, including biopsychosocial educational activities. Gallo et al. (2022) highlighted that the guided use of social media by older adults contributes effectively to the maintenance of social relationships and health promotion from the perspective of healthy aging, even during a health crisis with global repercussions.

Oliveira et al. (2021) reported that the higher the scores on the life satisfaction scale, the higher the scores on the leisure attitudes scale, which may demonstrate that the elderly with more satisfaction with life have a more positive attitude towards leisure.

In this sense, Previato et al. (2019) evaluated the perception of the elderly regarding participation in the coexistence group and concluded that moments of leisure, socialization, learning,

and improvement of physical and mental health contribute significantly to increasing quality of life while active aging.

These results are also consistent with the observations made by Veras et al. (2022), who pointed out in the study that the findings show in the voice of the elderly the meanings attributed to the group through socialization, meaningful bonds, sharing, and learning. They demonstrated that there is empowerment of the group as a space for listening, creating, sharing experiences and valuing the life stories of the elderly in this territory. They also mentioned that the interaction stimulated the resignification of the aging process and life projects, generating greater satisfaction with health and life.

In the studies by Gallo et al. (2022), Oliveira et al. (2021), Previato et al. (2019) and Veras et al. (2022), developed with the elderly, involving social aspects, they demonstrated leisure as an emancipatory potentiality of this population public in the search for new experiences, values and meanings in the face of the lived reality, accepting greater socialization and satisfaction with life.

These results further support the idea of offering biopsychosocial activities, especially leisure, which has been structured as a fundamental right guaranteed and supported by social public policies formulated by the City Sports and Leisure Program (Pelc) of the Ministry of Sports (ME), (Brazil, 2008), based on the document published in 2017 by the World Health Organization (WHO) that defines the goal of promoting the Decade of Healthy Aging from 2020 to 2030 (World Health Organization, 2017).

4 FINAL THOUGHTS

The present study made it possible to understand that biopsychosocial education activities enhance positive socio-affective dimensions in the fight against exclusion and loneliness.

The results of the analyzed studies allowed us to identify the perception of environmental support and its effects on the elaboration of personal projects in old age. In addition, they were favorable to the performance of biopsychosocial activities, understood as important for the physical, psychological, social and emotional well-being of the elderly, since they provide quality of life with active and successful aging.

In this sense, the studies confirmed that the inclusion of the elderly in biopsychosocial education activities is of paramount importance, as it promotes positive effects on health. These effects were observed in the improvement of cognitive functions, in the promotion of quality of life, in the reduction of depressive symptoms and in the improvement of biopsychosocial aspects; positively interfering in the quality of life of this population.

Another important aspect is the practice of leisure as an emancipatory potentiality of this public, observed in the search for new experiences, values, meanings in the face of the lived reality, accepting

greater socialization and satisfaction with life. With this, it is possible to promote health autonomy, prevention of the onset and development of diseases, and empowerment of the elderly with quality of life.

In this context, it is recommended that the competent authorities invest in research that systematically promotes biopsychosocial activities for the elderly, as these have a positive effect on the quality of life of this population. Therefore, it is essential to offer these activities so that this portion of the population continues to benefit from empowering educational orientations; since they reflect a great benefit for society, for the health and quality of life of this public. It is also suggested that future studies should be carried out to answer what new ideas, conclusions and questions promote biopsychosocial education in the elderly? What are the contributions of these new notions to the advancement of scientific knowledge?

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SEVEN
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The interrelated learning of mathematics and music

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ABSTRACT
The present research, developed in the João de Deus de Alvalade School Garden and in the Ajuda National Palace, deals with the valorization of artistic and heritage education, considering the improvement and innovation of learning, through the interdisciplinarity between artistic subjects and other curricular subjects, this study was developed through creative partnerships, through a platform of interprofessional collaboration between artists and teachers in interrelationship with students of the 1st cycle, valuing a confrontation of practices and orientations, which allowed the construction of significant knowledge for personal and collective existence. Through a culture of cooperation, it was intended to diversify profiles and skills, using integrated forms of dynamization, expanding the places of learning, which enabled a collection of data for the construction, planning and structuring of a didactics in art education, which focuses on the interrelated learning of mathematics and music.
An action-research methodology was adapted, through pedagogical strategies complemented with the realization of theater, visual arts and music performances, which allowed to enhance skills and competencies in the motor and cognitive domains. The didactic proposal consisted of the elaboration of structured mathematical exercises with elements of the musical language, which aimed to achieve transformative learning.
In addition to other values, this study aimed to achieve positive goals for the development of skills and principles aimed at responsible and free citizenship.

Keywords: Art education, Culture, Heritage, Collaborative process, Citizenship.

1 INTRODUCTION

This research proposal focuses on the contribution of artistic and heritage activity to education with a focus on the interrelated learning of mathematics and music and on the study of the pedagogical and didactic partnership between artists and teachers, seeking to assess what knowledge they mobilize

in the development of pedagogical activities, but also what skills the artists, teachers and students of the 1st Cycle, together, they develop throughout this partnership. This study aims to reflect on the need to construct the epistemological field of Art Education.

The activities raised by the Education, Art and Heritage proposal, hereinafter referred to as EAP, were carried out in an interdisciplinary environment, in the Ajuda National Palace and in the João de Deus Alvalade School Garden.

It is now proposed a research where new intervention strategies are developed, which involve mobilizing the knowledge built in the EAP project and the professional knowledge of the participants, in a pedagogical proposal, based on collaborative education, which promotes significant learning about artistic and heritage education, but now extended to the interrelated learning of mathematics and music. (Schönberg, A., 1995; Gardner, H., 1993; Rodrigues, J. F., 1999; Carneiro, I. 2018; Loureiro, C.; Regatão, J. P., 2019).

The articulation of the aforementioned partnership aims to understand how the link between fields of knowledge with their own specificities can be operationalized, while at the same time the specific concepts of each area are transversally related. It is an interdisciplinary approach to the development of integrated formal education practices.

An innovative perspective of transmission of musical and historical content is related to music and its symbology, which seeks to embody the most abstract mathematical reasoning. The sonority or repetition of sounds, and also the association of musical writing with numbers, allows a better understanding of these reasonings, which leads teachers and artists to share knowledge. In this way, direct and indirect applications on mathematical and musical knowledge were identified throughout this study, while ensuring the deeper acquisition of aspects of tangible and intangible heritage.

It is important to be aware of the need to incorporate content related to the formulation of learning objectives and the selection of strategies and activities indicated for learning in formal education spaces, through personal and social experiences in environments outside the school (Bruno, A., 2014; Cascais, M. G. A & Terán, A. F., 2014), such as the Music Room, among other spaces of the Ajuda National Palace.

In theoretical terms, it is proposed to situate this study in a constructivist (Piaget, 1971; 1973; 1983; 1999), cognitivist (Vygotsky, 1998; 2001; 2012) and sociocultural (Bourdieu & Passeron, 2014) framework, of education through art (Santos, J., 1966, 2008; Lowenfeld, V., & Britain, L. 1970; Santos, A., 1999, 2000; Read, 2013), art education (Eisner, 1985, 2008, 2009; Barbosa, A. M., 1991, 1998, 2001, 2004, 2010; Smith, R., 2004; Barbosa, A. M. & Coutinho, R. (Orgs.), 2009), for artistic education (Fischer-Lichte, E., 2005; Baldacchino, J., 2008, 2014, 2015; Touriñan López, J. M., 2006, 2009; Rogoff, I., 2010; Atkinson, D., 2006, 2012, 2015; Paiva, J. C., 2017; Ó, J. R. do, 2017; Loureiro, C.; Regatão, J. P., 2019; Calado, M., 2015, 2018, 2021), and by the image reading methodology

(Arnheim, R, 1969, 1974; Parsons, M., 1992; Gombrich, E. H., 1995, 2006; Hernandez, F., 2000, 2001; 2005, 2007; Panovsky, E., 2011). In methodological terms, a qualitative study is chosen (Bogdan and Bilken, 1994; Stake, 2016), by action research (Coutinho, C.P. et al., 2009; Amado, J., 2014).

The exercise of a grounded, responsible and solidary citizenship implies the understanding of the scientific dimension of the current problems addressed in this research, which tried, among others, to find significant results in what confers pedagogical innovation, through the partnership between artists and teachers, trying to find strategies that aim at the articulation of art and culture in the educational space. as well as the importance of the relationship between visits to museums and monuments and curricular subjects, at the same time that we were concerned with finding criteria for understanding the reading of a work of art and how it contributes to the development of students' critical sense (Tavares, C. A., 2010).

In this regard, it is essential to promote artistic and heritage education from a lifelong learning perspective, regardless of the profession that children may exercise (Souto, O., 2017; Sotto, O., 2018).

Regarding the expected results, and taking into account the conclusions of the master's degree on the subject, we point to the collaborative work between the participants, through which data were collected for the construction, planning and structuring of a new didactics in art education.

It is important to mention that in the 2019-2020 school year we found ourselves in an atypical year due to the covid-19 pandemic, which hit the world, which accentuated the lack of resources in the educational field, the social inequalities of students, (Bourdieu, P., 1998) as well as changed the paradigm of functioning of the artistic and cultural universe, giving rise to new forms of survival and artistic creation (Atkinson. D., 2015).

For this reason, as of March 2020, there was a need to adapt to other forms of work to achieve it, face-to-face classes were replaced in alternating periods by online classes through digital platforms. Therefore, some of the students' work was carried out at home and, since the tasks required a search for content, the children were motivated to a research process.

As a permanent expression of our humanity, music occupies a central place in the arts and its characteristics, namely its written representation and sound dimension, as well as the way in which all its rhythmic, melodic and harmonic elements interact (Haunschild, F. 1998; Fão, A., 2000), which allowed the realization of interrelated learning with mathematics, in which the syllabus foreseen in the planning of this science accompanied the teaching of music using logical reasoning. It equitably allowed the development of an aesthetic and artistic sensibility through the realization of various musical activities, which made it possible, on the one hand, to enjoy it and, on the other, the development of cognitive and emotional mechanisms, which were influenced by sensations and feelings provoked by music.

From different theoretical currents, it is intended to understand the importance of art and culture in the educational space and in the school trajectory, considering the relationship and the intersection of the art of music with mathematics.

Through the history of the Ajuda National Palace, a reference monument within the scope of this proposal and whose heritage is of particular identity importance, as a model for a citizenship based on aesthetic and ethical values, it became possible to fulfill in this study integrated from the perspective of artistic and heritage education, the objective of an orientation for the reflection of the awareness and symbolism of heritage and the arts.

In this context, the importance of the image reading methodology was evidenced as a driver of the development of knowledge and skills, through learning that is materialized through vision, the use of imagination and creativity. The process of "reading" allows us to see beyond the observable, considering the abstract value of the image when it is translated into the emotional plane, allowing the challenge of perceiving an absent reality to another with several possible meanings. It was the object of a historical framework within the scope of reflections and studies, which sought through different perspectives a definition for Visual Culture. (Hernandez, 2000, 2001, 2005, 2007; Henriques, L., 1993)

> The image would be a door (or a bridge) to other images, a kind of path to be taken by the one who looks. It is up to it to elicit an event that transmits and magnifies the other, that combines with it and produces, for all those who come to look at it and for each singular glance resting on it, a limited series of new passages. (Foucault, M., 2001, p.352).

The curricular contents of mathematics related to the 1st and 4th year of Basic Education were equally investigated, with a view to its articulation with interrelated learning with music.

In particular, the performances of music, visual arts and dramatic expression were promoters of the evolution of cognitive, emotional, sensorial and motor mechanisms, which aimed to promote various skills, such as observation, reflection and critical argumentation skills. Training and the development of individual and group knowledge acquisition were also analyzed.

Since the curricular programs have similarities and the age range of the students is close, the didactics presents the possibility of adapting the educational modules, specifically to the 2nd and 3rd year of Basic Education.

The study visits to the Ajuda National Palace, prepared in advance through scripts prepared and organized with the aim of telling its history, allowed the knowledge of the different periods of the Baroque, Classical and Romantic, as well as references to the experience of its historical figures. These meetings at the aforementioned monument were privileged with practical workshops, which allowed a pedagogical intervention designed to ensure an aesthetic and ethical awareness of the participants in relation to the Arts and Heritage, benefiting from the natural predisposition of the students for the taste of History and artistic works. It was through this experience and this direct contact with the monument,

as well as with its history and architectural and decorative styles, that the children developed research that led them to the elaboration of artistic works, and to the development of visual literacy and aesthetic education, which aroused emotions and feelings.

The planning of the sessions, the structuring of the contents transmitted in line with the curricular program and the activities carried out throughout the two intervention cycles, which covered the academic years 2018-2019, 2019-2020, allowed the elaboration and management of the didactics. Its implementation followed an essential criterion, which consisted of the importance of providing, from the beginning of schooling, contact with differentiated and innovative educational practices that trigger and promote interdisciplinarity and provide effective and positive learning.

Associated with all the aforementioned frameworks, the focus will be on the operationalization of pedagogical practices, promoting the cognitive, emotional and social development of the participants, as well as the application of the concepts of psychological activation, creativity and the provision of an educational service, which aims to have a positive and innovative impact on learning and contemporary society.

The analysis and interpretation of the data are based on the discussion of the results produced in the pre-tests and tests, surveys, questionnaires, semi-structured interviews, photographs, audiovisual records and various activities, such as practical exercises of mathematics and performances of music, plastic arts and dramatic expression, which attested to the teaching-learning process and allowed the interpretation of the results and objectives achieved. including through the assessment of acquired skills, abilities and values.

It is concluded about the results of this investigation, considering the evidence observed as a result of the learning of the participants in the two school years, in the different activities (at school and in the monument), which prove the validity for the development of interrelated learning of mathematics and music and with regard to artistic sensitivity, aesthetic education, personal skills, Students' ability to critically analyse, in general their development in relation to individual psychology and social life.

With this research we are convinced that we will achieve substantive contributions to the scientific and pedagogical training of teachers, who can benefit from new knowledge through an artistic perspective, as well as an understanding of the functioning of new strategies that highlight individual uniqueness (Popkewitz, T. 2015), as well as the equality of opportunities that is reflected in children's learning, as to their social integration and the possibility of achieving positive and significant results (Bourdieu, P. 1998; Paiva, J. C., 2017; Atkinson, D., 2016).

In the course of this study it was possible to verify that educational institutions should have the sensitivity to take organizational and pedagogical measures that would allow to highlight the awareness about the role of artistic education and its impact on children, which can contribute to

innovative educational experiences. On the other hand, this research has provided benefits for the continuous development of artists' skills and a better understanding of the school universe, as well as for students' learning, valuing the affective relationship between all. (Barthes, R. 2003; Damasio, A, 2015).

1.1 THE INFLUENCE OF MUSIC IN A SOCIAL CONTEXT AND ITS FRAMING IN THE LEARNING PROCESS

"Music is a higher revelation than all wisdom and philosophy"[1] Ludwig van Beethoven Music is present in human life in the most varied social contexts and has the ability to influence the individual in the most diverse situations of daily life. One of the most relevant dimensions, which represents the starting point for the existence of music as a language, in its communicative and artistic dimensions, is the fact that it is part of human nature, is internal, and can be developed through imagination and creativity.

These faculties result from the interaction of the human being with the family, social and cultural environment, but also from the evolution of physical, cognitive and emotional capacities, which represent the two essential components of growth, naturally including the development of musical techniques and knowledge. It is in the face of this reality and characteristics of the individual that the existence of all musical creation is understood. It is important to mention that this artistic creation has been constituting a heritage, which has been transmitted over time through scores, also through music of oral tradition, as well as through the technological development of the twentieth century, which allowed the emergence of various records, such as magnetic tape, vinyl, the CD, and currently the digital records that exert a permanent influence on the most varied social contexts and situations of human life.

It should be noted that the human being's capacity for musical production, as well as the hearing and internalization of musical works and their multiple sonorities, influence behavior at the physical, psychological, cognitive and emotional levels, which has a direct repercussion on social interaction.

As can be seen, in addition to the human organism obeying the natural rules of evolution, it is the interaction with the environment, which also includes the musical dimension, that allows to a large extent the development of the personality. This includes knowledge, values and references, to which a certain degree of affection is always associated and which constitute the individual heritage. In any case, it is clear that certain traits or characteristics of personality and character are already inscribed in the genetic matrix. To what extent the environment does or does not shape this predisposition of personality traits is not known for sure. (Damasio, A. 2017).

[1] "Music is a revelation deeper than all knowledge and all philosophy." Ludwig van Beethoven

As seen throughout the human adventure, education plays a central role in the development of skills and competences from childhood to adulthood. The family environment and the school environment constitute the two main universes in which the transmission of values and knowledge takes place. The social context, omnipresent, represents a very important component, since it constitutes the background in which the entire formation of the child takes place, although it is considered that only later, from the 2nd cycle, the social space, in which the child already moves with some autonomy, gains greater prominence and also constitutes a framework of cultural references. It is important to point out that access to digital media has contributed to anticipating contact with all the information available regarding this social dimension outside the school, and that nowadays they exert an increasing influence on children, in relation to the references that they observe and learn.

It is through the senses that the growth and formation of the human being develop in its physical, cognitive and emotional dimensions. Interaction with the family, teachers and other children in the family, school and social space allows the development of affections, mother tongue and other languages, such as music, essential for survival and personality structuring.

> Affective life and cognitive life are therefore inseparable, although distinct. They are inseparable because any exchange with the environment presupposes, at the same time, a structuring and an appreciation, without ceasing to be less distinct, since these two aspects of conduct cannot be reduced to each other. Thus it would be impossible to reason, even in pure mathematics, without experiencing certain feelings, and, conversely, there are no affections without a minimum degree of understanding or discrimination; Therefore, an act of intelligence presupposes, in turn, an internal (interest, effort, ease, etc.) and external (value of the solutions sought and of the objects on which the research focuses) energetic regulation, but these two regulations are of an affective nature and remain comparable to all other regulations of the same order. (Piaget, J., 2013, p. 29)

The development of linguistic and musical skills, innate capacities of the human being, is only possible through progressive learning, at first in the family context and later in the school/family contexts. In this process, the visual, auditory and sensory senses of the human being interact with all the information that is transmitted verbally or through other forms of communication, such as auditory, behavioral or gestural.

In the case of hearing, it is important to mention the way in which the mechanism is processed, which allows us to perceive the sound universe.

In order to be able to recognize any type of sound or music, the human being has a hearing aid, through which all sounds, with their specific frequencies and timbres, are transformed into impulses or electrical signals, which in turn are interpreted by the brain, which is able to regulate the sensations caused by these sound vibrations. It is the same vibrations that provoke a bodily reaction and allow the emergence of emotions or feelings associated with these sound impulses. The physiological process is of enormous complexity, involving the entire auditory and cerebral apparatus, but it is important to highlight the ability that the human being has to distinguish sound frequencies, music, exalting the fact

that it is this ability that allows us to determine the influence of music on behavior in its various dimensions, as well as on the relationship of the human being with the outside.

> It is known that music perception involves the primary, secondary, and tertiary areas of the auditory system, as well as the auditory association areas in the temporal lobes and Wernicke's area. This, in turn, is linked to the perception of language and the processing of most of the brain's intellectual functions. The primary areas receive signals from the inner ear through the thalamus and are involved in the early stages of musical perception such as frequency of a tone, melodic contours and volume. Secondary areas process more complex patterns of harmony, melody, and rhythm. The tertiaries allow a general perception of the music. (Guida, et. Al, 2007 apud Weigsding, J. A. & Barbosa, C. P., 2014, p.50)

As can be seen, the human auditory sense has anatomical characteristics capable of differentiating the most particular frequencies and sonorities, which allows at each moment a perception, interpretation and reaction to the surrounding sound universe. It is important to note that the functions of the two cerebral hemispheres act together, but it is in the right hemisphere that the apprehension of music takes place, which involves the notion of spatiality and intervals, among other elements, while the left hemisphere is more connected to the processing of rational and analytical functions, such as speech. (Binkowski, B. & Brändle, W. & Hug, M. & Koch, P & Prinz, U., 1982)

These capacities are fundamental for living and surviving in society, as can be seen, for example, in listening to a certain musical work, in which the human being has the possibility of selecting and focusing his attention on a certain musical instrument, even if mixed with the set of frequencies of the other instruments, without prejudice to the sound effect of the work as a whole and the sensation or emotion that it can cause.

The way music is perceived by each individual raises numerous questions, which are related to the experience, cultural and musical references of each one, but also to the individual genetic matrix. For this reason, it becomes possible to affirm that the effects that music triggers are necessarily different in each human being, despite the existence of common patterns.

Listening to a Beethoven symphony or a Beatles song is recognized by any listener for its musical characteristics, but the individual effects on the cognitive and emotional level is not something that is measurable. It is only possible to verify a satisfaction or pleasure in their hearing or, on the contrary, a rejection, which is related to the stimulus and the relationship that music establishes with the set of genetic and cultural references of each human being. In this plan, it is important to mention that the age and level of knowledge of music of the individual are variable, and that they play a very relevant role in the way music is felt and characterized in emotional terms.

The musical structure of the styles of works referred to, a defined rhythmic and harmonic organization, is to that extent transmitted to the hearing aid of the human being presenting the same code. The variables can consist of tempo, volume or timbre, which naturally influence the way the

music is perceived. However, the same music heard by different individuals exerts a particular and unique effect.

The genetic matrix of each human being allows for the growth and development of skills, in particular linguistic and musical abilities, in interaction with the surrounding cultural universe. It is considered that it is due to this unique matrix, combined with the experiential experience, that at the moment in which it interacts with a certain musical code, determines the type of sensation and emotion.

> [...] Emotion is the combination of a mental evaluative process, simple or complex, with dispositional responses to that process, mostly directed at the body itself, resulting in an emotional state of the body, but also directed at the brain itself (neurotransmitter nuclei in the brain stem), resulting in additional mental changes. (Damasio, 1994, p. 153)

In the most varied social contexts of everyday life, there are also sounds or musical motifs, such as the arpeggio of a chord or even a melodic excerpt, which fulfill specific functions and aim to give guidance to a certain behavior. Examples of the use of music for this purpose are the sound signals at a traffic light or in an elevator, which indicate the right moment to perform the movement of crossing a road or using the elevator.

In this context, music directly influences, through its sound stimuli, social and individual behavior, namely with regard to decision-making.

It is also noted that music fulfills an important social function, which is reflected in the experiences, in the evolution of children's sensibility and knowledge, and that, within the scope of its possibilities, it allows the construction of a framework of fundamental references for the development of the learning process. The universe of references mentioned results from the realization of various manifestations, such as concerts, diffusion of music through radio and audiovisual means or in public spaces in general, such as shopping centers, shops or even public transport. To this extent, it is important to note that music influences behavior, since it fulfills a certain function, whether it is entertainment or as a means to create a certain sound environment. In this context, the musical stimulus acts on the body in a different way, that is, as entertainment, there is greater attention and awareness in relation to music, while ambient music, it is perceived in a more superficial and less conscious way. However, the physical and psychological effects remain depending on the type of sound vibration to which the human being is exposed. In general, sound vibrations affect behavior, which necessarily reflects a psychological state and a social influence.

> When we hear a musical sound that we describe as pleasant, the feeling of pleasure is the result of a rapid transformation of the organism's state. We call this transformation emotional. It consists of a set of actions that alter background homeostasis. (Damásio, A., 2017, p.157)

The choice of certain music for these spaces, with their rhythmic, harmonic and dynamic patterns, which are present in the various musical styles with greater or lesser intensity, fulfills several

objectives and intentions, which have a direct influence on the organism and determine a greater or lesser degree of acceptance. The reality that can be observed in the context of the use of music in the most diverse forms in the social context, allows us to establish a direct relationship with the learning process, of which music is part and is inseparable, not only because it is transmitted as an area of knowledge, but also because it is used in the scope of numerous activities.

As previously mentioned, within the scope of the innate characteristics of the individual, musical ability is inserted, which begins to be developed even before birth.

> From an early age, the child has the ability to perceive and remember rhythms, sounds and pitches, immediately recognizing a melody even when it is played at different times or times. Studies on the perception and response of newborn babies to music have led to the consideration that these abilities were probably already in place before birth, in the mother's womb. (Sousa, A., 2003, p.55)

The development of a child's musical abilities from birth to school age goes through several phases and accompanies their physical and cognitive evolution. Although it is not our objective to analyze how these skills are structured in this preschool phase, it is, however, possible to verify that when the child enters the educational space, he already demonstrates numerous musical abilities, such as the identification and ability to reproduce simple melodies and rhythms, or even if it has a faster or slower tempo, already showing an effective rhythmic perception. It is considered that it is from this stage that activities related to music gain importance in the development of the child's entire education.

> As is well known, through the various musical elements, separate or combined, all levels of personality can be touched: physiological, psychic and social. More specifically, through sound and rhythm, sensoriality and motor skills; by melody, affectivity; for harmony, intellectuality. But, intertwined as these levels are, the totality of the human being is all involved by Music. (Sousa, A., 2003, p.188)

It is important to note that it is through speech that the child develops thought and memory, which also builds its references, associating thoughts and images, which give rise to intellectual development. As already mentioned, these references are always associated with sensations, emotions or feelings, which reflect the relationship that the emotional system of each human being develops and establishes with each object or content of learning.

> Human language is essentially characterized by a verbal and written symbolic activity, and what characterizes the symbol is its possibility of becoming independent of the objects to which it is primitively attached (Wallon). The verbal or written symbol, once constituted, takes on independence and develops in diverse and unpredictable directions. [...] It would not be possible to teach reading without the child having been able to carry out certain graphic experiments and without the attitude and gesture having previously been thoroughly experienced. It would not be possible to teach in school if the children had not previously made all kinds of free verbal experiments with their mothers, and then with other relatives. (Santos, J. et al., 1966, p.33)

In this context, music also plays a fundamental role in education, since it allows the evolution of physical, cognitive and affective skills, as well as helping in the development of aesthetic sensitivity, through listening to musical works, which stimulate creativity, through the performance of activities, such as playing a musical instrument, in which a playful component can and should be present, and also, in order to make the whole learning process more interesting, since it stimulates an interaction of various dimensions of the organism and provides the construction of a feeling, without which learning will not have the same meaning and understanding.

> The human species is as musical as it is verbal. And this predisposition to music can take many different forms. All of us (with rare exceptions) are capable of apprehending music, of learning sounds, timbres, distances between tones, melodic contours, harmonies and (perhaps most elementally) rhythms. We integrate all these elements and mentally "build" the music, using different parts of the brain to do so. And to this structural - largely unconscious - capacity to appreciate music is often added a deep and intense emotional reaction to music. "The inexpressible depth of music," wrote Schopenhauer, "so easy to understand and so inexplicable, is due to the fact that it reproduces all our deepest emotions, but detached from reality and its pains. Music expresses only the quintessence of life and its events, and never the events themselves." Listening to music is not only an auditory and emotional experience, it is also a motor one. (Sacks, O., 2008, p.13)

Musical listening activities or instrumental practice, as well as other actions related to music, are used as a teaching strategy with specific objectives, namely the awakening of attention, concentration, the desire to participate in the classroom and musical expression, which contribute to learning and are stored in memory. In this way, they are vital for the construction of knowledge and for human life.

Music allows interaction and is transversal to other areas of knowledge, that is, this language contributes to the development of mechanisms, which are essential for learning and which can be applied in the context of other disciplines.

> In primary education, music should be interrelated with other areas or disciplines, such as art (the body reacts to sounds), mathematics, physics, Portuguese, science (recycled instruments), geography, history, foreign language (translation of foreign music), and computer science (creation of music or sounds using its own software) (Granja, 2006 apud Mendes, J. G. L., 2018, p.28)

The perception of the existing parameters in the musical language, such as frequency or pitch, timbre, tonality, intensity, rhythm, melody, harmony, among others, is carried out mainly through hearing, as well as developed through musical experience. That is, when listening to music or at the moment when practicing music, through vocal exercises or through instrumental practice, there is an interaction between the auditory, cognitive, emotional and motor systems. It is through this interaction and the observable results that it becomes possible to understand the importance of music in the development of skills and competences, which are achieved throughout teaching.

One of the most relevant activities that can be carried out in the school context is vocal practice, which has significant potential in the development of numerous skills, namely auditory, physical, sensory and emotional, as well as contributing to the achievement of several educational objectives. The act of singing allows the control of the vocal apparatus, so that it is possible to produce the desired musical notes, since singing is associated with knowledge and at some point is acquired in relation to the frequency of each musical note. This auditory training takes place, as seen, throughout the growth and pre-school phase, although it can acquire a much higher degree of efficiency, with the permanent listening of works or the learning of a musical instrument, which includes vocal practice.

It is considered that at the moment when a melody is produced vocally, several brain functions are immediately put into practice, such as auditory memory, related to the notes and the intervals between them, cognition, represented through the knowledge of the melodic structure itself, in which a rhythm and a specific sequence of musical notes are present. This factor also allows us to perceive the function of spatiality and sensory functions, which determine the degree of satisfaction acquired with the act of singing and the emotions that allow us to awaken.

Through this activity it is also possible to observe the musical expression of each student, elements that allow us to draw some conclusions regarding their physical and cognitive development. The difficulties at the rhythmic level, at the level of meter, at the level of tuning, demonstrate the degree of individual musicality, but at the same time reflect the level of motor and intellectual evolution. For clarification, we proceed to the explanation of an action already described in the 1st year observatory and which is considered to be of enormous importance. Therefore, it refers to the vocal practice of the children's musical theme (João's Balloon), which revealed few difficulties in execution, although some students demonstrated difficulties at the rhythmic level, not being able to maintain the determined tempo, and also difficulties in the level of tuning, since it presupposes an absolute control of the vocal apparatus, at the same time that it needs to obtain the correct brain impulse to produce a certain note. In other words, it is considered that a musical note can only be produced if the student is aware of its sound, which depends, as has already been seen, on a more accentuated and developed auditory training.

This vocal practice fulfilled several pedagogical objectives. Firstly, it is part of the scope of musical activities, normally present in teaching and which contribute to the construction of knowledge and skills. In this exercise, the students got to know the above-mentioned musical theme, developed their vocal capacity, which is equivalent to an evolution of physical abilities, namely in terms of the respiratory system, the hearing aid, which is stimulated through sonority and which allows the simultaneous development of the ability to recognize notes, musical intervals and harmony, which, taken together, allow the development of a sense of tonality.

It is considered that the alleged performance can bring many benefits to students, if it is developed repeatedly, since it activates numerous physical and brain mechanisms of the body, determinant for the evolution of the intellectual and emotional system.

In this context, it is important to highlight the importance that music plays in triggering sensations, emotions and feelings. It is in the emotional system of the human being that music acts with greater preponderance and all behavior, psychological state and creative action depend in some way on the balance of this mechanism. "Feelings are the experience of certain aspects of the state of an organism's life. [...]: a report on the state of life, at every moment within an organism." (Damasio, A., 2017, p. 151)

As a way of highlighting the importance of feelings in the context of human experience, in the social context, particularly in the school universe and in the respective learning, two types of feelings stand out, namely spontaneous and provoked.

> Spontaneous feelings represent the general state of regulation of the life of an organism, be it good, bad or intermediate. Such feelings inform the respective minds as to the present state of homeostasis, which is why we call them "homeostatic." It is up to them to take care of homeostasis, they are its curators. Feeling the homeostatic feelings corresponds to listening to the endless background music of life, the continuous playing of the soundtrack of life, including the changes in tempo, rhythm, tonality, and even volume. When we experience homeostatic feelings, we are attuned to the workings of the interior. There is nothing simpler or more natural. [...] Subsequently, when the brain constructs representations of the geometries that have changed in the organism, we sense the change and create images of that change. This is the origin of provoked feelings, the kind of feelings which, unlike homeostatic feelings, result from a wide variety of "emotional" responses caused by sensory stimuli or by the activation of drives, motivations, and emotions in the conventional sense of the term. (Damásio, A. 2017, p.155-156)

As it is researched, music represents a sensory stimulus and influences the body. The individual's ability to express some kind of musicality may be an audible reflection of a spontaneous feeling, but its influence on the body, acting as a sensory stimulus, has the ability to provoke feelings, which are inscribed in the memory as affective experiences, even if positive or negative.

From this perspective, it can be seen that music, with its acoustic and sound characteristics, exerts a specific influence on the human being, capable of triggering the most varied feelings and behaviors, which derive from the alteration of the state of the organism at each moment. This evidence is of the utmost importance, since the interaction of human beings in the social, family and educational context is characterized by a certain behavior, which reflects a particular physical, cognitive and emotional condition. To this extent, music contributes within the scope of its capacities to influence and justify them, often revealing that it has the ability to regulate and balance this condition.

In this sense, and within the scope of the activities developed in this study, it is important to mention the performance of other types of exercises, such as listening to musical works, which is of particular importance, as it allows the development of knowledge regarding aesthetic sensitivity, as

well as auditory training, in the same way it can constitute a basis for the performance of other activities. namely the elaboration of drawings, as well as performances of dramatic expression inspired by a certain musical work, as verified through the exercises carried out by the students.

> In fact, imagination, as the foundation of all creative activity, manifests itself in the same way at every moment of cultural life, allowing for artistic, scientific and technological creation. In this sense, definitely, everything that surrounds us and has been conceived by the hand of man, the whole world of culture, as opposed to the world of nature, all this is the result of human creativity and imagination. (Vygotsky, L. S, 2012, p.24)

The references to the actions described are only a part of the strategies that can be applied in the school context, and that allow us to demonstrate the relevance of music in the formation of children.

In this sense, it is important to mention that in the school context, it is more directed to the development of skills and values than to its musical education as a subject.

These two perspectives regarding music in the educational space complement each other, in this way, as already mentioned, it is possible to consider that through its influence and knowledge about this language that skills such as attention, memory, emotions and cognition are also developed.

The musical occupations performed together by the students in the school context also influenced the behavior, as they allowed respect for the space of performance of each student.

> The role of music in the school context is much more than just entertainment. Music helps the teacher to instill self-discipline, to encourage creativity and participation and also stimulates cooperation among children, thus socio-affective bonds between students/students, students/environment and teacher/students. (Mendes, J. G. L., 2018, p.29)

On the physical level, particularly at the level of the vocal apparatus, musical discourse must be respected, through melodies or children's songs, and vocal balance must be maintained, as a way of respecting the musical activity of colleagues. That is, there are several parameters in the experience with music that allow the development of habits, attitudes or patterns of social behavior, through which the limits of individual freedom are shaped.

As mentioned, if the listening of musical works or themes is promoted, in addition to the knowledge they provide, it allows the creation of a certain environment in the classroom, considering that it contains potentialities, which can be used as a means to achieve certain educational objectives.

In another school space, namely in the playgrounds, music can accompany students in the exercise of different physical activities such as playing or dancing, among others, and which are very important for their development, that is, as a complement to the praxes, it is therefore considered that music plays an important role, since it provides an adequate rhythm and sound environment.

> Music is also very important when it comes to a child's social life. It is through the type of music we like that we start as members of a certain social group. Music is inserted in the culture of the individual, through games, riddles, songs, legends that relate to our reality inserted in our culture. Music also helps the child when he learns some social rules: through circle games,

> the child experiences, in a playful way, situations of loss, choice, disappointment, doubt, affirmation. (Veríssimo, I. M., 2012, p.12)

The combination of recreational activities and music in this leisure space also contributes to the development of the educational community, in which social values and mutual respect are promoted among all.

Through music, which exists in the dimensions of space and time, it is possible to provide students with a characteristic perception that is associated with the school universe in which they operate. It is considered that musical time, together with its own style, applied in a given school situation, clearly interferes in the psychological time of each child, also providing a perception and integration in that space in its own way.

Another dimension that is important to mention is the fact that music is a universal language and, to that extent, constitutes a gateway to different cultures. The diversified musical styles that are embraced by the auditory sense and that are characterized by their own specificities, refer to a certain culture, even if in the childhood learning phase, cultural references are scarce.

In any case, there is a greater or lesser degree of identification with music on the part of those who always listen, that is, each child likes more or less a certain work or musical style. This aspect can be important from a psychological point of view, since music can be seen as a companion, filling some inner space or even some affective need.

> For many listeners, listening to music means an encounter with a singer, musician or conductor, whereby the performer is perceived as a partner due to the special emotional involvement in listening. It is not uncommon for identification processes to occur. Its psychological significance lies in the fact that people experience their own drives in identification as fulfilled, so that frustrations can be avoided in this way. (Binkowski, B. & Brändle, W. & Hug, M. & Koch, P & Prinz, U., 1982, p.165)[2]

However, the differences in environment are evident, which provide classical music, rock-pop, African, Brazilian or Indian music, among other styles. From this perspective, it presents and reflects an interculturality, often a fusion of styles, which represents knowledge and also symbolizes a form of integration and respect among all.

It is not within the scope of this research to analyze the dimension or power that each culture exerts in the elaboration of music curricula, nor what is its influence on the school environment, since it depends on several factors, not only related to all the media, but also to the elaboration of curricula. which depend on the executive branch and the time in which they are produced.

[2] "For many listeners, listening to music means an encounter with a singer, a musician or a conductor, since in the act of listening there is a particular sentimental component, which leads to the performer being felt as a companion. Not infrequently, identification processes arise. Its psychological significance consists in the fact that the human being considers through identification his own impulses as fulfilled, so that frustrations can be avoided." (Binkowski, B. & Brändle, W. & Hug, M. & Koch, P & Prinz, U., p.165) [Author's translation]

This analysis would imply making an exhaustive survey or even a statistic about the amount of music from the various cultures that occupies the social space, in all its dimensions. However, with globalization and the fusion of musical styles, it becomes possible to say that there is an increasing influence of music in the school space. It is considered that this diversity is enriching and also contributes to the complete formation of students.

> As can be seen, since music is a means of communication between peoples, it is intended that, through it, the child values his cultural environment and awakens in him an interest in other musical cultures. Therefore, from different musical activities (such as listening to different musical genres from different eras, practicing a musical instrument, performing songs, knowing the main events in the history of music, etc.), it is intended, in general, to provide the child with a global view of the various musical cultures existing in the world and, also, a knowledge of the musical culture of your region and your country. (Reis, C. M. S., 2012, p. 40)

As can be seen, the influence of music on learning is diverse and decisive for children's education. The musical experience stimulates the senses and provides an interaction with the surrounding environment, which translates into motor, intellectual and emotional development. These dimensions are decisive for understanding and integration in the social and cultural environment and also provide for the development of imaginative and creative capacities.

1.2 THE IMPORTANCE OF ART IN THE INTERRELATED LEARNING OF MATHEMATICS AND MUSIC

The interest that human beings manifest with regard to the arts represents a living testimony since the most remote times of history, as they have always made use of visual language to express themselves and communicate.

Throughout the history of humanity, art has also assumed the representation of beauty and feelings, but beyond beauty and taste, it has come through the ages to symbolize the cultural identity of peoples. In line with these approaches, numerous artistic and aesthetic currents are identified that have deserved the attention of analysis of various authors such as, for example, Immanuel Kant (1724-1804), who, in addition to his dedication to science, and especially to philosophy, deeply analyzed the relationship between the human being and art, considering it a fundamental dimension of life, distinguishing the intellectual and rational dimensions. of fruition, in which he considers that there is a place for the awakening of feelings and aesthetic appreciation.

Kant asserted that Beauty consists in the awakening of a certain feeling in relation to an object through the faculty of imagination. His critical philosophy classifies sensible knowledge as more intuitive, and distinguishes it from rational knowledge, and the evaluation of Beauty is conditioned by the subjective way in which the relationship between the individual and the object takes place.

According to Romano Galeffi, regarding Kant's thought, the following analysis can be observed:

> [...] - beauty is that which pleases without interest - and in order to better clarify the value of this proposition Kant makes an inquiry into the various modalities in which a pleasure can manifest itself in connection with interest, a modality which he reduces to the following three: I) to the pleasure provoked by the pleasant; II) the pleasure caused by the useful; III) the pleasure caused by the good. (Galeffi, R., 1986, p. 297)

The present research values the arts in education and their magnitude in the development of the individual, while intending to validate their importance in the subjects of study, involving the art of music with mathematics. (Dewey, J. 1934)

Art education has been gaining ground in study centres and educational policies, and has been included as compulsory in schools. "However, in October 1986, the Basic Law of the Educational System was already published with the government's commitment to legislate on "Artistic Education", which only happened in 1990, with Decree-Law No. 344/90". (Santos, A., 2008, p.23)

Even so, and over time, in the history of education, art disciplines have always been discriminated against and relegated to the background in the school environment.

From what we can see, art in education is a path that will still need time to take root in the educational universe, and it will also have to invest in the specific and continuous training of teachers in order to acquire a new vision of work on artistic languages. Contemporary art in schools still encounters enormous resistance on the part of teachers regarding its valorization and dissemination, and the same is still true of parents. For this reason, there is an awareness that much will have to be done to change this situation, although the role of art, despite the efforts of professionals in the field, has already achieved enormous progress in education. "To rethink education from the point of view of art, from visual culture, is to do so, in part, from the position of the losers, because almost no one considers this knowledge valuable for the formation of younger citizens." (Hernandéz, F., 2000, p.63)

Artistic languages help the human being to develop various aspects in the different stages of life and it is considered that this is one, among many other reasons, why it is considered to be of enormous importance the emergence of new proposals that exalt art as a facilitator of learning. "Impregnated in today's world with the most varied artistic manifestations, as perhaps never before, the place of the Arts in the formation of personality cannot be underestimated, but the problem lies in the way educators adequately equate it." (Santos, A., 2008, p.20)

Art plays a fundamental role in the evolution of the human being. Numerous pedagogues and educational theorists, such as Herbert Read and Arquimedes dos Santos, among others that we have already mentioned, have defended the use of art as a means of developing knowledge and skills, allowing a better understanding and interpretation of the surrounding cultural and social world, as already mentioned, a construction of values, which define the identity of the individual.

> It is assumed, therefore, that the general aim of education is to encourage the development of what is individual in each human being, while at the same time harmonizing the individuality thus induced with the organic unity of the social group to which the individual belongs. (Read, 2013, p.21)

Art contributes to the development of knowledge, imagination, creativity, sensitivity, critical thinking and the expression of feelings and values. These dimensions of the inner world cannot be separated from reality, which surrounds the human being. (Bondía, J. L., 2000; Smith, R. 2006; Santos, J., 2008; Barbosa, A.M. 2010; Vygotsky, 2012; Souto, O., 2017; Sotto, O., 2018)

The proposal developed in this research contemplates the development of the child as a critical, productive being, capable of analyzing, dialoguing, concluding, discussing social, political and cultural issues (Bourdieu & Passeron, J.C., 2014) and in this sense, it is important to learn to develop a creative process in its various dimensions: Artistic creation, criticism, sensitivity and perception, fruition and reflection.

> To understand the psychological mechanism of imagination and the creative activity connected with it, it is best to begin by clarifying the connection between fantasy and reality in human behavior. We have already drawn attention to the erroneous common-sense idea that establishes an unbridgeable divide between reality and fantasy. (Vygotsky, L. S., 2012, p.29)

These areas, which define the human being, do not in most cases find development in more formal learning, generally in the learning of languages or the exact sciences, such as mathematics or physics.

In this context, the interrelated learning of music and mathematics was considered, taking into account artistic and patrimonial activity, as an added value and as a way to contribute to the interrelationship of all cognitive and emotional dimensions, in order to promote and develop them.

Considering the mathematical reasoning, which is present in the functioning of several dimensions of the musical language, it is understandable that it allows the establishment of direct relations with mathematical domains, such as arithmetic reasoning, specific operations of addition or division, among others, and mental calculation, which in a generic way presupposes the knowledge of areas such as multiplication tables, composition or decomposition of numbers, measured, namely of length or weight, which together allow a cognitive development associated with a stimulation of artistic sensibility interrelated with music. These languages, as science and art, are part of knowledge and constitute an important dimension of heritage.

> It is necessary, in schools, to disseminate the notion of Heritage, whether in the human sciences or in the exact sciences: the knowledge that is transmitted in school is the result of a past and the child, already in a period of greater development, begins to read that past, begins to be aware that there has been a path to get there, therefore, Heritage Education ends up constituting a uniting feature between the various disciplines (Cottinnelli Telmo, 1989; Cardoso, C. &, Valsassina, M. et al., 1998; Dewey, 2007 apud Souto, O., 2017, p.29; Sotto, O., 2018, p.50)

One of the contents that music offers consists of sonority, which affects the sensory and emotional dimensions as mentioned above. Listening to music directly arouses sensations and emotions, without the need for any explanations through language. "Music has the astonishing ability to exert a hypnotic, euphoric or uplifting effect on our senses." (Stehman, J., 1964, p.13)

To this extent, music allows the construction of an image, elaborated from sensations and emotions, and refers to an abstract dimension, also allowing the attribution of a sound "image" to numbers, which quantify and characterize mathematical operations. These images are constructed according to the degree of empathy that develops through what is given to be heard. (Panovsky, E., 2011)

Music as a written artistic language, where musical compositions are represented, and as an art that creates sonorities, through the voice or instruments built throughout the history of music, represents a fundamental artistic dimension, insofar as it provides students with the development of knowledge with its own specificities, represented in the scores and audible through presentations or recordings. as well as providing the construction of mental images, which are achieved through sound and the physical and emotional effect it causes.

Their interpretation, as well as musical writing in its most varied forms, or the images constructed through the senses, presuppose a reading and are part of the entire imagery universe, which can be understood as part of visual culture. Image reading becomes, therefore, fundamental to the understanding of the world. Everything that is observed can be interpreted in the most varied ways, which depend on the experience of the human being in its different dimensions. (Gombrich, E. H., 2006)

Nowadays, the image exerts a huge influence on people, especially the youngest, and reality translates into an increasingly visual world. Nowadays with new technologies, there is a growing increase in the use of the image as a form of communication and expression and the decoding of signs, which are placed before our eyes, which are insistently waiting to be interpreted and apprehended. There is an awareness that images are part of the world and that human beings are faced with a huge challenge to find ways to interpret them, from the most diverse points of view. (Arnheim, R., 1969)

On the other hand, with the growing excess of visual resources, there is also a contamination with all kinds of images, this excess of representations compromises the observation of details and thus there is no place for a decoding of the integrated messages.

> To see, it is first necessary to learn to see. Learning happens through an "infinite backward," the explanation of one thing in terms of a previous one. The representations are based on illusion, the rules of persuasion of which change over time. If our perception is able to accept a current illusion, the work will be assimilated. (Gombrich, E. H., 1995, p. 82)

In the activities requested from the students, such as the elaboration of a drawing from the hearing of a musical theme, or the choice of an image to illustrate a certain work, they represent ways of constructing mental images and discovering their meaning.

It is important to emphasize the importance of interpreting reality, using the power that the image has to convey messages, whether they are emotional or other, as they all have an intention and can be interpreted in different ways, taking into account who decodes them. An image is not just a simple illustration without expression, it must be a fundamental element in the process of knowledge construction.

> "In a work of art, an abstract pattern organizes the visual matter in such a way that the intended expression is directly conveyed to the eyes. This is perhaps most strikingly demonstrated by analyzing in some detail a work that at first glance seems to offer little more than pretty triteness displayed in a standard naturalistic manner." (Arnheim, R. 1974, p.152)[3]

From a closer look at visual culture, from photography, newspapers, magazines, television programs, cinema, advertising, computer games, among other image supports, there is a multiplicity of languages that reflect different domains and forms of communication, representing, ultimately, a reflection and an important dimension of modern society. The decoding of these languages depends on the observer, although the historical and sociocultural context in which they appear are decisive for their interpretation. In this sense, according to the understanding of the images, you should take into account certain criteria:

> • Historical-anthropological: visual representations and artifacts are the result of certain contexts that produce and legitimize them. For this reason, it is necessary to go beyond a perceptive approach to what is seen in the production, to establish connections between the meanings of this production and tradition: values, customs, beliefs, political and religious ideas that generated them. • Aesthetic-artistic: this aspect refers to systems of representation. The aesthetic-artistic aspect is understood in relation to the culture of origin of the production, and not in universal terms, since the Western European code is not the only valid one for the critical understanding of visual culture. • Biographical: representations and artifacts foster a relationship with identity processes, building values and beliefs, visions of reality. • Critical-social: representations and artifacts have contributed to the current configuration of the politics of difference and power relations. (Hernandéz, 2000 apud Sardelich, M. E., 2006, p.215)

Throughout the present research, it became evident that one of the shortcomings that teachers present is the fact that they generally make use of oral and written language and do not evidence the use of image as a starting point for the construction of knowledge.

> Art in Education as a personal expression and as a culture is an important instrument for cultural identification and individual development. Through Art it is possible to develop perception and imagination, to apprehend the reality of the environment, to develop critical

[3] "In a work of art, an abstract pattern organizes the visual matter in such a way that the intended expression is directly adapted to the gaze. This is perhaps most strikingly demonstrated by the detailed analysis of a work that at first glance appears to offer little more than beautiful vulgarities organized in a standard naturalistic way. (Arnheim, R. 1974, p.152) [Author's translation]

> capacity, allowing to analyze the perceived reality and to develop creativity in order to change the reality that has been analyzed. (Barbosa, A. M., 2010, p. 2)

The intervention of art in individual development and the consequent reflection that it causes in the relationship of the individual with his environment, represents one of the most important factors in the construction of an identity and ways of understanding reality. It is considered, therefore, that the artistic musical language intervenes in the same way in the promotion of knowledge, in the awakening of curiosity and senses, for a historical-cultural universe.

2 CONCLUSION

The present research sought to determine, through the construction and implementation of a didactic proposal with its own specificities, how the artistic and patrimonial activity focused on the interrelated learning of mathematics and music, can contribute to education, improving learning.

In this context, numerous reflections have emerged on the problems and challenges faced by education, which are the result of the evolution of contemporary society, in its multiple dimensions, namely political, social and technological, among others.

Through the contemporary view of the profound changes that have been transforming modern society into a space of multicultural interaction, as a result of the policies implemented in recent decades, as well as the growing information and communication in the written, imagery and artistic dimensions, it is verified that in the educational panorama the necessary reforms to integrate this evolution in the scope of new languages and knowledge, are not sufficiently effective in the educational environment.

However, the transformations and reforms in the area of education imply, on the one hand, appropriate policies for the advancement of knowledge and permanent social evolution, which have not been satisfactorily verified so far, and, on the other hand, they presuppose a receptivity of those involved in the teaching process regarding the adaptation to new strategies and work habits. However, we found on the ground that the official guidelines regarding teaching have resisted a change in the educational paradigm and are still strongly based on the traditional model.

Regarding the behavior of the students, it is noted that it should preferably be in accordance with a framework of ethical and moral values.

The traditional teaching model developed from the end of the eighteenth century, responding to the emerging educational needs, and results from the profound political and social transformations that characterized this era.

Its action extended through the nineteenth and twentieth centuries and defined the official educational panorama, having contributed to the creation of specific patterns of behaviour and learning. This method resulted in educational practices, which still have an influence on the design,

orientation and functioning of the educational system and institutions, particularly with regard to curricula, certain pedagogical strategies and the form of assessment, which favours the quantitative method.

On the other hand, this didactic proposal is based on a methodology that seeks to respond to contemporary educational challenges, using pedagogical strategies that contemplate an articulation between various areas of knowledge, namely artistic, visual and communicational languages, thus promoting interdisciplinarity.

The realization of diversified activities, in which performances of music, plastic arts and dramatic expression were inserted, integrating and favoring the interrelationship with history and heritage, allowed us to accompany creativity in its cognitive and emotional dimension through a permanent qualitative evaluation.

It is in this context that the potential of artistic education is considered as an added value for the teaching-learning process of students and for the training of teachers, assuming it as a methodological reference, with the necessary transformative capacity to respond to the numerous questions that arise in the sphere of education and whose advantages have been demonstrated throughout this study.

The present research proposal seeks not only to highlight and prove its relevance, taking into account teachings and benefits evidenced in proposals such as education through art, art education and art education, but also its epistemological contribution to education, allowing to raise awareness of the need to make changes, namely in the educational institution where its development took place.

Regarding the intervening teachers, in view of the results obtained in the sharing of knowledge with the guest artist and the researcher-participant, they presented different perspectives and demonstrated to be able to articulate artistic contents and concepts with other areas of knowledge, through a confrontation of practices, for the development of skills with regard to teaching and intervention in the field of artistic education.

In this sense, it is hoped that teachers, based on this experience, can contribute to respond to educational, social, ethical, contemporary and future challenges.

In fact, it was demonstrated that the pedagogical action of the participating teachers allowed to establish a relationship and articulation with the contents of various artistic areas, in particular music, visual arts and dramatic art.

In this context, it is also possible to conclude that the transmission of the syllabus of mathematics, history and Portuguese has taken into account a reflection and articulation with the various artistic languages.

Evaluating the goals achieved, the objective is a change in the educational paradigm, considering it essential that the student's education is based on a set of skills, capacities and values,

which can allow in the future an integration and social intervention that contributes to the transformation of society, which is intended to be more balanced, fair and ethical and in which the values of sharing, differentiation and respect among all is a reality.

It is of particular importance to highlight two dimensions, which guided and allowed the construction of this project, influenced by artistic and heritage education, giving it its own specificity.

On the one hand, the inclusion of science, represented here by mathematics, is highlighted, aiming at its interrelated learning with that of music.

The connection of these two areas has taken on a specific educational domain, in which a dialoguing and creative vision of teaching is envisaged, which includes an innovative articulation of its contents. On the other hand, music as an intangible domain and art with historical and patrimonial value, allowed a learning experience, which intensified the awareness of these values.

In this way, an interrelationship between art, science and heritage was affirmed, in an innovative perspective of transmitting content for teaching and learning, whose interests were preserved through the benefits that the proposal promoted, resulting in a teaching strategy that allowed a transformative influence on the current practices of the traditional model.

As for the results that are intended to be highlighted, we conclude that the three main objectives were fulfilled: 1) the construction and application of the didactic proposal; 2) the effect of the scientific and pedagogical training shared through the platform of collaboration between artists and teachers with students in the 1st and 4th year of the 1st Cycle; 3) the internalization of the values of heritage and the arts.

In more detail, with regard to the implementation of the didactic proposal in the 1st year class, with regard to the 2018-2019 school year, and taking into account that the students were in an initial phase of learning to read and write, artistic practices and pedagogical practices were implemented, intending and interactive, fulfilling the objectives proposed in the field of music, mathematics, fine arts, history and heritage.

With regard to the learning of music, it is concluded that the selected rhythmic and harmonic contents, fundamental for the understanding of this artistic language, were understood by the students through theoretical explanations, although always complemented with the hearing of musical themes and practical exercises of music, namely vocal and instrumental, which allowed to associate the musical symbology with a sonority, making it more evident as to its meanings. This strategy allowed, on the one hand, the students to better understand the functions of musical symbology and, on the other hand, to resort to the practice of inherent mathematical reasoning, namely addition, subtraction, division and multiplication, making them more apt to learn mathematics and music.

With regard specifically to mathematics, the students exercised the ability to use reasoning, evaluating and interrelating it with music, identifying patterns, articulating musical and mathematical

symbology, which made it possible to conclude that it contributed to the evolution of their analysis and resolution skills, fostering cognitive development.

In order to guide reflection and awareness of the symbolic value of heritage and the arts, an experiential relationship was established during the school year, 2018-2019 and 2019-2020[4], with the Ajuda National Palace, considering the methodology of the EAP project, as a model that facilitates the learning of the history of Portugal and the musical heritage between the seventeenth and nineteenth centuries.

In this context, the history of the Baroque and Neoclassical periods was referenced with mention of their historical figures, as well as a framework of the history of music, which involved some of its composers and their respective works.

In the study visits carried out to the monument, greater emphasis was given to certain interior spaces, namely the Music Rooms, the Ambassadors, D. Luís, D. João IV and D. João VI, in which plastic arts performances were developed and which allowed the consolidation of the historical contents and techniques worked on in the course of learning. These dynamics provided a direct involvement with cultural heritage and expanded the knowledge of the participants regarding the history of music, the history of Portugal and heritage. In addition to the achievement of these objectives, it is concluded that the performances and the encounters with History, awakened the sensitivity to heritage values, taking into account their importance as a cultural reference and also for the formation of individual identity and citizenship, which is seen in a historical past.

The various approaches to the visual arts allowed direct contact with various materials, allowing the exploration of the creative dimension of the students, during the course of analysis in the construction of the point and the line, as well as in the exaltation of stain and color, through rhythm and differentiated harmonies, stimulating the awakening of the senses and emotions, which guided them to the exploration of multiple meanings.

The objective of these dynamics was to provide methods that would help children to develop their imagination through the combination of ideas, aiming to reinforce behavior and creative spirit, a fact that was proven through the qualities of the works carried out.

With regard to the 4th grade group, it is concluded that the proposed learning objectives were also met, taking into account the differences that distinguish the two educational modules, previously described in the observatories of the application of the model.

In the field of music, the same basic musical contents were transmitted, although articulated with greater complexity, taking into account the curricular program of the 4th year and the age group of the students. The learning of mathematical contents was also fulfilled, through theoretical

[4] Due to the Covid-19 pandemic, from the mandatory confinement in March 2020, classes started to be taught using digital platforms.

expositions, which were supported by the practice of mathematical exercises elaborated using rhythmic and harmonic elements present in music. Through these exercises, students had the opportunity to exercise the ability to transform and express meanings composed of sounds, exalting their sensitivity to rhythm, melody and harmony, which allowed them to combine the reading of a score with the use of voice and percussion musical instruments.

We are certain that these educational practices allowed the development of the students' logical and mathematical reasoning skills, as well as made them more apt to solve the exercises presented, not forgetting their relevance in the everyday situation.

In the field of learning historical and heritage contents, as well as with regard to performances, two substantial differences should be highlighted:

1) The 4th year students had the opportunity to develop their research skills by requesting works related to the history of music, its composers, as well as the historical heritage, also represented by the Ajuda National Palace, which included content on the Baroque, Neoclassical and Romantic periods. These researches carried out by the students provided the development of greater autonomy, as well as the awakening of sensitivity and taste for knowledge, skills that are of vital importance for future learning processes.

2) As for the performances, in addition to the aforementioned practical results intrinsically achieved with regard to music and visual arts, the 4th year students had the opportunity to practice during the 2019-2020 school year theatrical techniques, which developed motor skills, cognition and exalted their emotional and behavioral dimension, In this specific case, well expressed through movement and the free involvement of the body, rhythm, melody and harmony, framed in the language of emotions, surrounded by imagination and creativity.

Through the practice of voice exercises, supported by breathing techniques and correct use of the diaphragm, it was possible to contribute to the development of the motor part. These techniques highlighted a greater awareness of physical abilities and were of significant importance in the interaction and relationship with their peers, contributing to a better experience in the school environment. In addition, they allowed the strengthening of learning regarding the Portuguese and History of Portugal, through the way they were articulated, as well as interpreted.

In general, the children developed the sharpness of the gaze and senses and also improved the knowledge of the body and its limits and in this way created and recreated tasks and artistic works, which stimulated and allowed the awakening to the development of skills, competences and values that are part of the central educational objective, which consists of the continuous learning of the students and the ensuring of a social and cultural awareness, directed towards a citizenship that values differences, allowing for better integration in the world and its challenges.

In addition to the contents taught and the artistic tasks promoted in the school space, the study visits, as well as the activities developed in the aforementioned monument, allowed to diversify and expand the places of learning, providing innovative experiences for students, regarding their knowledge about the concepts of heritage and the arts.

In this context, it was possible to apprehend that artistic education significantly influenced the creative potential of students, awakening the importance of emotions in school learning. The performances became revealing of their creativity, as well as their multiple meanings, which provided the development of imagination, motivating the children for a more active, inventive and questioning learning, allowing them to follow a path of fantasy exalting the potential of individual divergent thinking.

It is important to mention that, due to the Covid-19 pandemic, there was a change in school education and teaching work, to this extent to continue the teaching-learning process we had to face new challenges and dilemmas, which forced us to reflect and reinvent a new way to teach and learn, taking into account the systematization of conditions, Considering that each student is unique and represents an individual universe.

However, in this period of adaptation in which new solidarity strategies were adopted, which enabled learning and intended to value teaching, distance education through digital platforms was chosen. However, with regard to the ongoing research with regard to practices carried out in a non-formal environment, it has not undergone methodological changes, namely with regard to study visits, which were carried out in the period prior to the first confinement.

From this perspective, it should be noted that this change has forced us to rethink our routines and tasks, as well as the sharing of affections and human contact, measures that have caused enormous emotional disturbance and exhaustion. For this reason, in addition to the new restructuring of the educational process, we are faced with numerous insecurities and difficulties that have been reflected in the stability of the human condition, also leaving an open field for reflection on the way we enjoy natural resources. However, this crisis has had a huge impact on the social, economic and political framework, severely affecting already fragile education systems, with regard to inequalities and the education of the individual for freedom.

Regarding the learning acquired and taking into account all the means they had at their disposal, it was possible to conclude that the students individually presented their own profile, which contributed to an articulation between theoretical and practical knowledge, and to a better awareness about the artistic and historical value of contents related to artistic languages. This learning resulted in an improvement in the interrelationship of knowledge sharing among colleagues, and the development of motivating experiences, which made students more apt to perform future tasks.

We are convinced that through this pedagogical proposal, the principles of cooperation and affectivity, fundamental for individual development and social interaction, have been developed, and the values of inclusion have been promoted through the activities implemented, which are decisive to activate the development of cognitive and emotional capacities, fundamental for the feeling of equality that must remain internalized in all of us.

These results are representative of an enriching didactic proposal for all participants within the scope of the 1st Cycle, in particular with regard to the sharing of knowledge, the learning of the contents taught and the strategies and activities developed.

In this sense, it is a project directed towards the future, through which strategies and activities are proposed appropriate to what is understood as the global training of students, in its cognitive, emotional and ethical dimensions, but also to the training of teachers in the artistic area, contributing to the adoption of innovative pedagogical strategies and to the promotion of an interdisciplinarity that is considered beneficial for teaching and learning.

This research, in addition to promoting a positive development awareness of the participants, with regard to the encouragement and implementation of new procedures and criteria, as well as significant learning and skills, has a broader social impact, insofar as through the structuring of a dynamic collaborative process, knowledge and experiences were shared, as well as the civic spirit and solidarity among all.

From this perspective, this study, which is situated within the scope of educational policies for the valorization of culture and the arts, presents transformative learning methodologies, and aims to exercise active citizenship by promoting a progressive education contextualized outside the traditional teaching parameters.

The participation and collaboration between the participating researcher, the teachers responsible for the 1st and 4th grade classes, the guest artist and the students, the school entity, as well as the involvement of the educational services of the Ajuda National Palace and the aforementioned monument, as a museum institution and learning space, gave this study a global and impactful scope. which allowed the integration of all stakeholders in a dynamic of artistic, scientific, heritage and social learning, which envisaged a better preparation for current and future challenges.

For this reason, it is expected that the present didactic proposal anchored in the principles of artistic education, which applies learning mediators such as exploration, interaction, creation and dissemination, can contribute to the enrichment of models within this area, with the purpose of transforming, within its limits, the perspectives that still persist on the traditional teaching paradigm. It is hoped that certain renewal guidelines in relation to educational policies can bring benefits to a mission that goes beyond the intellectual development of children, taking into account that institutions must also take responsibility for their emotional and social development.

The objectives achieved in this study allow us to assess that it is a proposal in the scope of artistic education directed to contemporary educational needs, in which it is sought to promote an articulation and interrelationship between the various areas of knowledge, in the artistic, scientific, historical and heritage domains.

It is concluded that the present research aims to conquer space for reflection, as well as to contribute to new perspectives and approaches in teaching and learning.

> A harmoniously structured, solid and united society is at the basis of the evolutionary success of the human species and also at the origin of the development of the adaptive potential of children and young people, art turns out to be a cornerstone of cultural and scientific evolution, since it is based on a continuous expansion of the imagination. (Souto, O., 2017, p. 16, Sotto, 2018, p. 37)

With the conviction that there is still a long way to go to build the "ideal" educational model, we believe in change, through different perspectives, which propose to open new referents and themes, which can reconcile positive and innovative experiences to find new answers regarding the interrelationship of knowledge between art and education.

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Integrative project in times of pandemic: The challenge of meeting real demands in a situation of social isolation

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ABSTRACT

The year 2020 will certainly be marked by the Pandemic caused by the spread of the new Coronavirus, a highly contagious virus that killed more than 995 thousand people worldwide by the end of September this year. As a result of the Pandemic, the Government of the State of Rio Grande do Sul decreed physical/social isolation measures and the suspension of classes to contain contamination. Institutions at all levels of education had their face-to-face classes suspended. Within this context, the University Center of the Campanha Region (Urcamp) quickly adapted to reality, starting to carry out its activities remotely, starting in the second half of March. Thus, all undergraduate courses were challenged to use technological resources, in real time, in order to maintain quality teaching also in the virtualized modality.

Keywords: Pandemic, Social isolation.

1 INTRODUCTION

1.1 BACKGROUND

The year 2020 will certainly be marked by the Pandemic caused by the spread of the new Coronavirus, a highly contagious virus that killed more than 995 thousand people worldwide by the end of September this year. As a result of the Pandemic, the Government of the State of Rio Grande do Sul decreed physical/social isolation measures and the suspension of classes to contain contamination. Institutions at all levels of education had their face-to-face classes suspended. Within this context, the University Center of the Campanha Region (Urcamp) quickly adapted to reality, starting to carry out its activities remotely, starting in the second half of March. Thus, all undergraduate courses were challenged to use technological resources, in real time, in order to maintain quality teaching also in the virtualized modality.

Among the numerous challenges imposed by reality, the professors of the Integrative Project (IP) needed to solve the following problem: Is it possible to continue the practical application, a prerequisite of the IP, presenting services and solutions to real demands of the community within the scope of the Psychology course in times of social isolation? It is important to clarify that the Integrative Projects are curricular components of the institution's 'Graduation i' and were inserted in the curriculum of the courses so that "... Students could put into practice, on a weekly basis, the contents learned, solve real problems and at the end of the semester, present a product and/or service to the community

meeting a demand of the same. (TABORDA, Attila Foundation. University Center of the Campanha Region. Pedagogical Project of the Psychology Course, 2020).

In this context, we report here how the Implementation of IPss in two modules of the Psychology course: Module I: The Psychological Perspective and Module III: Constitution of the Individual, in a contingent of 64 academics, in a situation of social isolation.

1.2 OBJECTIVES

1.2.1 The objectives of this experience report were

- Report the basic assumptions necessary to enable the execution of Integrative Projects in a situation of social isolation in times of Pandemic resulting from COVIDE-19;
- Demonstrate how the experience of the practical application of the Integrative Projects was lived in the period of social isolation.

1.3 METHODOLOGY

When faced with the challenging moment imposed by the reality of the Pandemic and the reduced number of demands registered by the Community on the Sou i Platform:

> The Sou i Integrative Projects Platform is a communication channel between students, the community and companies, where Urcamp fulfills, in one more instance, its community character. Through a new teaching methodology, the institution strengthens ties, providing experience to academics and solving the problems of partners who register (Urcamp, 2019).

The teaching psychologists responsible for the IP joined the Structuring Teaching Nucleus (NDE) of the Psychology Course, which endorsed the real demand imposed by the context of the pandemic by recognizing that it is the responsibility of the psychologist in situations of public calamity or emergency, to provide professional services, without aiming at personal benefit. Still basing the demands and actions of the PI on the fundamental principles of the Code of Ethics of the Professional Psychologist, we sought themes capable of "... contribute to promoting the universalization of the population's access to information, knowledge of psychological science, services, and ethical standards of the profession." And finally, based on Article 19 of the Code of Ethics of the Psychology Professional, "The psychologist, when participating in activities in the media, shall ensure that the information provided disseminates knowledge about the attributions, the scientific basis and the social role of the profession" (CFP, 2005).

For this purpose, it was necessary to define themes capable of responding to the demands imposed by the pandemic situation, in line with the possibility of enabling practices, even if at a distance, and developing the competencies (*hard and soft skills*) of each module. The first module, whose generating theme is: *The psychological look*, had 22 students enrolled and the third module,

whose generating theme is: *Constitution of the Individual*, had 44 students, all distributed in groups of a maximum of four members. The formation of the groups took place by drawing lots in the first module, as most of the students did not know each other personally. The themes were chosen and only in case of more than one interested group was it necessary to draw lots. The titles of the projects presented in Module I were as follows: Pregnancy in times of Covid-19; Students' mental health in times of pandemic; Psychology as a tool for the prevention of drug use in adolescence; The importance of the psychology professional; Relationship between parents and children in a period of social isolation; Anxiety about the professional future of adolescents graduating from high school. In Module III they were: Residencial Guenoas - life in a condominium in times of social isolation; Use of licit and illicit drugs in adolescence in high school - literature review and coping actions based on a Booklet from A to Z; Mothers in social isolation - collaborative proposals; Affective bond - mother x child, where it all begins; What is the behavior of the elderly and their symptoms in the face of social isolation during the COVID-19 pandemic? - research, literature review and coping actions; Those who see faces, do not see autism - the worsening of the condition of socio-family relationships during social isolation in centers with individuals with ASD; The importance of preventive dialogue in the face of suicide - literature review and proposals for action. All the groups of Module III, in addition to the proposal that make up the PI, also concluded with the elaboration of a scientific article.

Directly, throughout the semester, via Google Form, Facebook, Instagram, Google Meet and return to the requesters, the actions reached approximately 400 (four hundred) people, already indirectly, or without effective interaction, it is believed that the number is much higher, considering the contemplated proposals, such as awareness, support, motivation, tips and suggestions to face the period of social isolation developed, mainly, via social networks.

Supervisions were carried out weekly, from March to June, synchronously in large groups or scheduled by working groups according to the week's planning. The work of the groups was developed according to the objective of each IP, with the use of social networks in order to establish a closer contact with the target audience, scientific initiation with the use of google forms in order to understand the moment that the individuals were going through, interviews and virtual meetings through platforms such as the meeting, All actions planned with the supervision and mentoring of a professional in the area and carried out by the students.

At the end of the semester, an internal Exhibition was held in the Course where the students previously recorded their presentations in up to 10 minutes and transmitted them to their classmates, mentors and a panel composed of the PI professor and another guest professor. On this occasion, colleagues voted for the PI that would represent the Module in the Institutional Integrative Projects Exhibition.

The professors of the course also encouraged the students to publish their work in the 14th. Exhibition of Community, Extension and Integrator Projects that took place at the end of October during the online event Congrega Urcamp 2k20, a technical scientific event of the Southern Half of Rio Grande do Sul.

2 THEORETICAL FRAMEWORK

The challenges imposed on the education sector in 2020 were immeasurable and even though there was already a firm movement to transform traditional teaching at Urcamp through the use of active methodologies and problem-based learning

> Currently, it is recommended that the learner be the protagonist of his/her learning, therefore, the institution adopted the hybrid model of education, where the theoretical contents are sent to the student, through the virtual platform, so that the classroom space is for exchanges and debates and discussions, all made possible through active teaching methodologies (TABORDA, Attila Foundation. University Center of the Campanha Region. Pedagogical Project of the Psychology Course, 2020).

No one could have imagined that our teachers and students would be put to the test in record time. Fava says, "As we ponder the challenges of the future, it is necessary to accept that some things are constant. For example, students are driven by passion, curiosity, engagement, dreams. They also need to develop a solid foundation of fundamentals, of liberal arts, of analytical capacity of deductive and inductive reasoning." (FAVA, 2018. p. 182)

According to Matel (2013), the development of scientific disciplines emerged at the end of the nineteenth century. Psychology, strongly influenced by philosophical thought, is part of the Human Sciences, and one of its fields of study is human learning, understood by different theoretical assumptions. Thus, the conception of how one learns is not based on a single theory, justifying the difficulty in finding a consensus on the matter, since different ideas, conceptions and theories that explain human learning coexist.

We know that there are different ways of apprehending and learning the data of a given reality, since cognition is associated with the way "the *person acquires, stores and uses knowledge*". (Matel apud Hayes & Allisson, 1994, p. 53).

At the beginning of the last century, the school valued logic and linguistics as the fundamental skills for a person to be considered intelligent and the assessment of these skills constituted the core of the instrument created by Binet, who tested children in the verbal and logical areas, at the beginning of the twentieth century, the *Stand Ford Intelligence Scale*, which has remained for a long time as a reference and sometimes still is. Over the decades, we have come to the new concepts of emotional intelligence and currently to the concepts of *hard skil and soft skil.*

The identification of learning styles allows the planning and application of student-centered teaching strategies and provides guidelines for the individualization of teaching and, according to Bender (2003), when the different styles of students are known and respected and the act of teaching is adapted to this fact, students can reach positive levels of learning and can be raised to the condition of being the protagonist of their learning path. Teaching many as if it were one, a principle that characterized the school for a long time, had as its essence the standardization, the standardization of techniques and procedures and disregarded the particular ways in which each one learned.

3 RESULTS AND DISCUSSION

After the presentations of the IPs in the internal Exhibition of the Course, a qualitative non-probabilistic research for accessibility was carried out with the application of a structured instrument, elaborated in the "Forms" tool of the Google platform with three open questions where the students were able to express their opinion on the strengths, weaknesses and suggestions on the process of supervision, elaboration and application of the IP in the midst of the Pandemic of Covid-19.

Although only 45% of the students answered the descriptive instrument, it is believed that the fact that the answers were not requested during the evaluation period or requested the identification of the students makes these data more significant and reliable.

The analysis of the content of the descriptive questions brought to light two categories of analysis as follows:

1) Face-to-face vs. online modality
2) Skills development (*hard* and *soft skills*)

3.1 FACE-TO-FACE VS. ONLINE MODALITY

The interaction of the Module I class took place practically in the online modality, and the students entering the Course had a few weeks of face-to-face classes before the institution went into quarantine, which required greater adaptation capacity of individuals in the formation of groups, for example. According to one of the students in the first semester of the course, "the only deficit found was that we were unable to meet in person. But, even so, everyone was very present" (PI – The Psychological Look, SIC, 2020). On the other hand, academics from Module III said that "the project itself occurred normally, I would say even better than in the face-to-face way, since we produced much better with individual supervision for each group as we did this semester, instead of working broadly in the classroom with all colleagues, we were able to optimize time objectively (PI Constitution of the Individual, SIC, 2020).

> It is necessary to understand the University as a place of questioning, of restlessness and never as a place of truths. There is the place where the construction of a certainty is accompanied by

> the clarity that it is temporary; it's historic. It is the place to doubt the certainty that has been produced. This is research spirit (BOCK, 2015).

Which leads to thinking that the world is in a moment of uncertainty where there is no right way to do it. It is time to give new meaning to teaching practice and teacher-student relations. Rethinking doing things responsibly and with ethical commitment through the opening of spaces for discussion in order to listen to those involved in the teaching-learning process.

3.2 COMPETENCE DEVELOPMENT

Through the PIs, the central component of the module, students are able to apply the concepts learned within a thematic axis or generating theme developed in the other curricular components. Thus, they acquire a set of skills and competencies for professional performance. In addition, students also develop interpersonal relationship skills, as they have to carry out the project in a group. According to one of the academics when he said that "It adds competencies in the tangent to collective development" (PI – The psychological look, SIC, 2020).

> The integrative project is extremely important because it makes us study about various subjects, it also makes us get out of our comfort zone and get to know different worlds. And thus, making us build new bonds with different people, whether they are colleagues, mentors, teachers, advisors or volunteers" (PI Constitution of the Individual, SIC, 2020).

"If students are able to establish relationships between what they learn intellectually and the real, experimental and professional situations linked to their studies, learning will certainly be more meaningful and enriching" (CAMARGO; DAROS, 2018, p. 7).

As recommended by the DCNs, the training courses in psychology are committed to providing the professional with knowledge in such a way that they can develop the following competencies and skills: health care, decision-making, communication, leadership, administration and management, permanent education. (PPC, 2020). This is confirmed by those of the students of the course "((...)) I learn more in developing a project than in all the other components" (Mod. III, SIC, 2020). "It's a very good way to interact with other people, to use what we've learned in a productive way where we can help others" (Mód. I, SIC, 2020).

By rescuing the objective of the Psychology course, which aims to "promote student protagonism, through the stimulation of autonomous learning practices, as well as real experiences provided by internships and integrative projects, building a systemic view of reality." (TABORDA, Attila Foundation. University Center of the Campanha Region. Pedagogical Project of the Psychology Course, 2020) It is also observed the understanding that the PI is part of a process, as one of the students of the first semester brought when he said*: "In general, it was very good! I believe that in the coming*

semesters it tends to improve, due to the greater understanding of what the integrative project is and the maturation resulting from the study" (PI – The psychological look, SIC, 2020).

4 FINAL THOUGHTS

It can be inferred that the aspects scored as deficient by the students are more related to the pandemic itself than to the dynamics or work methodology for carrying out the PI. That the willingness to learn is greater than the difficulties imposed by distance.

The presentation of the experience reports of the integrative projects carried out in the anxiogenic scenario of pandemic and social isolation, in an online event with more than 1500 registrants, demonstrates how much our academics are broadly developing their skills and will certainly have a differentiated professional profile.

It is also considered as a significant result that attests to the quality of the works produced the approval of the expanded abstracts in the largest technical scientific event in the southern half of Rio Grande do Sul - Congrega Urcamp 2k20 and the first place in the award in the area of Human Sciences of one of the integrative projects developed in the first semester of the Course, which had as its title: Student Mental Health in Times of Pandemic (Kohn et al, 2020).

The award of an IP project by students of the first semester of the Psychology course, which dealt with the theme of students' mental health, reaffirms the purpose of IP by fulfilling the role of integrating the knowledge of the curricular components and taking students out of their comfort zone, making them truly protagonists, both in their learning and in the search for solutions to real problems in the community.

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The use of food labels as an active methodology in high school chemistry learning

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ABSTRACT

In this period of uncertainty and transformations that we are living, it falls to the teacher to have the mission of teaching the students in a way they can assimilate what they have been taught with day-to-day applications. For this reason, the contextualizing of the contents that have been learned is a great strategy to improve the teaching and learning process. This study aims to analyze the possibilities of the methodologies used to facilitate the process of learning through the interpretation and analysis of food labels. This project was developed at Centro de Ensino Benedito Leite, in classes from the third year of high school (or junior year), totaling 82 students. Primarily, a questionnaire was applied and after that, expositive classes, thematic workshops (quiz and experiments) were organized, exploring the interpretation of the technical terms associated with the labels and the identification of some organic functions present on them, with discussions corresponding to the benefits and the damages when present in great amount in foods. And, in the end, an evaluation of the activity developed was apprehended, it was not selected that 51% of the students never read the labels before buying, while 24% never read the labels and 22% read the labels, signaling that the application of the practice performed associated with the substances contained in the foods will motivate adolescents/teenagers to exploit the labels and it turns into a necessary action. From the diagnostic analysis of the data, it was possible to realize the importance in using methodologies that make students owners of systemic knowledge, doing activities that can associate the scientific knowledge and the students' reality, in a way that stimulates the interest for Chemistry. After the students participated in the methodological activities of the project and through the evaluation questionnaire, the students should assign their level of agreement with the following statement "Studying chemistry through the food labels facilitated my learning" 58% of students answered it as “completely agree” and 32% “agree more or less”, resulting in a meaningful majority of approval of activities developed, conveying that innovative methodologies help in the teaching-learning process, turning people into critical and independent citizens. Lastly, by means of all the study performed and the educational activities presented, it was possible to confirm that the use of the interpretation of the food labels can assist and promote the process of critical and scientific training in a way to obtain a more interactive, dynamic and inclusive education.

Keywords: High school, Product labels, Organic Functions, Quiz, Games.

1 INTRODUCTION

The teacher's main challenge in the educational process is to teach the student to think and make him a critical subject. However, to this day, archaic models of teaching are used in the teaching-learning process. It is common for educational practice to be centered on the figure of the teacher and the students only passive subjects in the education process.

This form of teaching has proven to be ineffective in the face of great technological advances and changes in habits experienced by society. In this sense, the search for innovative and dynamic teaching methodologies for everyday school life represents an important step in the teaching-learning process, since static methodologies are no longer so appreciated by the current public. Thus, it is up to the teacher to play the most important role, which is to innovate in teaching proposals.

In view of the difficulties encountered in the teaching of chemistry, often presented in a traditional format, the need arises to seek in daily life the content that is studied in the classroom so that the student has a more efficient teaching, providing the teacher with a way to motivate students, to the point of ensuring the right choice of methodologies that promote the development of critical and scientific thinking.

In addition to the teaching difficulties, another issue is related to the health and well-being of students, because in Brazil there is a notorious increase in domestic consumption of processed foods, such as bread, sausages, canned goods, cookies, beverages and a wide variety of instant foods. This fact is due to the practicality that these foods provide and the lack of time for the preparation of the food itself, due to a more urban lifestyle. Thus, this growth had a negative impact, deteriorating the consumption patterns of this population. Malnutrition is associated with increased consumption of unhealthy foods, with excess sugar, fat and sodium, and deficiencies in fiber and micronutrients, which lead to an increase in overweight problems and, consequently, obesity in the population of Brazil and the world.

In the development of the project applied at the Benedito Leite Teaching Center and entitled "The Teaching of Chemistry through Food Labels" we sought to gather data/information with the purpose of answering the following research problem: Is it possible to use food labels as a teaching methodology in the discipline of Chemistry and thus form critical and conscious subjects of their food choices?

In view of this, the contextualization of the contents in the teaching of the discipline Chemistry emerges as a proposal to bring practical meaning to the concepts learned and to strengthen the relationship between theory and practice. The search for knowledge based on practical examples is important for students to understand the phenomena that surround them and their relevance.

For the development of the present work, data collected through the application of the project in the classroom, through questionnaires and direct observation, were used. The activities were developed in the months of November and December 2021, at the Bendito Leite Teaching Center, in 4 classes of the third year of high school and bibliographic research. Due to the research problem related to teaching methodologies, contextualization and food labels, we sought to select articles, manuals and books to reinforce the theoretical basis.

Thus, the present work seeks to contribute to the teaching-learning process through a more contextualized teaching proposal, which brings the content taught closer to the student's daily life and, as a consequence, provides students with scientific literacy. The project aimed to train critical, active citizens and holders of systemic knowledge, and for this, activities were carried out that related the scientific knowledge and the student's reality, in order to awaken the interest in chemistry.

2 THEORETICAL BACKGROUND

2.1 DIFFICULTIES IN THE TEACHING OF CHEMISTRY IN BRAZIL

The teaching of chemistry has been shown to be less and less efficient in its traditional format, in which the student has little participation in the learning process, and the teacher is delegated the role of knowledge holder, whose function is only to transmit what he knows (CAVALCANTE, 2016).

Understanding the difficulties encountered in this teaching format can be the first step to remedy these deficits and show students the importance of this discipline in everyone's lives, in order to arouse interest in its study. Especially in the teaching of chemistry, it is perceived that students have learning difficulties because they do not associate the content with their daily lives, thus making it uninteresting. This suggests that teaching is being done inefficiently (NUNES and ADORNI, 2010).

For SANTOS and SCHNETZLER (2000), the chemistry taught in schools has contributed little to the formation of more critical and autonomous citizens who know how to make judgments pertinent to their cultural and social context. The teaching of chemistry cannot be limited to the transmission of knowledge. It is necessary that the conceptual contents are related to the student's life, bringing him closer to his reality, giving "meaning to the world around us and understanding the meaning of scientific knowledge" (POZO; CRESPO, 2009, p. 118).

It is up to the teacher to bring to the classroom activities that arouse students' interest in studying chemistry so that it can be applied in their daily lives, in choices and decision-making. Which, according to Marques (2021), will lead to the formation of a critical citizen, capable of better understanding the world, positioning himself before it and contributing significantly to the review and construction of new knowledge.

Therefore, making the subject of Chemistry interesting for the student is a challenge for teachers, as some scientific concepts covered in the classroom often present comprehension problems. The following learning difficulties in Chemistry were listed by Santos *et al*. (2013) in a research carried out with 95 students of the 1st grade of High School from three schools of the state public education network in the municipality of Aracaju/SE: absence of mathematical basis, complexity of contents, teachers' methodology, attention deficit and interpretation difficulties. For the author, what contributes to high school students presenting difficulties in their study is the fact that they consider the understanding of chemical concepts complex.

In most schools, greater emphasis has been given to the form of teaching in which there is the transmission of knowledge and the memorization of facts, symbols, names, formulas, and the construction of chemical knowledge ends up not being absorbed in a useful way by the student. This practice has had a negative influence on students' learning, since they are unable to perceive the relationship between what they study in the classroom, nature and their own lives (MIRANDA; COSTA, 2007).

The lack of attractions in the school environment, combined with an increasingly technological and connected reality outside of it, have demotivated students and generated a lack of interest in the content covered in the classroom. From this perspective, motivation plays a fundamental role in the teaching-learning process. The motivated student gets involved with the concepts covered, takes pleasure in what is learned, and participates in the construction of new knowledge (LIRA, 2019).

For Milaré (2008), the use of themes in Science Teaching and Chemistry Teaching can collaborate in the realization of these points in the classroom, as they direct scientific knowledge to a practical purpose, attributing importance to students to what is studied and favoring interdisciplinarity. In addition, the inclusion of social topics in Chemistry classes helps to avoid the massive dumping of content and the need to memorize concepts and formulas, which characterize traditional teaching. They also collaborate with the discussion of social, political and economic aspects, which are non-disciplinary elements that help in the problematization and are part of the students' reality.

2.2 THE IMPORTANCE OF PLANNING AND THE USE OF NEW METHODOLOGIES IN THE TEACHING OF CHEMISTRY

The teaching of Chemistry is currently present in a relevant way in the educational routine, in which several times the main concern of teachers is the exposure of the largest amount of content possible, on the board and brush, in a conventional way without using other types of resources to make learning more practical for students.

Thus, the development of new teaching methodologies is essential in order to make learning more pleasurable and motivating for students. Among the most effective methodologies, the use of different didactic resources stands out, as long as they are appropriate to the space and time available in class, and that allow better work and overcome the difficulties associated with teaching and learning (PEREIRA *et al*., 2010).

When planning their didactic activities, teachers should create situations and activities designed to promote a better understanding and acquisition of knowledge. Planning consists of an activity of predicting which action will be carried out, where objectives, procedures, resources and forms of evaluation are defined based on an educational intentionality (LIBÂNEO, 2008).

Understanding the reason why this subject is studied is an important step in motivating students and facilitating the teaching-learning process. Some compounds studied in high school in which their structural formula, nomenclature according to IUPAC, are known, have names known in the student's daily life and could be better presented. As an example, we have the acid present in vinegar, which is a carboxylic acid, whose usual name is acetic acid and is the main component of vinegar used in food preparation.

There are many phenomena in our daily lives that can be explained through the study of Chemistry. Making a relationship between these phenomena and the contents learned in the classroom is important in the learning process of the discipline, since it facilitates the assimilation of the contents and makes them more interesting for the students (CHASSOT, 2004).

In order for the student to be able to see the importance of studying chemistry, more effective teaching methodologies should be employed, with the objective of stimulating the student in the teaching-learning process. Contextualization, therefore, presents itself in this perspective as a great ally of the teacher in this process.

There is a need to talk about chemical education, which prioritizes the teaching-learning process in a contextualized way with the student's daily life, problematizing and dialoguing so that it can stimulate students' reasoning, making them realize the importance of chemistry in a technological society (ROCHA AND VASCONCELOS, 2016). In this sense, the National Curriculum Parameters for Secondary Education (PCNEM) emphasize that content and themes should favor the understanding of the natural, social, political, and economic world. (BRAZIL, 1999)

Therefore, in order to have a quality education, it is important to search for new teaching methodologies, in order to motivate learning and promote the student's interest in this discipline that many still consider unimportant in their daily lives. (GARCIA, *et al*., 2017)

2.3 NUTRITION LABELING AND ITS FUNCTIONS

According to ANVISA and UNB (2005), nutritional labeling is defined as any description intended to guide the consumer about the nutritional properties of a food, including information regarding the energy value and the main nutrients. As Bendino (2012) assures us, nutritional labeling serves as a communication vehicle between the consumer and the producer.

For ANVISA and UnB (2005, p. 5), nutritional labeling makes life easier for consumers because it presents nutritional information regarding the amount that can be consumed, shows how much that portion of food contributes to the total nutrients that should be ingested per day, which allows for more conscious choices:

> Nutritional labeling makes it easier to choose healthy foods based on the information contained in food labels, one of the strategies designed by the National Food Policy to reduce the rates of overweight, obesity and chronic degenerative diseases associated with the population's

> eating habits. Nutritional labeling, as one of the actions defined for the implementation of this Policy, was regulated by the National Health Surveillance Agency - ANVISA in March 2001.

Nutrition labeling applies to all food and beverages produced, marketed and packaged in the absence of the customer and ready for offer to the consumer. Evidently, the use of food labels emerged with the objective of facilitating communication between producers and consumers, as a way to show the important information contained therein and that should be used in the proper choice of food. (CAVADA, 2012)

In summary, the label is the identity of the product, with it it is possible to know the most important information regarding what the consumer is buying, as it presents information about the composition of the food, which can provide a basis for consumption choices, with repercussions on health. The packaging must also present the quantity of the product, the identification of the origin, the identification of the batch and the expiration date of the merchandise (ANVISA, 2002).

> Many ordinances regulate what a label should or should not contain. The purpose of these regulations is to ensure quality products in good hygienic conditions for the entire Brazilian population, aiming at maintaining health. In this sense, nutritional labeling allows you to know and identify the composition of foods, since it exposes all the necessary information to the consumer. (ANVISA and UnB 2005, p. 3).

Therefore, it is important to understand that nutrition labelling is an important tool for a healthy life, but it is necessary to understand that its existence alone does not guarantee consumers conscious choices, this is only possible if the consumer acquires the ability to interpret these labels.

2.4 APPLICATION OF FOOD LABELS IN THE TEACHING-LEARNING PROCESS

One of the strategies that can be used in chemistry classes is the interpretation of packaging labels, in order to make the student know the terms inserted in these labels and understand their importance. Packaging labels are considered an essential communication tool for the well-being of consumers, as they point out the origin, nutritional properties and constituents of products. Labels are fundamental tools to inform and guide the consumer about the quality and nutrient portion of food, allowing them to make thoughtful choices in diets made on a daily basis. According to Marko (2018), through this approach, the teacher, in addition to dealing better with the content and concepts to be worked on in schools, will be better prepared to choose and elaborate materials, methodologies and assessments in their own teaching practices.

The importance of nutritional labeling of foods to encourage healthy eating is notable in most of the analyses and research that involve various academic areas and its relationship with strategies to reduce the risk of chronic diseases. It is understood that many food consumers are not curious about the information on food labels, so they are unaware of the advantages they bring (ESTEVES.2017).

For Santana and Fonseca (2006), the study based on the handling of packaging will have more meaning for students because it is part of their reality and therefore will help them to understand the meaning of the information presented, in addition to encouraging them to acquire the habit of reading the label and verifying the data provided. It is also important that the teacher encourages them to seek information from manufacturers, so that they can exercise their citizenship in a respectful and, above all, well-founded way.

It should be noted that educational actions need to be established to instruct the population about the relevance of reading food labels and their nutritional information, so that consumers would be sensitized to a better choice of food (HIPÓLITO & FRANCISCO, 2015). Through these assumptions, there is a need to understand the degree of difficulties and development of the scientific argumentation that students who frequent conventional supermarkets have in relation to food labels and their nutritional information.

According to Marques *et al*. (2008), labeling can contribute to the teaching of different subjects of Chemistry at the secondary level. As these authors assure, the content of the Periodic Table, for example, could be explained by means of the symbols of the chemical elements that are found on the labels of the products. Understanding and correctly interpreting the information printed on the labels of everyday foods educates, raises awareness and facilitates the understanding of the role of Chemistry as an applied and useful science in daily life (PORTO, 2013).

In this context, nutritional labels can be a great ally in the teaching of chemistry, as they allow the development of chemical, physical and biological concepts related to food, providing students with the development of attitudes that contribute to the formation of critical citizens. In addition, they must know how to interpret the information on the labels, to make decisions that will interfere in the choice of products that are more appropriate to their daily needs, thus collaborating for disease prevention and a healthier lifestyle.

2.5 INCREASE IN THE CONSUMPTION OF PROCESSED FOODS

The consumption of processed foods has grown significantly in recent years, whether for the ease of acquisition, or for adaptation to busy life or even for the taste. However, all justifications are valid for the consumption of processed foods, so, even with social isolation and families spending more time at home, the consumption of these products grew, contrary to what was expected. So, industries are investing more and more in substances that make foods with texture, color and flavor more attractive to consumers of all ages. For Kadooca *et al*. (2019) It is necessary to be careful when ingesting these foods, as there are companies that use additives to mask the quality of products that should not be consumed, that is, the misuse of these substances can be extremely dangerous.

Additives are defined as "substances intentionally added to foods for the purpose of preserving, intensifying, or modifying their properties, as long as they do not impair their nutritional value" and are prohibited from being added to foods if there is proof or suspicion that their consumption is not safe for humans. (CAMPESTRINI, *et. al*, 2005)

Thus, it is necessary to study and constantly supervise, both the possible side effects of the additives in circulation, and how companies are using them in their production. It is up to the consumer to police themselves, avoiding exaggerations and consuming only safe amounts of each food and, whenever they are in doubt about this limit, check with the manufacturer. Special attention should be paid to children, who, because they have significantly lower body weight, should consume lower amounts of each additive (POLONIUM; PERES, 2009).

According to Gonsalves (2001), it is very difficult to eliminate all risk factors from our diet and make one hundred percent correct and healthy choices, but it is possible to use common sense by making choices that provide an increase in the consumption of healthier foods and a decrease in those that are more harmful to our health. It is up to us, citizens, with the help of scientific knowledge, to analyze whether such technology is contributing to benefits or harms to our health and consequently to our quality of life.

3 OBJECTIVES

3.1 GENERAL OBJECTIVE

- To verify the level of development of scientific argumentation of high school students through didactic activities applied in chemistry classes involving the reading and interpretation of labels of food products.

3.2 SPECIFIC OBJECTIVES

- Conduct a survey through questionnaires with high school students about their knowledge of the items that make up the labels of processed foods;
- Demonstrate, through contextualized classes, for high school students, the importance of the society that consumes industrialized foods in interpreting the items that appear on the labels;
- Carry out workshops and differentiated activities with students in order to use the study of industrialized food labels as a didactic strategy;
- To verify how students perceive the relationships between the chemical contents covered in the classroom and their daily lives, mediated by activities with the use of industrialized food labels;

- To evaluate, through questionnaires, whether participation in the project reinforced or added new chemical knowledge, as well as whether it provided reflection on the consumption of processed foods.

4 METHODOLOGY

According to Gil (2007), research is the set of systematic procedures, based on logical reasoning, which aims to find solutions to proposed problems, consisting of some steps, from the presentation of a problem to the discussion of the results.

The research was carried out from the application of the Academic Focus project/UFMA, entitled "**THE USE OF LABELS IN THE TEACHING OF CHEMISTRY:** Exploring and interpreting food labels", in 4 classes of the third year of high school, in the morning shift, of the Benedito Leite Teaching Center", located in the center of São Luís - MA. In all, 82 students participated in the project, most of them up to 18 years old. The field research was carried out from November 18, 2021 to December 9, 2021 and had the participation of scholarship holders and volunteers for its application.

Due to the use of questionnaires with questions that aimed to know the reality of the subjects participating in the research, the data treatment was a qualitative approach and the type of hypothetical-deductive reasoning was the basis to identify the influence of the methodology used as a facilitator of learning.

As instruments for data collection, the questionnaire and direct observation were used, in order to obtain a better appreciation of the results obtained in the development of the project. Data were collected using standardized questionnaires for the correct tabulation of the data. With this resource, it was possible to collect the most important information for the development of the work.

These questionnaires were the methodological tools that guided the research, and their elaboration aimed to discuss issues related to the students' perception of the use of food labels as a facilitator in the learning process, which aims to make it easier to understand in the chemistry discipline.

The research was carried out in five stages. In the first, a diagnostic questionnaire was applied, with the objective of knowing the students' eating habits and the frequency of reading food labels, as well as knowing the way they see and/or relate chemistry in their daily lives.

The second stage consisted of two lectures and dialogues, the first on the importance of chemical knowledge in the reading and analysis of food labels for more conscious food choices, focusing on the chemical knowledge used in the information contained therein.

The second class taught used the contextualization in the teaching of organic functions, commonly found in the chemical composition of food and expressed on food labels, their benefits or consequences on the health of the consumer and their importance in the food industry.

The third stage consisted of the application of a quiz, elaborated on KAHOOT (available on the web and in the play store) and made available to students through a link. The use of the application came in order to investigate whether students were able to be clear about the subjects worked on in the classroom. The questions were chosen and developed in advance by the project team, which took into account the classes taught and the discussions regarding food labeling raised in the classroom.

In the fourth stage, an experimental activity was developed with the students, on the identification of carbohydrates and proteins in some foods, as a way to reinforce that the information contained in the labels is of great importance and that their composition is also presented.

And finally, the fifth and last stage of the project, which consisted of the application of the learning assessment questionnaire, in order to analyze the impacts of the project on the study of chemistry and on the lives of students. The questionnaire was made available in a link (through a web form prepared from Google Forms, a Google application that allows the creation, sharing and availability of a form on the web) and sent to students from 4 classes of the third year of high school, so that the schedules would have enough time for the development of all stages of the project.

To conclude this study, information regarding the results was obtained through the two questionnaires: diagnosis and satisfaction. The first had questions related to the subject of study and the second questions related to the results obtained after the development of the project, as well as observations and analyses of classroom activities.

5 RESULTS AND DISCUSSIONS

In the initial questionnaire, 13 questions were presented with the purpose of knowing the students' eating habits, frequency of reading the labels of foods consumed by them, information they considered relevant on a food label and the understanding of the chemistry contained therein. Of these suggested questions, 5 questions were analyzed, where the answers were very relevant to the proposed methodology suggested in the classroom.

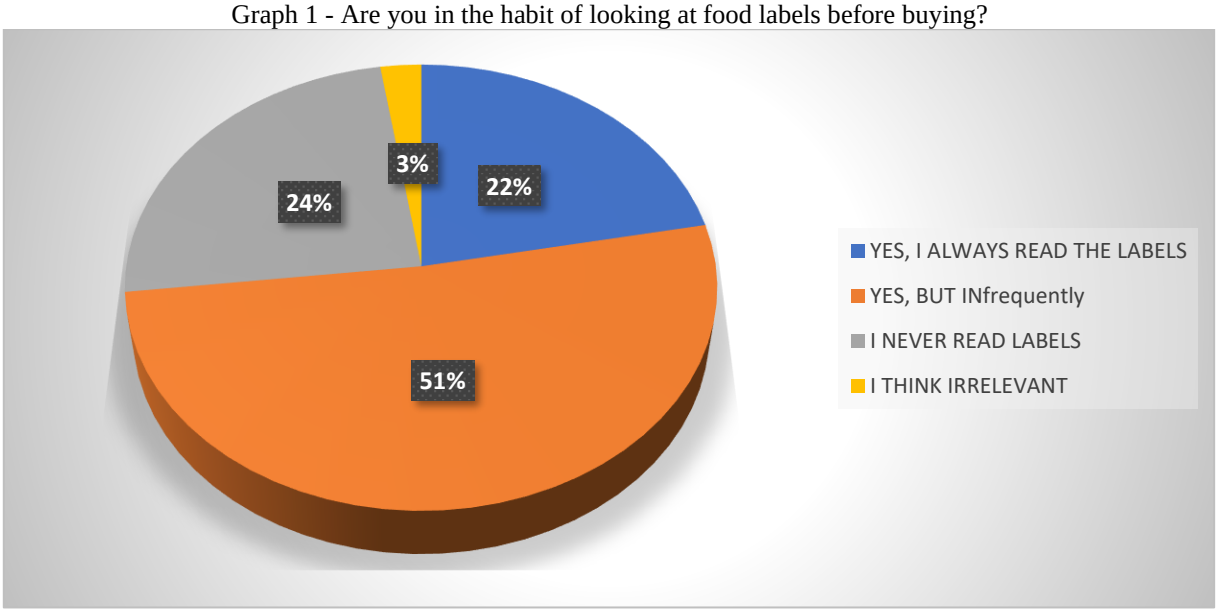
To know the profile of the students, 2 fields were made available for answer: age and gender of the student. Of the total of 82 students, 39% are male and 61% are female. The interviewees were between the ages of 16 and 18.

5.1 ANALYSIS OF THE DIAGNOSTIC QUESTIONNAIRE

From the communicative and enlightening character that the labeling presents, the students were asked about the habit of reading the labels of industrialized foods, and sold in markets and

supermarkets, because the nutritional labeling has the function of guiding consumers as to the composition and characteristics of the products, in addition, it is evident that more and more people are concerned about health, therefore, the label encourages the adoption of healthier eating practices (GONÇALVES, 2012). For this reason, the students were asked about their personal habit of observing or not the labels as part of the choice of food for consumption, the answers are illustrated in graph 1.

Graph 1 - Are you in the habit of looking at food labels before buying?



Source: authors (2022).

Looking at the graph, we can see that a small portion say they have the habit of looking at food labels before buying, about 22% of respondents, while the majority say they look, but not often. Analyzing these data, we can conclude that the vast majority do not have the habit of performing this reading and, consequently, do not evaluate the impacts of these choices made unconsciously.

Several studies have addressed the habit of reading food labels and pointed out why this practice should be adopted by consumers. Silva *et al*. (2019) states that the information contained in food labels is of great importance for the preservation and integrity of food, and consequently provides consumers with the right to analyze the composition of these foods, allowing choices that positively influence or not health. In addition, the labels present in processed foods serve as a communication vehicle between the consumer and the producer, this information serves to guide about what is being consumed, but due to the lack of knowledge on how to use this information, the consumer ends up not attributing importance to this nutritional information (Bendino, 2012).

It is always good to highlight that the labels contain information about the nutritional composition of processed foods, as well as their amounts in grams and percentages. In this way, with the nutritional information, it is possible to check the content of the nutrient in absolute quantity and in its percentage of daily value (described on the label as %DV). And, the lower the value in grams

(g), the lower the amount of the nutrient present in the product. It is important to check the amount of nutrients that are not so healthy (sodium, sugar and fats) and healthy (fiber, vitamins). This information sometimes causes some confusion in those who are going to buy the food, so it is necessary to pay attention to the information when purchasing the products.

The students were then asked about their behavior when they observe on a food label the presence of an item that may be harmful to their health, as shown in graph 2.

Graph 2 - Do you stop buying a food item if you see an item contained in it that could harm your health?



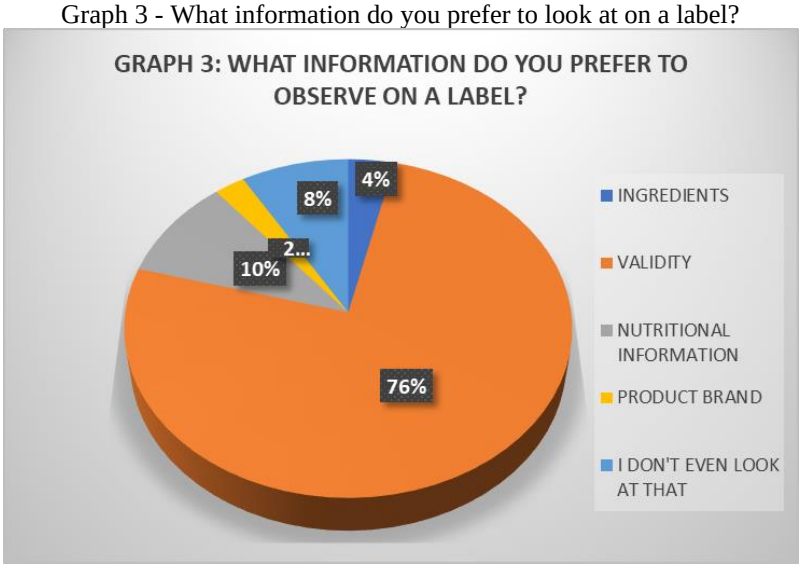
Source: authors (2022).

According to Graph 2, many respondents, i.e., 40% sometimes stop buying a certain food when they notice the presence of an item that may cause a health problem, followed by 33% who said they stop buying if they make this observation and 27% of the interviewees said they do not stop buying even under these conditions.

Based on the results presented in the second question, it is important to work on this theme in the classroom, in order to show students the consequences of food choices on their health, since a good part of the interviewees cannot reflect on it, that is, they do not even care about what these products have in their composition. In this sense, bringing to the classroom the discussion of the importance of this item is extremely necessary, this will make the student, in his role as a consumer and probable multiplier, exercise vigilance in his acquisitions and consumption, so that he achieves autonomy in the selection of foods with better nutritional value.

The following question deals with the interviewees' knowledge of the information contained in food labels, as shown in Graph 3. It was noted that the vast majority, about 76% of the students interviewed, observe information regarding the expiration date of food, but do not pay attention to important information such as those contained in the nutritional table and ingredients, for example.

Graph 3 - What information do you prefer to look at on a label?



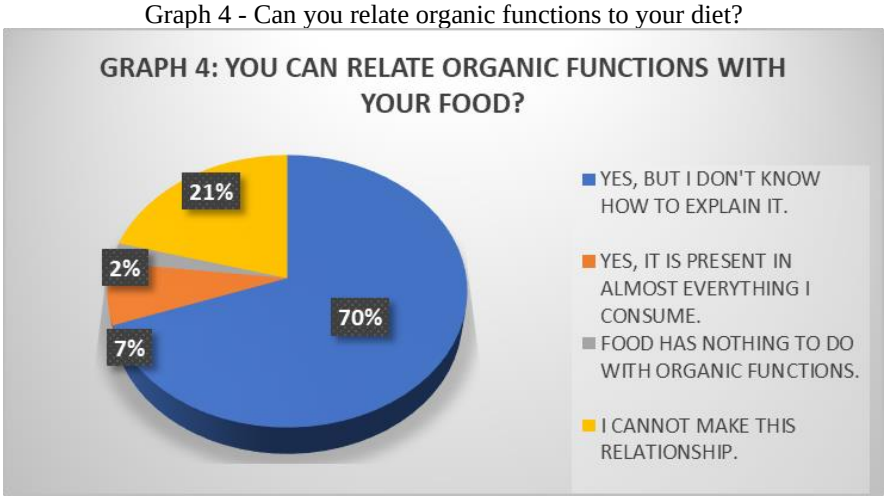
Source: authors (2022).

This result agrees with Cassemiro *et al*. (2006) who reports in his work with a certain group of users of nutritional labeling, that they usually observe and read the labels before buying, because they value the quality of the product, the packaging and the expiration date of the product before purchasing the food. So, according to Marins *et al.* (2008) It is necessary to implement education and communication strategies as a way to encourage consumers to acquire the habit of reading labels. The development of this habit consists mainly in the knowledge of terms considered technical, which can easily be found on the internet and/or worked on in the classroom, with the aim of making the information sufficiently enlightening for students and consumers. That is, to add to the lives of these subjects the access to new information and guidelines to be used according to specific situations, taking into account the cultural and personal interests that will be at stake in different circumstances.

Analyzing a certain lack of knowledge of the students with regard to nutritional information, and the relationship of these substances with chemistry, it is possible to perceive the real need to show in the classroom the importance of this table for the communication between producers and consumers. Since this is a tool that facilitates the knowledge of the composition of the food and can affect consumption choices, reflecting on the health and well-being of the consumer.

The results presented in Graph 4 deal with the relationship between food and chemistry discussed in the 3rd year of high school. The students were asked about the study of chemistry from food labels, in which the content of organic functions can be worked on.

Graph 4 - Can you relate organic functions to your diet?



Source: authors (2022).

Based on graph 4, the majority of students, 70% of the total, are able to relate the content of organic functions to their diet, although they do not know how to clearly explain where they can find them. While 21% manage to make this relationship and stated that it is present in almost everything they consume. And 9% of the students answered that there was no relationship or could not make this relationship. This figure of 70% is quite significant and shows the reflection of the contextualization applied by the teacher in the classroom, but there is little assimilation on the part of the students when the objective is to explain a practical application.

With this, we can perceive the need to teach chemistry with a more contextualized look, therefore, the project brought to the classroom this idea of showing how Chemistry is close to us and is a science that contributes to the improvement of life and well-being. It is only on this basis that knowledge will gain real meaning for the student.

The use of a tool such as the nutritional label brings the student closer to the explanation between food and chemistry, and what substances we consume in our daily lives. It is evident that there is a need to include labels in food and nutrition education initiatives in order to know the information on the labels, in order to empower consumers and strengthen their autonomy to make their food choices (PEREIRA *et al.*, 2017).

With the application of questionnaire 1, it was possible to make a diagnosis about what most students think about the information on food labels and that most of them could not relate the information that was contained in the labels of the food they consumed on a daily basis with chemistry issues that were discussed in the classroom. Based on this data, it is possible to program activities with these students, using the Labels tool for the teaching of organic chemistry, in addition to awakening a more conscious look when buying a certain industrialized food.

According to Pereira *et al* (2017), labeling used responsibly can be an instrument used to raise awareness, since it is able to provide information that enables consumers to make comparisons between

products and make their food choices, exercising their decision-making autonomy for healthier foods. Because opting for healthier foods implies improving eating habits and opting for more nutritious foods.

5.2 PRESENTATION OF CLASSES ON LABELS AND THEIR RELATIONSHIP WITH CHEMISTRY

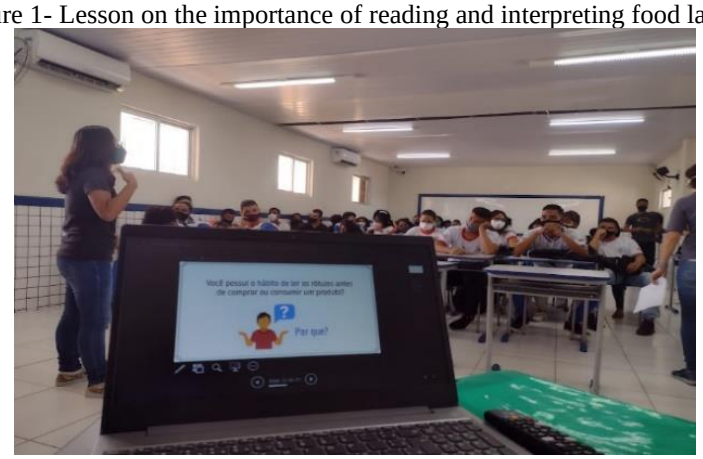
The second stage, called classes 1 and 2, were related to the interpretation and analysis of food labels and the chemistry present therein, focusing on contextualization as a precursor of scientific literacy, since students developed an understanding of science, relating them to problems such as poor diet and the considerable increase in the consumption of processed foods. growing problems today.

According to Suart (2018), the population has an active importance in decision-making and discussions regarding society's problems, in this sense, scientific literacy can be presented as a method of understanding and evaluating the impacts of science on the life of human beings and, consequently, its benefits and possible risks.

In class 1, the need for food labeling and its mandatory information was discussed, as well as how these data should be interpreted, followed by the impacts that the disordered consumption of processed foods can generate on the consumer's health.

Figure 1 illustrates the moment of the presentation of the first class, in one of the classes, which aimed to promote changes in consumption habits in order to show the benefits for everyone's health.

Figure 1- Lesson on the importance of reading and interpreting food labels.



Source: the Author (2021)

This activity encompassed the active participation of students in the search for this knowledge, exposing opinions and information regarding consumption in their daily lives and the importance of conscious food choices, discussing the problem of the project that deals with the real need to observe and interpret the nutritional information contained in the nutritional table, which despite being essential is little used by consumers.

According to MORAN (2021), activities that involve student participation are necessary, since activities without adequate reflection can lead to superficial learning and insufficient development of the skills and competencies expected at each stage of curriculum application.

In class 2, a more investigative and contextualized approach was used, using the systematization, organization and discussion of the theme in order to seek new meanings for the study of chemistry. Using the students' previous knowledge regarding the content of "organic functions" studied before the application of the project, the scholarship holders acted as mediators in the classroom, putting this content in confrontation with the experiences of common sense.

In practice, the students were encouraged to look for the presence of organic functions in the chemical composition of the foods they frequently consumed and, together with the scholarship holders, discuss the possible impacts of some of these compounds on health. The students were also presented with the need to analyze food labels to assist in this impasse.

At the end of this activity, it was possible to observe a more critical position in relation to food, confirmed from observations of the discussions in the classroom, and from the statements exposed in relation to different points, such as: the differences between ingredients that had or did not have some nutritional value, the exaggerated use of food additives, among other statements.

Despite the active participation of the students, it is not possible to say in fact that the project changed the way of seeing and/or choosing food, however, it was possible to observe that the contextualization of the subject made the study of chemistry more interesting, since the students were more motivated in the search for chemical knowledge by understanding that it is possible to solve problems that directly impact everyone's lives.

Figure 3 illustrates the moment of the presentation of the class on the organic functions present in food.

Figure 2 - Lesson on organic functions present in food.



Source: the Author (2021)

Thus, it can be inferred that the classes carried out from contextualization, investigation and dialogue contribute significantly to the development of skills related to scientific literacy, by considering situations in which students can solve problems, and propose solutions for them, which contributes to their cognitive and conceptual development.

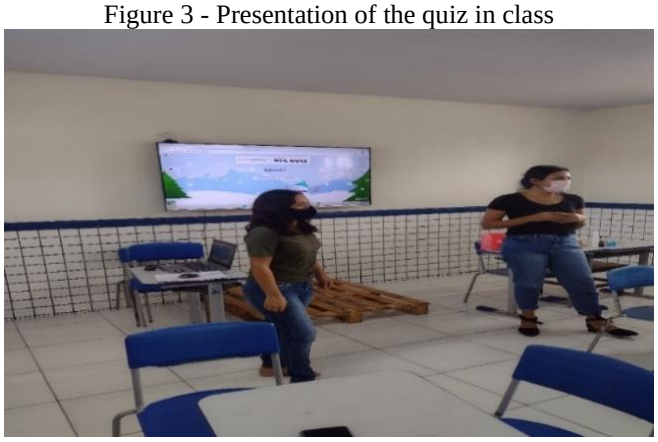
5.3 WORKSHOPS APPLIED TO STUDENTS FOR LEARNING

5.3.1 Momento Quiz

After the presentation of the chemistry contents, using the food labels, the process of applying the quiz in the classroom was initiated, this option arose from its dynamic character in the teaching/learning process. This tool emerged as a new possibility to make teaching more pleasurable and uncomplicated, for both student and teacher.

Figure 3 illustrates the moment of the presentation of the quiz in the classroom. This activity was carried out in teams and answered through cell phones. The results of each team were projected on a TV, for everyone's knowledge.

Figure 3 - Presentation of the quiz in class



Source: the Author (2021)

By appropriating this instrument in the construction of learning, the students externalized their thoughts and ideas about the content that was being studied and in this way the class became much more spontaneous. Thus, all students were able to actively participate in the construction of chemical knowledge and analyze what could be done, improved and corrected in the question of food and health.

We noticed that the students themselves felt like critical subjects and capable of solving quiz problems with the most diverse levels of difficulty. This is due to the dynamizing function of this activity and the initial activities.

Based on the observations made during the application of this activity, it was evident the interest in studying chemistry using resources available in the student's daily life, which, despite the facilities they present, are resources still little used in the classroom.

Figure 4 illustrates the moment of the students' participation in the quiz, a question-and-answer activity.

Figure 4 - Student participation in the quiz.



Source: the Author (2021)

The results of this activity evidenced the need to bring to the classroom attractions that motivate students in the teaching and learning process. Since the interest and curiosity in learning something new using this tool was noticeable, which was verified by the number of interactions in the classroom.

5.3.2 Chemical Experiments to Observe Substances from Labels

It is important to consider that in order to facilitate the teaching and learning process, the teacher must plan his activities thinking about how to awaken in the students the interest in studying a certain subject and thus promote meaningful learning. Experimental classes by themselves are instruments that arouse the attention of the students, when combined with contextualization, they prove to be a great motivating instrument in the educational process.

This activity aimed to facilitate the teaching and learning process, providing students with an understanding of the relationship between chemistry and society, bringing to the classroom this action that involves everyday matters, more specifically, such as the verification of the chemical composition of the food frequently consumed by them. From this stage of the project, it was possible to analyze the presence of some components listed on food labels, and confirmed through experiments, to show students that it is possible through investigative experimentation and chemistry to analyze what is exposed on the labels.

According to Silva (2016), experimentation is important in the educational process, and when it is presented as an investigative process, it becomes a rich teaching tool, which enables the creation of situations that motivate students.

Figure 5 illustrates the moment of the development of the experimental activity, investigation and identification of the presence of carbohydrates and proteins in some foods.

Figure 5 (a) - Development of the experimental activity. (b) - materials and reagents used during the experimental workshop



Source: the Author (2021)

With the experiments, it was possible to verify the presence of carbohydrates in samples of milk, bread and biscuits, as a way to prove what was described on the labels of these foods and also to verify the presence of the chemical in our daily lives.

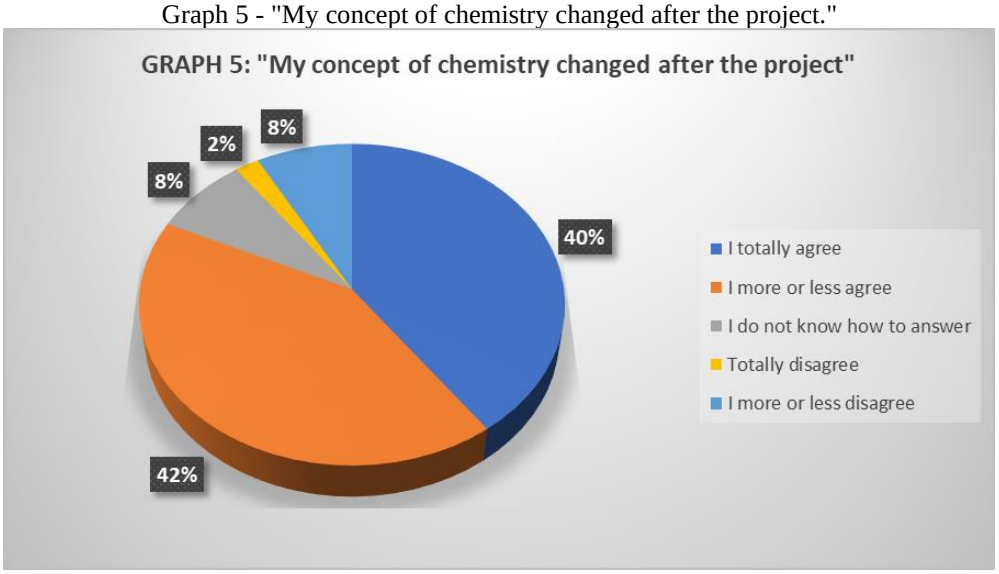
The use of the experimental class in this project was an important instrument in the teaching process, as it aroused the students' interest in the subject under study, which was noticeable with the interactions and questions during its realization. The benefits of experimental activities can be seen in the works of several authors, who highlight experimental practical activities as being important for dynamic and attractive teaching (TEOTONIO *et al*. 2019; SILVA 2017; DA SILVA, 2011).

5.4 LEARNING ASSESSMENT QUESTIONNAIRE

At the end of the project's application, the students were asked to answer the satisfaction questionnaire, in which the respondents' participation was voluntary and anonymous, according to their expressed willingness to participate. The students were previously explained the importance of filling out and returning it. The scholarship holders and volunteers of the project made themselves available to the students for any clarifications during the period of application of the questionnaire. This data collection began after the end of the project application as a means of evaluating the results of the activities.

To understand the need to innovate in the classroom, the first question dealt with knowing the possible impacts of the project on the students' relationship with chemistry, for which they were asked to attribute their level of agreement in relation to the change in the concept of chemistry.

Graph 5 - "My concept of chemistry changed after the project."



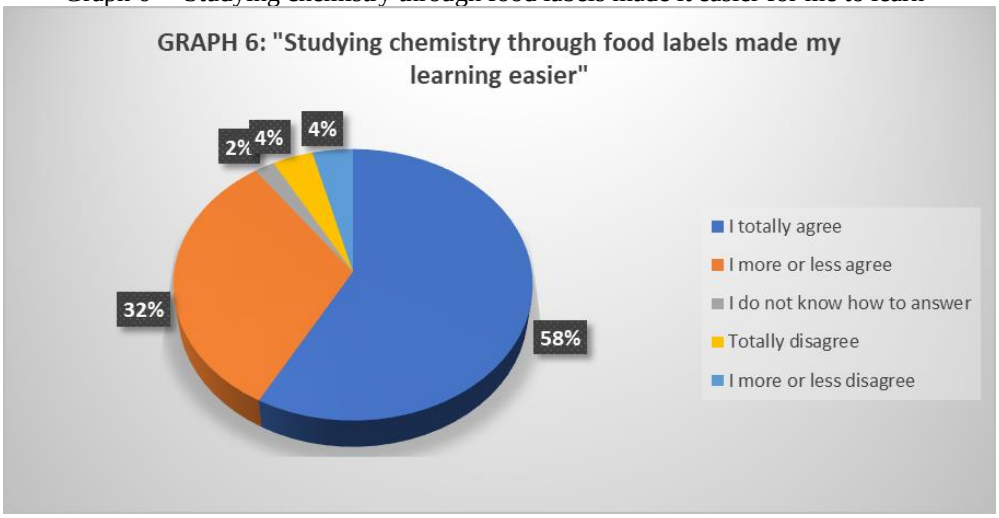
Source: authors (2022).

As noted in the previous graph, the majority totally or partially agree with the statement and only 18% of respondents said they did not agree or did not know how to answer.

The results showed the importance of applying new methodologies in the classroom, in order to attract the attention of students during the school year. To this end, as Brighenti *et al*. (2015) It is important for teachers to constantly improve their methodologies in order to meet the new needs of each audience.

In the second question, the students were asked to rate their level of agreement in relation to learning chemistry through food labels.

Graph 6 - "Studying chemistry through food labels made it easier for me to learn"



Source: authors (2022).

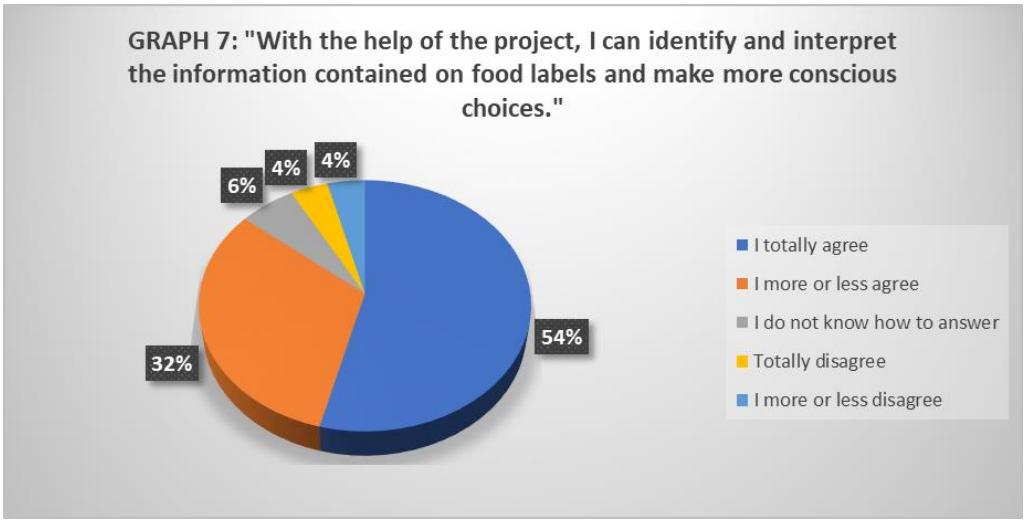
Based on graph 6, the majority of the students, 90% of the total, evaluated that it was easier to study chemistry using food labels.

During the application in the classroom, it was noticeable how much this activity attracted the students' attention to the subject, which is usually judged as difficult to understand, but in the course of the project it became attractive, applicable and simple for the students. Of the total number of interviewees, 10% did not know how to answer or disagreed with the statement, which also denotes the need to seek other methodologies that also cover this audience, since in the classroom all students have the same level of importance.

The third question was elaborated in order to identify the level of understanding of the subjects studied, of application and of the possible social impacts of the project in the lives of the participants, in this sense, the students should attribute their level of agreement in relation to the impacts of the project on food choices and on the interpretation of labels.

As shown in Graph 5, the majority of students totally or partially agreed with the statement, 86% of the total number of interviewees, a very expressive number.

Graph 7 - "With the help of the project, I can identify and interpret the information contained on food labels and make more informed choices."



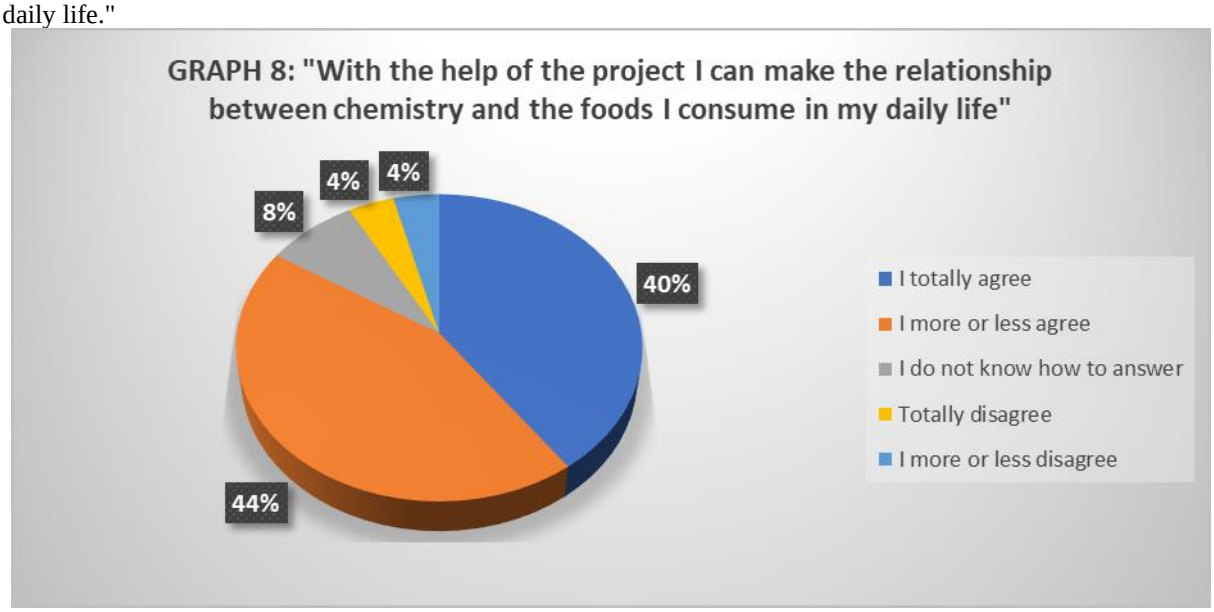
Source: authors (2022).

Finding, therefore, that contextualization is essential for a more meaningful teaching and learning process, which brings chemistry closer to the students' reality, proposing solutions to everyday issues and showing their applicability in practice.

The fourth question sought to evaluate the contributions of the project in the chemical learning of the participants, verifying whether through the activities the students developed knowledge regarding the chemical composition of food and the presence of what is seen in the classroom in their daily lives.

To this end, the students were asked to evaluate the statement in graph 8 with their level of agreement.

Graph 8 - "With the help of the project, I am able to make the relationship between chemistry and the food I consume in my daily life."

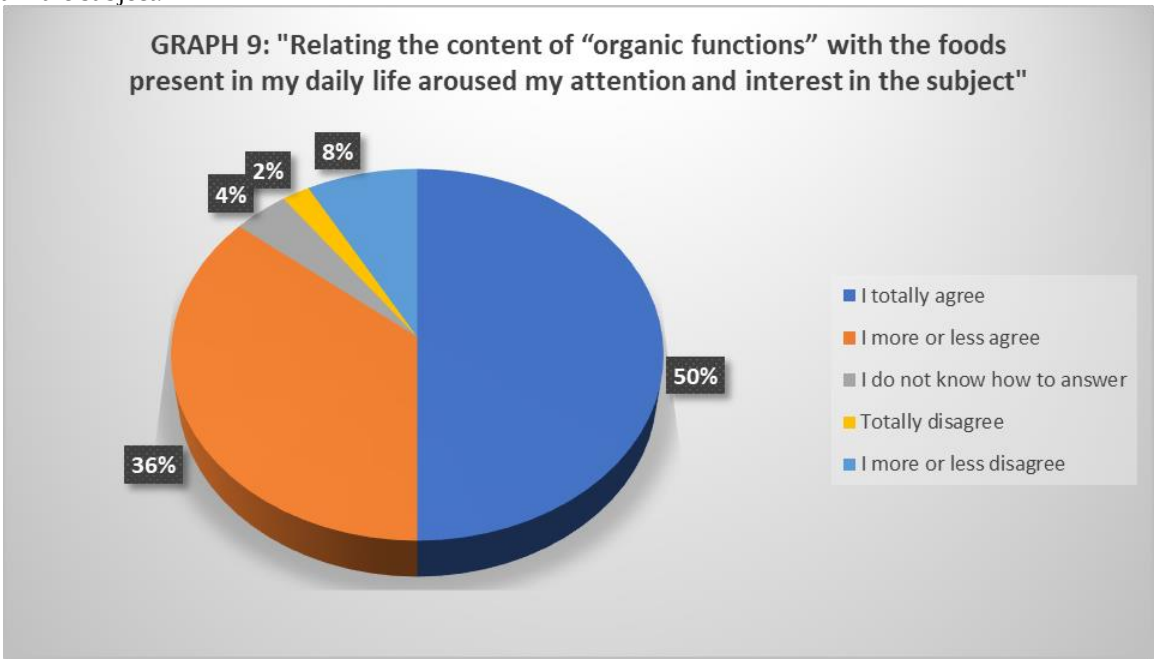


Source: authors (2022).

Regarding the data obtained and shown in graph 8, it can be inferred that the vast majority of the students understood the relationship between chemistry and their diet, totally or partially agreeing that the project facilitated this association. According to LEITE *et al*. (2015) can arouse the interest of students, since by exploring its importance in everyday life in the classroom, students feel motivated in their study, thus providing an understanding of the subject.

In the fifth question of the satisfaction questionnaire, we sought to evaluate the class taught during the project, on "organic functions" showing their presence and functions in food. In the weeks leading up to the project, the subject in question was already being worked on in the classroom, in its conventional way, but with the project it was possible to show the students the approximation of what was being studied with food and the impacts of some of these foods on health. In order to understand the level of satisfaction of the students, they were asked to attribute their level of agreement with the statement in graph 9.

Graph 9 - "Relating the content of "organic functions" with the foods present in my daily life aroused my attention and interest in the subject."



Source: authors (2022).

Of the total number of respondents, 86% totally or partially agreed that the methodology applied in the classroom aroused greater interest in the subject. This is since learning is favored when it directly affects the lives of students. In addition, showing them that chemical knowledge can help in problem solving and skill development with direct impacts on everyone's health and well-being benefits the teaching and learning process.

For PAZINATO *et al.* (2014) Teaching is favored when the methodologies are focused on the personal development of students, allowing them to use chemistry in the interpretation of everyday situations.

6 CONCLUSION

Approaching concepts of organic chemistry in the reading of food labels was significant and motivating for the understanding of these concepts, since it narrowed the relationship between chemistry learned at school and its applicability in the students' reality. In this sense, the use of methodologies that highlight contextualization, such as the one shown in the project, is an important strategy to improve the understanding of the discipline.

Through the diagnostic questionnaire, it was possible to verify that it is necessary to raise awareness among students for a healthy diet. It is known that inadequate food consumption with the ingestion of ultra-processed foods of poor nutritional value is a reality in the lives of children and adolescents. These dietary choices are risk factors for the early onset of obesity and other chronic diseases such as diabetes during the adult life of these young people.

It is undeniable that dealing with healthy eating with a diversity of students with different socioeconomic realities is a very complex topic in the sense that some families do not have the purchasing power to choose healthier food options. Due to lack of information, however, it is not perceived that it is possible to replace some types of food with cheaper ones with better nutritional value. Thus, the objective of applying the methodology to inform about the need to read food labels to know what is being consumed and what needs to be changed in their daily diet was achieved with merit according to the evaluation responses.

Another important point of the research is that it allowed students to investigate information contained in food labels from the perspective of Organic Chemistry and infer about substances that are good or not for health. That is, the students were contributing autonomously to the process of knowledge construction. As advocated by many scholars in the field of education, education should be liberating and enable the student to actively participate in the teaching-learning process.

Finally, the present work fulfilled its purpose of teaching the discipline of Chemistry in a contextualized way, adding the chemical contents to a theme of paramount importance in the lives of students, which is the choice of healthy food products through the reading of food labels.

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SEVEN publicações acadêmicas

Geopolitics on the agenda: Genesis and evolution of the theme "territories and borders"

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ABSTRACT
This essay aims to problematize the concepts of Territories and Borders. It inquires about past times, pointing to the primary origins of the social organizations of men who gather fruit, roots and hunters, nomads and their relationship with geographic space. The text discusses the evolution of techniques and how they impacted the organization of the territory and the construction of borders. The text uses a qualitative methodology based on an analytical and exploratory investigation with a view to investigating the evolution of space configuration as a function of the evolution of technologies. In view of this, he argues about the relationships between territories and borders with the new socio-spatial configurations derived from the new mobilities of volatile and speculative capital, forming economic power blocs and impacting borders and territories. It is concluded, to this extent, that territorial conflicts give new dynamics to the circulation of goods and, at the same time, make borders more selective obstacles to the migration of people and more open to the circulation of goods, thus impacting the entire circulation of the chain of goods originating from the capitalist productive chain, providing new forms of creation of added value and the expanded reproduction of capital.

Keywords: Relationship between territories/borders, Evolution of technologies, Volatization of capital, New economic and power blocs, Boundary selectivity.

1 INTRODUCTION

Reflections on the concept of territory and border are of great importance for us to understand the reality in which we live. The integration of international markets, the formation of regional and global economic blocs, the transposition of goods across country borders, the speed of communications, the internet and transport, the rapprochement and estrangement between cultures, all these processes are inserted in the context of globalization (or globalization of capital) and are directly related to the production of territories and their borders.

Thus, we intend to start our study with an important question about the conceptual categories of territory and borders: What is the role played by such categories in the current context?

To think of the territory as a category of geographical analysis means to refer directly to the space as a whole. The territory is not absent from the space, as the latter is, at the same time, one and multiple, being total as an object of analysis, but fragmented in its composition. This premise provides us with the idea that the production of space by man results in fragmentations that do not decharacterize

space, but give it new characteristics, which allow it to reproduce itself as such. Thus, the territory is an element that composes the whole and, as a cut, allows us to analyze a part of the spatial content. It does not mean that reality will be observed partially, without considering the broader relations between its elements. It only allows the researcher to get closer to a particular content, which together with other overlapping contents – these being the place, the landscape, the region – constitute a larger whole, which is the space itself.

This is a question that demands a well-defined methodological path so that we do not get lost in vague and obscure discussions, since the theme is broad and must be delimited according to specific and logical criteria.

2 A BRIEF PRELIMINARY ANALYSIS

We can say that territory is to space as space is to territory. It is necessary to understand that the territory is a spatial cut-out produced by syntagmatic actors, that is, subjects who produce actions and reactions to the conditions that are socially imposed on them. The agents that construct and reproduce the territory can be nation-states, churches, LGBTQIA+ groups, private institutions, neighborhood associations, in short, there are several subjects that territorialize the space.

As an example of territory, we can mention the territorial delimitation of countries. If we look at the American continent from satellite photos, we will notice that it is not cropped as we are used to seeing it represented on political maps. From the satellite photo we see only an undivided surface, lacking lines drawn by man, but rich in natural barriers such as rivers, mountains, lakes, mountains, forests, which do not always constitute the borders of man-made territories. (CLAVAL, 1997)

Natural barriers can be borders for indigenous groups, as was the case in South America in the 1500s. Or even when in Europe there were no enclosures and rural properties were delimited by barriers specific to relief or hydrography. After all, territories have always played an important role, involving, above all, the difference between social groups, whether due to economic, socio-cultural or political aspects.

The concept of territory developed by geography was systematized in the traditional school. The concept of "living space", created by Ratzel in the nineteenth century within the German current of thought, is closely related to the concept of territory, which is considered equivalent to the one theorized by Ratzel. In this way, we refer to the concept of living space to broaden our understanding of territory and, consequently, of borders.

The living space in Ratzel is a portion of the space that determines whether a nation-state can have economic and political progress. The larger a country's territory, the greater its economic and political supremacy. The theorization of this concept by the German school had a practical character for the European policy of colonization of African countries and also for the organization and

consolidation of the territory of some European countries. Natural resources were the subject of dispute by European nation-states. (VALVERDE, 2004)

The industrial revolution was the extremely important historical moment for Europe, triggering an increase in the use of natural resources that were not used on a large scale before the 19th century. In this context, industrial production is linked to the availability of resources such as coal, for example. Since this and other resources are abundant in some portions of the continent, it means that owning a territory that is rich in natural resources is an important factor for the economic development of a nation-state at a time when industrialization depends on such resources. Thus, the validity of the concept of living space is justified by the historical context experienced by Europe, related to the intense economic and political changes. (ANDRADE, 1995)

Thinking from the point of view of the economic and political interest necessary for there to be spatial delimitation, we understand that the concept of territory is linked to the condition of power, that is, the need to establish borders is previously determined by an interest that resides in the economic and political development of a nation. Therefore, in order to have a differentiated development in relation to other countries, it is necessary to have territory and expand it. The notion of development is related to the condition of power, as economic and political status is intimately linked to this condition.

Currently, the dispute for territory is not carried out by the motivation to expand the borders of countries, because all over the world there are already consolidated delimitations, with the exception of some nation-states that dispute the domination of certain spaces, such as Israel and Palestine, India and Pakistan. The control of territories on a global scale, taking countries as a reference, occurs through economic control. The concept of living space cannot be taken today to explain territorial disputes between countries, nor even to determine political and economic supremacy. It is enough to compare Brazil and Japan in terms of their territorial extensions to realize that size is not a factor in economic development. The concept of living space contributes to us seeing the territory as a spatial delimitation linked to the power of the subjects who built it. (VALVERDE, 2004)

The formation of regional economic blocs is a clear example that there are territories appropriated by the commodity. The creation of the FTAA (Free Trade Area of the Americas), proposed since 1999 by the United States of America, aims to eliminate customs barriers that hinder the movement of goods on the continent. The FTAA would allow the movement of goods and services throughout the Americas to be carried out without any hindrance. But what is being considered is that in practice there will be mobility only of goods, and the border will play the role of restricting the movement of people, keeping the border of some countries participating in the FTAA, especially the United States, insurmountable by Latin migrants.

The current development of capitalism shows us that commercial alliances on a global scale are extremely important for the economic, political and social development of nation-states and that the size of the territory is not a limiting factor to economic progress as it was centuries ago, however, borders have presented selectivity with restrictions for the movement of people.

3 STARTING FROM THE BEGINNING: THE GENESIS OF BORDERS AND TERRITORIES

The first notions of "Territory" emerged thousands of years ago, with primitive societies. In these societies, man lived by gathering fruits, seeds and roots, hunting and fishing. Thus, from the moment that these sources of food became scarce in certain areas, he was forced to change his location in search of these foods.

Thus, we can conclude that in this type of society, man was attached to a certain area, only by the existence of food, necessary for his survival. There were no other factors and aspects that linked him to a particular place. So, in these models of society, man did not have any defined territory, he was nomadic, that is, he lived changing places, due to the search for new sources of food.

3.1 MAN'S FIXATION ON TERRITORIES

The end of nomadism, in this model of society, occurred through the observation of nature by man himself. Among these nomadic communities, as in all societies, there were differentiated, more curious men. Well then! These individuals, through the observation of natural phenomena, began to realize that certain species of fruit trees, which they used for food, produced seeds, which fell to the ground and gave rise to new species.

From this observation, he began to select seeds, to produce new fruit-bearing species, which he could use to feed on in the future. This process gave rise to what we call the period of "domestication of agriculture." This is where the foundations for the definition of territories begin, linked to the need to create new sources of food.

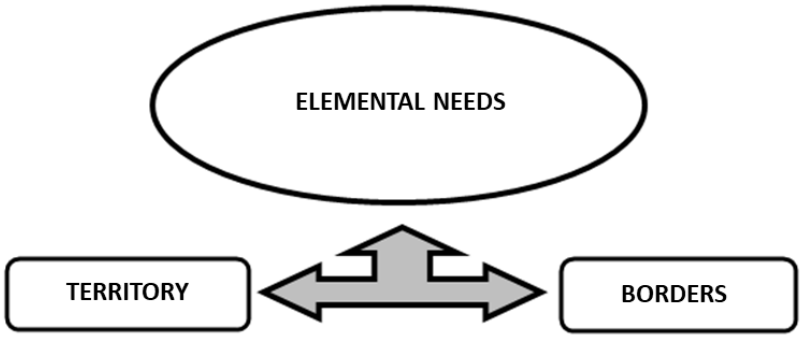
In the same way, observing the animals that he used (through hunting) for his food, he also noticed that they also reproduced, from the crossing between couples of the same species. Thus, he also began a process of selection of these animals, which were captured and placed in a closed place, where they could reproduce, being within reach of his hand, also aiming to solve problems related to future food. This is the process called "domestication of livestock".

We can then conclude that the origin of the territory occurred due to the fulfillment of one of the most basic and elementary needs of human beings: food, survival. It is interesting to observe, in this process, that this elementary need led man to realize the importance of the use of land and the need to fence off certain portions of space, which would cause him to begin a process of dominion over certain portions of land.

Thus, it can be seen that the emergence of the notion of territory arises as a function of a need, but linked to the idea of domination of natural resources, in this case, the land. There is also the incipient notion of land ownership, even if it were used to serve the collective interest of the entire community. This idea of land ownership also brings with it the notion of power and appropriation of nature's resources, that is, man begins to perceive the possibilities of domination of nature itself. (HUBERMAN, 2001). There is also the need to protect the borders of his portions of land, thus preventing invasions by other tribes or communities, as well as animals over which he had no control or dominion. Thus, the notions of borders appear, concomitantly, with the notions of territory. We can then say that these two categories are interconnected and interdependent.

Figure 1, below, is a schematic representation that summarizes what we have just discussed.

Figure 1: Interlinking of categories



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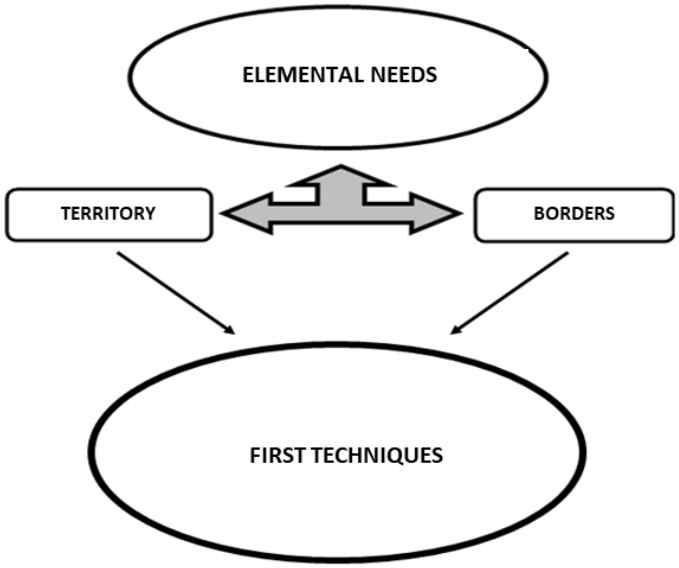
Analyzing figure 01 you can see that the two categories (territory and borders) are interconnected and interdependent and arose due to the basic needs of survival of the human being, in the face of the environment, in primitive society.

3.2 THE EMERGENCE OF THE TERRITORY BRINGS WITH IT THE APPEARANCE OF THE FIRST TECHNIQUES

The observation of the functioning of the principles of reproduction of species, aiming to meet the demand for food, even in primitive societies, made man begin to reflect on the idea of domination and appropriation of nature and its resources. Thus, man begins to manufacture his first utensils, aiming at working on the land and handling animals. These early tools (such as hoes, rudimentary plows, and mounts) began the techniques. (HUBERMAN, 2001)

The techniques related to agriculture were combined with the techniques related to the mastery of fire by man, which came to establish the rudimentary principles of the steel industry. Figure 02, below, is a complement to figure 1, that is, it is a schematic representation, showing the link between human needs, territory, borders, and the emergence of techniques.

Figure 02: Linkage of the categories of analysis (territory and borders) with the emergence of techniques.



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3.3 REFLECTING ON THE EMERGENCE OF TECHNIQUES

From the evolution of technology, man's attachment to the territory arises, economic relations, power relations, with their conflicts and contradictions. In this sense, the formulation of Porto-Gonçalves, 2006 is relevant:

There is no technique without practical use, and this distinction is, strictly speaking, absurd. After all, and here is another important characteristic of the technical phenomenon, technique brings in its use the intention in a practical state: by means of the technique, means and ends become *practically* concrete. Thus, it is always good to insist, technology is neither parallel nor exogenous to social and power relations. In this way, a critique of technique, even of a particular technique, is always a critique of the intentions implied in it, and thus a tension, a dubiousness, is introduced, even where it was believed that there was a simply rational action that was believed to be univocal and, therefore, unquestionable. However, every technique, being *a means*, is at the service of an *end*, whether it be a bow and arrow, a hoe, or a missile. (PORTO-GONÇALVES, 2006, p.79) (Emphasis in original)

We can verify that the evolution of the techniques and knowledge that produced them, or derived from them, configured the economic models that sustain and/or sustained all societies, until the present day. Thus, the techniques present in modern society are the result of a slow and gradual process of development and production of knowledge.

In this sense, we can also verify that the analysis of the categories territory and borders, brings in its core, an important reflection on its relationship with the production of techniques, knowledge and issues involving power, in the treatment of interests about the issues that the human being deems necessary for his life and his survival. Thus, to develop this analysis, we always have to take into account the disputes, conflicts and power games involved in its construction.

4 POLITICAL/ECONOMIC POWER: TERRITORIES, BORDERS, AND CONFLICTS

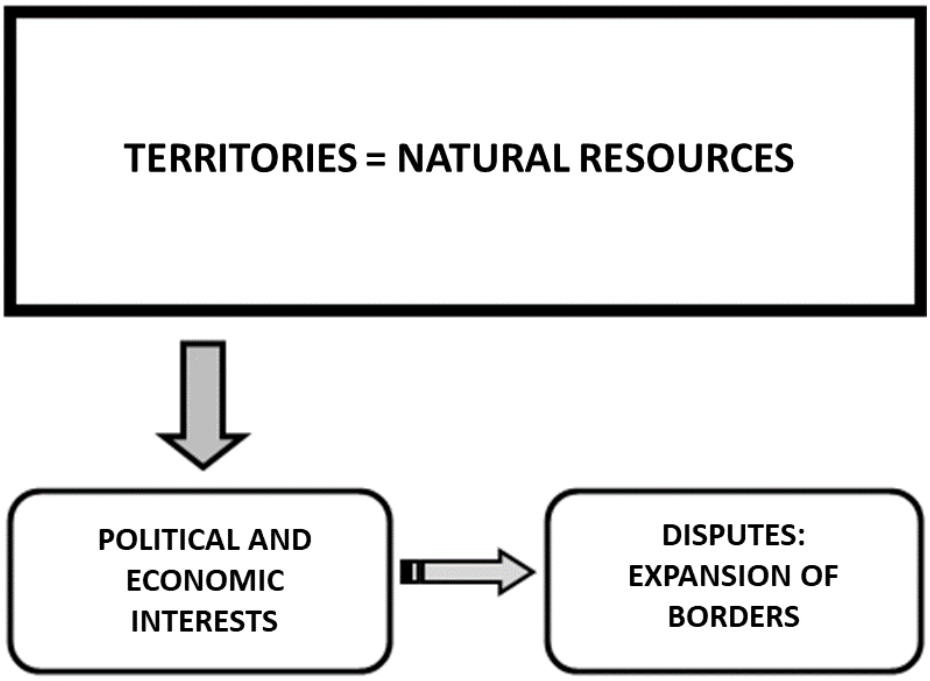
The observations made by man in past societies would be of no use if he was not able to assimilate, organize and produce knowledge from these observations. Thus, the reasoning capacity of the human being was fundamental to, in addition to distinguishing him from other species of living beings, also endowing him with the ability to develop techniques, facilitating his survival on the planet.

The ability to reason has also endowed human beings with interests, covetousness, and desires. According to this logic, man felt the need to protect his conquests, always aiming to increase and expand them. The configuration of the territory brought, therefore, the need to protect the boundaries of this territory, that is, the need to protect the borders. The borders became regions of dispute that involved the interests of maintaining the territories combined with the desire for their expansion: this would configure the disputes and the power game that involve the territories and the borders. (HUBERMAN, 2001)

This power game would be configured around economic and political disputes, always involved in diversified interests about natural resources. Most of the wars and military conflicts that have taken place, up to the present day, have involved disputes over political and economic power around interests in territorial expansion. We can therefore affirm that spatial disputes are at the center of the debate that involves the economic and political interests of the various peoples and different nations of the world. To exemplify these facts, we need only look at the history of the two great world wars and the world's geo-economic disputes.

Figure 03, below, summarizes what was discussed in the paragraphs above. It is a representation that shows the relationship that exists between political and economic power and the need for expansion of territories due to the demand for natural resources, through the expansion of territorial borders.

Figure 03: Relationship between territories, natural resources, borders, and political and economic interests.



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5 THE INDUSTRIAL REVOLUTION: REFLECTIONS ON TERRITORIES AND BORDERS

From the moment man settled in the territory, this category has been redesigned, modified in each type of society. But it was after the Industrial Revolution, which marked the material foundations of capitalist society, that this concept came to acquire new contours. The Industrial Revolution, which occurred in England in the seventeenth and eighteenth centuries, came to shake the entire social structure, building a new dynamic for human life in society. (RAFFESTIN, 1993)

The First Technological Revolution, or more simply, the Industrial Revolution, signified a historical milestone for the construction of capitalist society. It would leverage new inventions and discoveries and, above all, it would create a new socio-spatial configuration on the planet, especially in the great European powers, which had managed to accumulate large volumes of capital, which needed to be reapplied to ensure their reproduction. To do so, they needed to invest in the construction of new means of transport to bring the raw material necessary for production and, above all, for the flow of this production.

In this way, the newly founded industry needed a whole production **logistics**[1] that would guarantee its operation, from the transportation of the raw material, through the process of transformation, flow and circulation of the goods produced by the industrial process.

Ana Fani Alessandri Carlos, 1989 defines the Industrial Revolution as follows:

[1] Logistics is the same as basic infrastructure, aiming to ensure the production, flow and circulation of goods produced in the industrial process.

> The Industrial Revolution, far from presenting itself as a technical phenomenon, meant a transformation in science, ideas and values in society. It also meant exchanges in the volume and distribution of wealth, which until then had been centred on the monopoly of the nobility, which also conferred political power on it. In turn, it is the product of a historical process of the development of the productive forces and of the principle of specialization based on the division of labor, since man no longer produced for self-subsistence. (CARLOS, 1989, p.28).

The author continues:

The Industrial Revolution created the necessary conditions for accumulated capital to reproduce itself, namely:

(a) innovation in working tools and methods;

b) increase in the productivity of the soil, freeing the population of the countryside that migrates to the city, and will serve as labor for manufacturing and, later, for large-scale industry;

c) expansion of trade;

(d) the development of transport and the improvement of communication routes, expanding the internal and external markets;

(e) use of other sources of raw material;

f) decrease in the price of goods;

g) credit development;

h) improvement of the population's life (health, housing, food) (CARLOS, 1989, p.28-29).

One of the great innovations that followed the march of the Industrial Revolution was the invention of the **locomotive**[2], which revolutionized the transportation system throughout Europe and later around the world.

The Industrial Revolution brought as a consequence a new socio-spatial configuration. The geographical space was transformed as a result of the new industrial technology, the invention of the steam engine, the locomotive, in short, the space was redesigned around the logistics built for the transportation of raw materials, the flow of industrial production and the circulation of goods. Capital, which had previously been mercantile, henceforth received the status of industrial capital. With the emergence of the banking sector, the so-called **finance capital emerges**[3].

On the other hand, there is an inversion in the logic of occupation of space by human populations, whose largest contingent migrates to the cities in search of jobs and better living conditions. The population which in the immediately preceding period, under the feudal system, was eminently rural, becomes urban. It can be said that capitalism has played an extremely revolutionary role by burying the values vaunted by the Church and the nobility.

[2] For a long time, steam locomotives were also powered by biomass (wood) fuels, and were therefore one of those responsible for the destruction of the native vegetation of the European continent.
[3] Financial capital is the accumulation of capital resulting from the sum of capital from industries (industrial capital) and capital from the banking system.

Maria Encarnação Beltrão Sposito (2005) describes the accumulation and reproduction of capital under capitalism as a result of the urbanization process:

The city is, in particular, the place where the best conditions for the development of capitalism are met. Its character of concentration, of density, makes it possible to carry out the **capital cycle more quickly**[4], that is, it reduces the time between the first investment necessary to carry out a given production and the consumption of the product. The city qualitatively and quantitatively fulfils the conditions necessary for the development of capitalism, and therefore occupies the leading role in the social division of labor. (SPOSITO, 2005, p.64)

In this sense, it is possible to conclude that urbanization has built all the necessary conditions for the reproduction and accumulation of capital.

In this sense, the Industrial Revolution also significantly increased the production process of goods, which depends on sources of raw materials and energy. Thus, following this logic, the territory also comes to be seen as a "*locus*" of the sources of raw materials. In this way, the territory is seen as a source of natural resources and energy, thus gaining new importance and new configuration.

6 THE SECOND TECHNOLOGICAL REVOLUTION AND ITS INFLUENCES ON TERRITORIES AND BORDERS

The discoveries of new forms of energy, such as oil and electricity, were the events that inaugurated the period called the Second Technological Revolution. Energy was considered as a vital product for the production of commodities, aiming at the generation of profits in capitalist society. Thus, the world's energy matrix was entirely built from these two forms of energy, especially oil.

In this sense, the territories that have these energy sources have come to be considered strategic for the urban-industrial society. The largest oil-producing countries, such as the Middle East, have come to assume a fundamental role in modern society. So, these territories became areas of conflict, precisely because of the dispute over this energy source.

With the economic overvaluation of territories, borders also began to have new meanings, since they delimit these territories. Thus, border regions began to be closely monitored, which inspired the production of new technologies, aimed at attacking and defending these borders. Technologies related to observation and border defence, such as artificial satellites, have evolved significantly.

One fact that illustrates this point well was the recent conflict in Iraq. In that episode, the U.S., under the pretext of fighting terrorism, occupied Iraqi territory. But what was really at stake in this episode was ownership of Iraq's oil fields.

[4] Emphasis added: Capital cycle refers to the stages necessary for capital to reproduce itself, i.e., the transformation of raw materials (production), outlets, circulation, and consumption of the produced commodity.

The geopolitics of oil, at the threshold of this century, has served as a subterfuge to threaten the autonomy and self-determination of peoples, justifications, hidden behind "anti-terror" and "anti-nuclear" discourses, for the invasion of territories, especially those where the largest deposits of this natural resource are located. In the name of these subterfuges, wars and carnage are justified.

7 REAL POPULATIONS, ARTIFICIAL BORDERS

The debate on borders and territories brings up several reflections and multiple interpretations. The evolution of societies has brought other values, linked to the meaning of territories and borders. Today, territory is intertwined with the possession of natural resources and, therefore, is intrinsically linked to political and economic power. The territory is then observed as an area of national security.

With this new connotation about territories, borders assume, far beyond boundaries and areas of delimitation of territories, the role of regulator and geopolitical control of space. Thus, borders, nowadays, assume an even greater relevance as a regulator of territories. In fact, borders, as regulators of territorial space, do not observe the real interests of populations, but rather the interests of the expansion and expanded reproduction of capital. ((RAFFESTIN, 1993)

The two great world wars serve perfectly to illustrate the geopolitical significance of territories and borders. After all, what were the two great wars for, if not for the expansion of territories and the expansion of new frontiers? The great winners of the two great world wars were precisely the USA, which had its territory spared and its borders expanded.

Thus, borders are drawn according to purely political and economic criteria, far removed from the interests and reality of the populations they claim to protect. We can see that, all over the world, borders are expanding in order to guarantee the possession of natural resources, especially those linked to energy sources, such as oil. After the first two Technological Revolutions, the territories gained new configurations and the borders underwent unimaginable expansions.

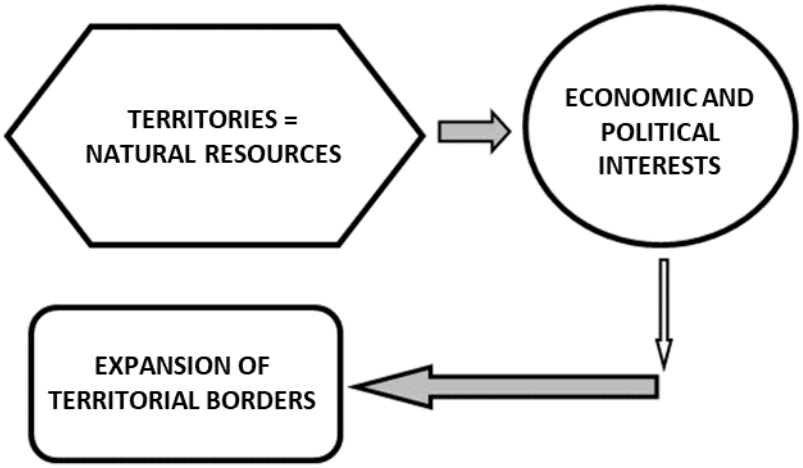
8 NATURAL (PHYSICAL) AND GEOPOLITICAL BOUNDARIES

We saw, at the beginning of our study, that man was attached to the territory in order to meet his immediate needs, such as food, for example. In this case, borders were intended to delimit territories and protect them from external threats. However, we also saw that, as society evolved, new techniques were created, new interests and new conflicts were generated, thus bringing new meanings to the territories and their borders.

In the past, borders were drawn according to physical criteria, such as vegetation, geographical features, such as rivers, mountain ranges, peaks, hills, valleys, landforms, among other natural factors. However, what we have observed all over the planet is that these frontiers have been expanding significantly, serving geopolitical interests and the expansion of capital. As proof of this, we see

artificial territories, such as Kuwait, a territory created by the US, to be strategically used as a support base for the occupation of the Middle East. When we observed the state of Acre, in Brazil, we also verified the drawing of an artificial border [in a straight line], which served to justify the possession of part of the Bolivian territory, forcibly annexed by the Brazilian state.

Figure 04: Geopolitical aspects involving the Territory/Borders relationship



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Figure 04 is a schematic representation that shows the relationship of the geopolitical aspects involved in the construction of the concepts of territory and borders. From the illustration, political and economic interests are preponderant for the definition of territorial boundaries in modern society.

8.1 ARTIFICIAL BORDERS: FRAGMENTATION OF TERRITORIES AND DESTRUCTION OF ETHNIC IDENTITIES

History shows us that artificial borders separate ethnicities, destroy customs and traditions, and separate populations united by cultural identity. The construction of the Union of Soviet Socialist Republics (USSR) and the separation of Germany into two after World War II are facts that serve to illustrate this debate about territories and borders.

However, these same historical facts have undergone dismemberments that serve as important instruments for reflection on the establishment of artificial borders. In 1989, everything changed. In that year (1989), the great event that marked history was the fall of the Berlin Wall, the two Germanys were reunited and with the fall of the Wall, the greatest symbol of the **barbarism**[5] and horrors of the Second World War fell to the ground. It was the end of the Cold War and the beginning of a new world

[5] Barbarism is the destruction of man by man himself, human self-destruction. This barbarity was clearly witnessed by Hitler's crimes in the Second World War. The term barbarism refers to barbaric, highly bellicose and self-destructive peoples.

economic order, the period called perverse economic globalization (in the words of Prof. Milton Santos), leveraged by capitalist and North American hegemony on the planet.

In the year 1991 the world witnessed the disintegration of the great Empire of the Union of Soviet Socialist Republics, the USSR. Once again, the ethnic groups overcame the impositions of the artificial borders. The break-up of Soviet and German territory serves to help us reflect on the criteria used for the creation of borders. Do political and economic criteria outweigh the affinities established by ethnic and cultural identities? This is an important point for our reflection.

9 TERRITORIES AND BORDERS IN A GLOBALIZED SOCIETY

The increase in the speed of information, transport, telecommunications and the world wide web "reduces" the distances between peoples. The space/time relationship is configured according to the logic of velocity. These are aspects that characterize modern times, which mark the "overthrow" of the economic boundaries between the various peoples. The "global society", through the latest technology, also unveils the unprecedented crisis that marks modern times. The tendency of the so-called "global society" is to homogenize peoples, discarding and ignoring cultural, political, economic, ethnic, religious, artistic differences, among others.

Economic globalization is characterized by urban-industrial production, by the mobilization of speculative, volatile capital, which travels the planet in search of cheap labor and favorable conditions for its reproduction and self-expansion, above all, by the innovations resulting from the Third Technological Revolution, such as: the increase in the speed of the information system, through advances in telecommunications, and the World Wide Web (Internet) via the spectacular development of information technology. In addition, it is essential to highlight the spectacular advance of biotechnology, due to the development of research in the field of genetic engineering and the expansion of capital towards the field, which occurs through the intermediary of large international and transnational conglomerates. (FONSECA, 2007)

10 UNDERSTANDING NEOLIBERAL GLOBALIZATION

The term Globalization comes from "Globe", the shape of the Earth, which means the breaking down of boundaries between different peoples and nations. However, in today's times, the more correct name would be Americanization, because it is the construction of North American hegemony at the world level. You may remember that at the beginning of modern civilizations, the world went through a process of Europeanization, that is, the imposition of the culture, habits, customs, and beliefs of the European peoples on the most diverse nations of the world. In a critical view, this occurs with the so-called globalization, which is nothing more than the advent of the Americanization of the world. That is, the U.S. is trying to impose its culture on the rest of the nations on the planet.

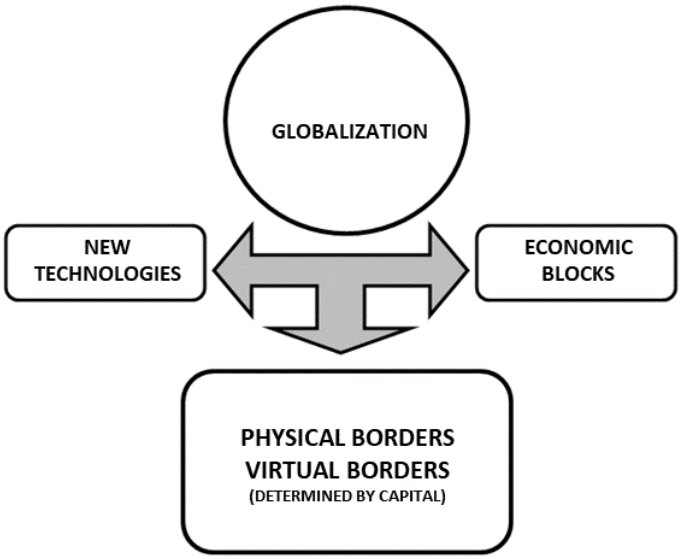
In fact, true globalization began mainly in 1492, with the discovery of the Americas, in the period of the great navigations. These events inaugurated the process of discovery of the world, that is, the beginning of the understanding and comprehension of the world as a whole, which enabled the free movement of goods through different regions of the planet. But the Europeans tried to impose on all peoples their white, macho, religious culture, as well as their notions of progress and (dis)development. Thus, they did not respect the culture and the body of values of the most different peoples. Those who resisted their values, they called "Savages." In the name of white, European culture, various peoples, various ethnicities and various civilizations were decimated. Europe has pretended that it has not understood what globalization really is, it has not been able to have a broad vision of the world. It did not respect the differences between different peoples and nations.

Carlos Walter Porto Gonçalves, 2004 helps us to understand globalization:

> In addition to being blue, round and finite, the Earth has no boundaries except those of nature, such as those of clouds that are mobile, evanescent; or that of oceans and continents, even if diluted, vague. The idea of globalization, which seemed to overcome all barriers, is somewhat banal. Globalization is becoming naturalized. After all, the Earth is there, loose in space, naked, pure nature! Differences between peoples do not appear. This is a powerful image that overvalues the planet and hides peoples and cultures. The idea that we are facing a *cultural construct,* let us be careful, should not escape us, not least because, in the various images that are projected of the Earth into space, there is the rod of the satellite from which it was photographed. The technique hovers over the image. Behind the lens there is always someone looking, observing. In this case, a powerful technical system as a support for those who look and communicate – the satellite with its objectives. (PORTO-GONÇALVES, 2004, p.13-14) (emphasis in original)

It is within this context that the period called "Globalization" is inaugurated. Therefore, the Third Technological Revolution changes the concepts and reflections built so far about our two categories of analysis: territory and border. With the mobility of capital, which turns the world in search of profit, territory is also defined in other ways and borders are also established according to the logic of the expansion of capital. However, natural resources continue to be decisive for the continuity of the territory's importance. However, the new technologies are put at the service of the large economic blocs that monitor their areas of interest, now through hypermodern sensors and satellite images.

Figure 05: Economic globalization, territories and borders



Elaboration, organization, and digitalization: V. M. da Fonseca (2010)

Figure 05 is a diagram that shows the aspects that influence the determination of territories and borders in modern times, also called globalization or globalized society. It is important to verify that in economic globalization, other factors will influence the constitution of territories and borders, such as new technologies influenced by the formation of economic blocs.

11 BRAZIL: TERRITORY AND STRATEGIC BORDERS IN TIMES OF GLOBALIZATION

Brazil, due to its peculiarities, is considered a strategic country. With continental dimensions and a strategic geographical location, the Brazilian territory occupies the largest area of the South American continent. The Brazilian territory, due to its size and natural riches, is, in current times, a territory that draws the attention of the various nations of the world.

Another aspect that places the Brazilian territory among the most coveted in the world is its immense diversity of natural resources such as water resources (approximately 12% of all drinking water on the planet), its enormous energy potential for being located in an intertropical region, its incalculable wealth in biodiversity, especially in the Amazon Forest, the Cerrado and what remains of the Atlantic Forest. as well as mineral resources, such as ores, gold, silver, precious and semi-precious stones.

Precisely because of this infinity of natural resources, the territory is extremely strategic, for the present and for the future. To give you an idea of our biodiversity potential, only 13% of our plants in the Amazon are cataloged. This means that we still don't have an exact calculation of our natural genetic potential of the rainforest.

For all this, and for its continental size, the Brazilian territory has an extensive border region, difficult to access, in addition to the difficulty of inspection, due to the immense area of tropical forests.

Not to mention our extensive coastline. Precisely because of this large amount of natural resources, the Brazilian borders are constantly monitored and surveilled, through satellite images.

Figure 06, below, highlights the Amazon ecoregion, we can see that the border contour highlights the entire legal Amazon, which goes from the slopes of the Andes Mountains to the Northern Region of the Brazilian territory. The size and quantity of natural resources of our tropical forest justify the importance that the debate on territories and borders assumes today, especially in our territory.

Figure 6: Map of the Amazon ecoregion



Source: Teixeira et al. (2009).

So, we can affirm that in modern times, the debate on these categories assumes a prominent place, since conflicts over the possession of natural resources are the guarantee of the future for this and future generations of living beings. It is up to us, future educators and professionals in the field of geographic science, to incite this important debate, even as a means of placing the management and correct use of our natural resources at the center of the discussions, as a means of ensuring the long-awaited socio-environmental sustainability.

12 NOT TO CONCLUDE! PARTIAL CONSIDERATIONS!

But territory is not created only by economic or political assumptions of the scope and/or scope of the modern state. There is production of territories by social classes that create boundaries in the urban space, by religious groups that make the space "sacred", by individuals who identify with prostitution, drug trafficking and territorialize streets and avenues by using them at certain times of the day. The street itself is a territory created by the State, which by overlap is territorialized by the uses that the urban population employs in them.

It is also possible to think of the territory from the point of view of the divisions of a house into rooms in which different uses are established by members of the same family. It is a form of delimitation of the territory through the uses and appropriations of individuals who relate to each other in a group and establish boundaries through uses and appropriations.

The private property of rural and urban properties is also an example of a territory whose border, permeated by tacit or open regulations, presents restrictions to its transposition by subjects who are not legal owners, and cannot be invaded or illegally occupied.

Identity is an important concept for the production of the territory. Brazilians identify themselves not only because they were born in Brazilian lands, but because they have a common language that identifies them from north to south of the country, in addition to the languages of the original peoples, which have become secondary and even brutally extinguished, due to the added value of land ownership.

Indigenous groups also own territories and identify themselves as native peoples, traditional communities because they have ethnic matrices common to each other, as well as a similar culture and way of life, which reproduce in the territory. During the process of colonization of Brazil, numerous indigenous tribes were decimated and groups were deterritorialized. It means that cultural reproduction has suffered losses because it has been deterritorialized due to the occupation of the country by economic uses and political organization. Take, for example, the brutal attack by Yanomami communities, to the detriment of conflicts over land ownership. In this way, we can understand that the territory is produced by culture, which to be reproduced needs a delimited space, where the subjects who appropriate it construct their identities.

Globalization has brought significant technological innovations in terms of improving the means of communication. Journeys between continents that once took months can now take place in a few hours. The speed of communication has facilitated contact between peoples, between different cultures and has favored the world economy. However, the frontiers for human mobility have closed. Rich countries hinder the entry of migrants from developing countries while facilitating the entry of goods that are of interest to the economy, as well as establishing economic alliances with countries that are interesting for trade.

In this way, we can think about the role of borders in relation to the movement of people and goods, questioning the validity of the economic opening established by the constitution of regional economic blocs that attribute to the borders that guarantee selectivity to free movement.

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Phase behavior and rheology of drilling fluid o/a with nonionic surfactant and glycerol

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ABSTRACT
The main objective of this work was to formulate drilling fluid obtained from a microemulsified system, using distilled water and water:glycerol solution (40%) in the aqueous phase. The water-in-oil microemulsion regions were precisely determined and the influence of glycerol on the microemulsified area was also examined. All the systems studied showed an isotropic region rich in water (water-in-oil microemulsion area), which was considered highly dependent on the surfactant weight ratio. By means of the integral calculation, the area of the microemulsified region was determined for the studied systems and it was verified that the Water:Glycerol (40%)/TWN 80/Pine oil system presented a larger area of the microemulsion region. In addition to the microemulsified system, the drilling fluids had in their composition the bentonite CMC, HPA and NaCl. The flow curves of both fluids showed a characteristic profile of the Bingham model, corresponding to a fluid with pseudoplastic behavior. This characteristic is very important for drilling fluids, as pseudoplastic fluids show a reduction in viscosity with increasing flow rate (shear rate), thus facilitating flow during drilling.

Keywords: Microemulsion, Nonionic surfactant, Theology, Drilling fluid.

1 INTRODUCTION

Drilling fluids are mixtures of solid additives present as discontinuous phases spread in a continuous liquid phase [1]. These fluids are important because they promote gravel lifting, control pressure, cool and lubricate pipes and drills, stabilize the formation and the well [2], prevent formation fluids from invading the well, and ensure stability by creating a low permeability film on the wall called filtrate cake [3]. Many additives for drilling fluids have been used to alter the density and their chemical properties to improve functionality [4]. Drilling fluids made from microemulsified bases contribute to greater stability of the well, when compared to the same prepared from emulsions, in addition to being thermodynamically stable, spontaneous and easily prepared. [5, 6] studied the

application of this base in drilling fluids and concluded: they are stable in a wide range of saline conditions, resistant to corrosion, good lubricity characteristics, gel strength, less permeable and thin plaster formation, and low interfacial stress. According to [7], microemulsified drilling fluids are viable for their lubricity, stability, low cost, and formation of a fine filtrate cake with microemulsion-added characteristics. The rheological properties of the drilling fluid, such as plastic viscosity, yield strength, and gel strength, among others, and fluid loss characteristics must be carefully examined to achieve optimal drilling process performance [8]. During any drilling operation, it is critical to control the rheological and filtration properties of the fluid for smooth and efficient operation. The properties are controlled in such a way that the fluid provides optimum performance. Rheological properties affect (i) the removal of gravel (ii) keeping the gravel and heavy material suspended when not circulating, (iii) releasing the gravel on the surface, (iv) reducing to a minimum any adverse effect on the well, (v) providing information on penetrated formations, among others [9]. In this context, this work aimed to analyze the influence of nonionic surfactant on the formulation of microemulsified drilling fluid of the water-in-oil (A/O) type as well as the rheological properties.

2 MATERIALS AND METHODS

2.1 MATERIALS

The materials used to obtain the microemulsified system and formulation of the fluids were: sodium chloride - NaCl (Synth), ethoxylated ester - TWN 80 (Synth), pine oil - OP (Casa dos Químicas), activated bentonite (commercial), carboxymethylcellulose - CMC (Synth), HP starch (HPA), glycerol (Tech profile) described in Table 1.

Tab 1. Reagents (Own Authorship)

Reagent	Description
Distilled water	Aqueous phase
Glycerol	Aqueous/Dispersing Phase
Pine Oil	Oil Phase
TWN 80	Surfactant
Bentonite	Filtrate Control
CMC	Viscosifier and filtrate reducer
HPA	Filtrate reducer
NaCl	Active Formation Inhibitor

2.2 ANALYTICAL METHODS

The methods and equipment used to determine the microemulsion region, preparation and properties of the fluids are presented in Table 2.

Tab 2. Analytical methods and equipment used in the study. (Own authorship)

Parameter	Apparatus	Belt	Manufacturer/Model
Weighing	Analytical scale	0.01-220g	SHI-AUW 220D
Agitation	Agitador Vortex	50-60Hz	Fisatom/772
Mixture	Mechanical Agitator	1/3 Hp	Hamilton Beach/HMD 2000
Viscosity	Rheometer	115V,60Hz,90W	Fann V. G. Metter/35A

2.3 EXPERIMENTAL METHODS

2.3.1 Phase Diagram

The studied microemulsion was formulated with distilled water (aqueous phase), Glycerol (aqueous phase), TWN 80 (non-ionic surfactant) and pine oil (organic phase). The microemulsion region (Winsor IV) was chosen to compose the formulation of the drilling fluid. A volumetric titration methodology was used to obtain Winsor IV areas [10]. Initially, the maximum solubility point of the surfactant in the aqueous phase was determined. In a glass flask, the surfactant was titrated drop by drop with the aqueous phase until it reached the transition from cloudy to clear or vice versa. The vial was weighed and the amount of aqueous solution added to the system was determined. This point was called the end point of titration. Nine mixtures of organic-surfactant phase (10 to 90% by weight) and nine mixtures of aqueous phase - organic phase (10 to 90% by weight) were titrated with this solution. The end point of titration was determined by the appearance of two phases. The vials containing the systems were weighed and the amount of titrant was determined. The ternary phase diagram was obtained by plotting the amounts (wt%) of aqueous phase, organic phase and surfactant used in each experiment [11].

2.3.2 Calculation of the area of the microemulsified region

To determine the area of the microemulsified region, it is necessary to perform the integral calculation of the curve that delimits the miscibility region, since the region does not have a defined geometric shape. The first step is to turn the ternary diagram into a rectangular diagram. By means of linear regression, the equation representing the curve - f(x) is obtained. The integration limits are the concentrations of the organic phase, as shown in Figure 1. Subtracting the area of the triangle from the area under the curve is equivalent to the microemulsified region (Equation 1) [12].

$$S = S_{triângulo} - \int_{a}^{b} f(x)dx \qquad (1)$$

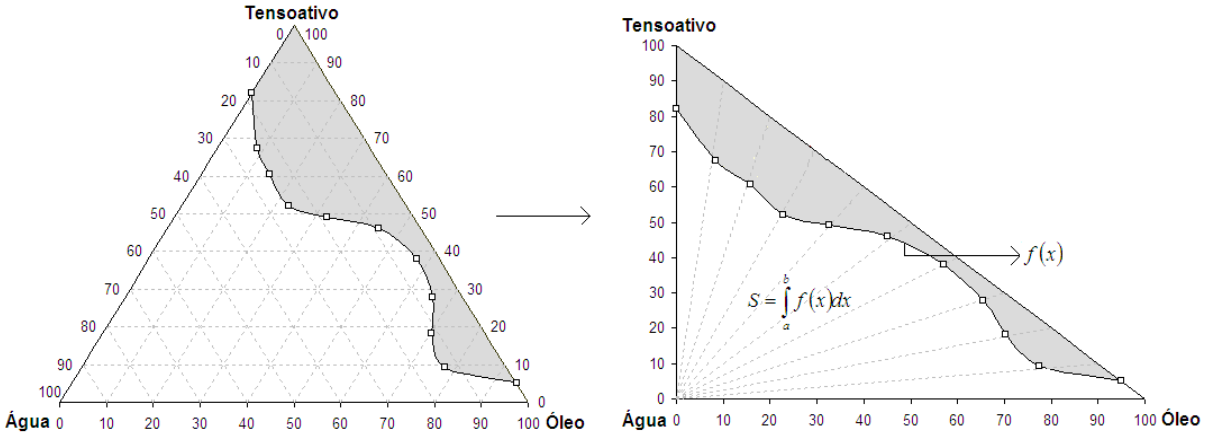
Being:

S: area of the microemulsified region,

Triangle: area of the right triangle;

f(x): function that describes the solubility isotherm.

Fig 1. Representation of the integral calculation of the microemulsified area [12].



2.3.3 Drilling Fluid Preparation

The compounds listed in Table 1 were successively added to the metal cup and mixed with the aid of the Hamilton Beach mechanical agitator, at constant rotation of 16,000 rpm for the cationic fluid (FC) and 18,000 rpm for the bentonite fluid (FB). The addition was made in 5 and 20 minutes of agitation for each addition of components, in the order presented in Table 3. After the preparation of the fluid, it was kept at rest for 24 h and then the rheological parameters were measured [13]. The formulations studied are described in Table 3.

Table 3. Fluid formulation data. (Own authorship)

	Water (mL)	Glycerol (mL)	NaCl (g)	TWN 80 (mL)	ON (mL)	Bentonita (g)	CMC(g)	HPA (g)
Fluid 1	490	0	50	5	5	35	1,8	2,85
Fluid 2	294	196	50	5	5	35	1,8	2,85

2.3.4 Rheological tests

The rheological measurements of the drilling fluids were performed in the Fann V. G. Metter Model 35A viscometer, equipped with coaxial cylinders, at room temperature. Viscosity was measured using the values obtained from the equipment for shear rates (1021.8, 510.9, 340.6, 170.3, 10.2 and 5.1s-1, respectively), according to the API RP 13 B1 standard. From the readings performed on the viscometer it was possible to construct the flow curves. The values of □ and □ were obtained through equations (1) and (2).

$$\tau = 0{,}51 \cdot \theta \quad (1)$$

$$\gamma = 1{,}703 \cdot N \quad (2)$$

Where: □ the shear stress (Pa), □ the shear rate (s-1), N the number of revolutions per minute, □ the deflection (degree).

The rheological study of the drilling fluids was performed after a 24-h rest. The fluid was agitated for 5 min in the same mechanical agitator at 17,000 rpm. After agitation, the fluid was transferred to the Fann 35 A viscometer vessel. Six torque readings were taken at shear rates ranging from 5.1 to 1022 $^{s-1}$. The viscometer was activated at 600 rpm for 2 min and the reading was performed. Soon after, the speed was changed to 300 rpm, taking the reading after 15 s. Again, we change the speed to 200 rpm and wait for it to stabilize to take the reading. The same procedure was used for the 100 rpm, 6 rpm and 3 rpm speeds. To obtain the initial gel force, the fluid was kept in the Fann viscometer at 600 rpm for 15 s and then remained at rest for 10 s. Soon after, we put the agitator at a speed of 3 rpm, and the reading is carried out. Then, to obtain the final gel force, the fluid was left to rest for 10 min and, soon after, the reading was performed at a speed of 3 rpm. With the data from the readings obtained in the viscometer we calculated the apparent viscosity (VA), the plastic viscosity (PV) and the yield strength (LE) according to the N-2605 standard, using equations 3, 4 and 5 [2].

$$VA = \frac{(L_{600})}{2} \quad (3)$$

$$VP = L_{600} - L_{300} \quad (4)$$

$$LE = L_{300} - VP \quad (5)$$

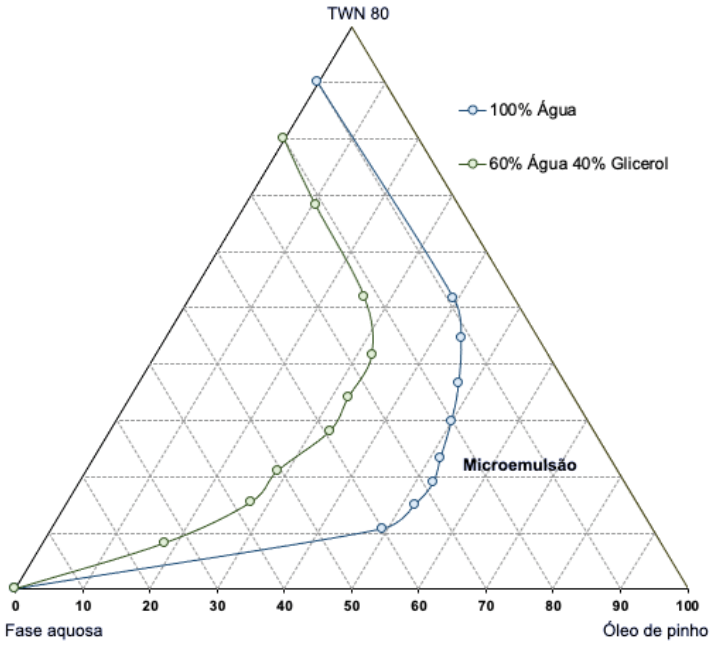
Being: apparent viscosity (cP), plastic viscosity (cP), yield strength (N/m2) (Al-Yasiria, et al., 2019).

3 RESULTS AND DISCUSSIONS

3.1 PHASE DIAGRAMS

Figure 2 shows the ternary phase diagram obtained. The microemulsion region is located below the solubility isotherm, and within the region, the composition chosen for the formulation of the drilling fluid was 1% surfactant, 1% pine oil and 98% aqueous phase. Although the microemulsion region represents a larger area, a composition has been specially selected to reduce drilling fluid costs by reducing the oil and surfactant ratios and increasing the aqueous phase ratio. The difference observed in the microemulsion (Winsor IV) regions of the surfactant in TWN 80 can be explained by the hydrophilic-lipophilic (BHL) equilibrium.

Fig 2. Ternary diagram for the system: TWN 80, pine oil and the aqueous phase, at 28 ºC. (Own authorship)

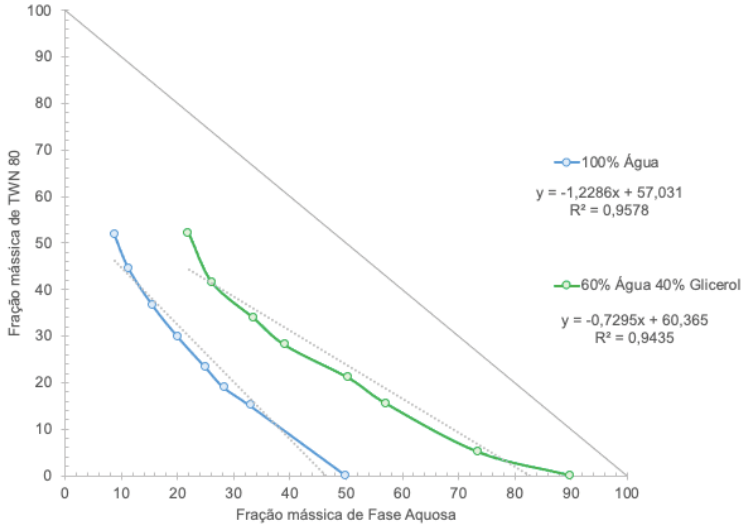


Based on [14] research, BHL is a number that expresses the relationship between the hydrophilic group (affinity for water) and the hydrophobic group (affinity for oil). These values are expressed on a scale of 0-20, indicating that low values on this scale lead to higher solubility in the aqueous phase. TWN 80 is a nonionic surfactant and its main hydrophilic group is polyethers, thus presenting high solubility in the aqueous phase, implying a BHL equal to 15.0 [14]. Thus, it is observed that glycerol, being an aliphatic organic tri-alcohol that has high affinity with water, is responsible for a better stabilization of the microemulsion in surfactants with high BHL, while it has an inverse role with surfactants with low BHL [11].

3.2 CALCULATION OF THE AREA OF THE MICROEMULSIFIED REGION

In order to produce a drilling fluid that uses microemulsion with low concentration of surfactant as a dispersant phase, calculations were performed to determine the microemulsified area of the diagram. Based on this, a range of 0 to 20% surfactant was determined.

Fig. 3. Rectangular diagrams for determination of the microemulsified area of the system: TWN 80; pine oil and the aqueous phase. (Own authorship)



To determine the microemulsified area, the ternary diagrams were converted into rectangular diagrams and, by means of a linear regression, the equations representing the limit lines that indicate the phase change were determined. The difference between the hypotenuse area and the curve corresponds to the myroemulsified region. Figure 3 shows the rectangular diagram and its respective equations of lines referring to the systems studied.

Thus, it is possible to evaluate which combination of surfactant and aqueous phase has the largest area of A/O microemulsion.

Tab 4. Area of the microemulsified region, at 28 ºC, using 0 % to 20 % surfactant as the integration limit. (Own authorship)tag.

Aqueous phase	Microemulsified region area (unit of area)
Proportion	TWN 80
100% Distilled Water	738,6
60% Distilled Water-40%Glycerol	905,1

As observed, the system with the largest microemulsion region is the system composed of TWN 80 in the presence of the aqueous phase with glycerol and pine oil, highlighting that a surfactant with high BHL has a greater tendency to form microemulsion. The presence of glycerol contributes significantly to the increase of the microemulsified area, since it has the characteristic of being soluble in water, favoring the solubility and stability of the mixture.

3.3 RHEOLOGICAL ANALYSIS

From the readings of 6 velocities obtained with the viscometer it was possible to trace the flow curve of the fluids studied. Table 5 shows the results: coefficient of determination, R2, flow behavior index, n (dimensionless) and consistency index, k (cP). Figure 4 shows an increase in shear stress at a higher shear rate for glycerol-containing fluid in the aqueous phase. This fact may be due to the presence of glycerol, as it directly influences the rheological behavior of the drilling fluids.

Fig 4. Flow curve for the fluids studied (Authored by the authors).

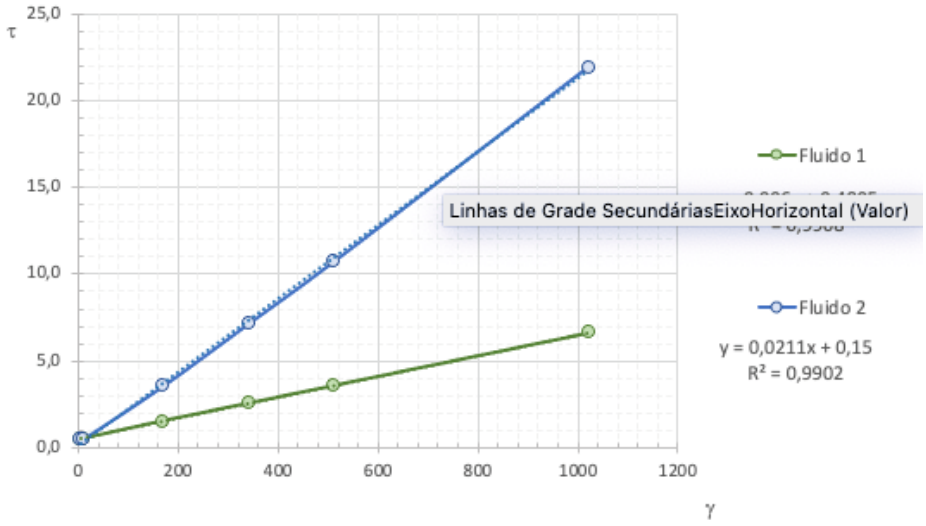
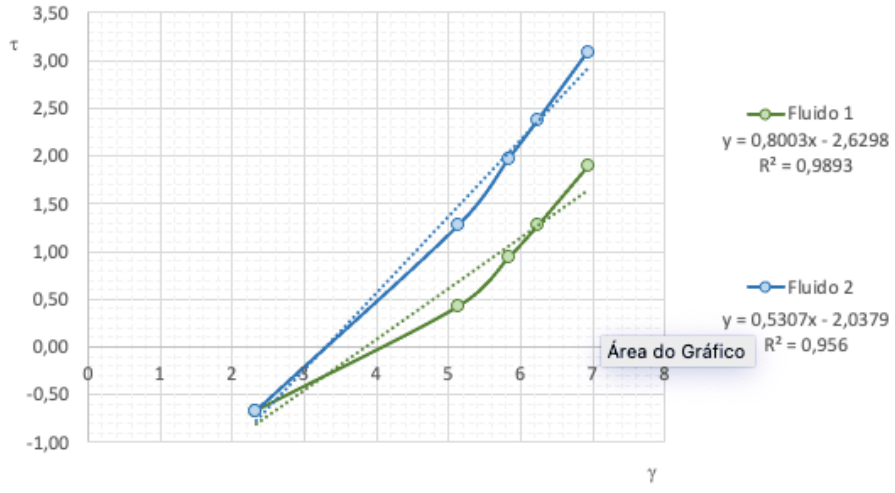


Table 5 shows the rheological parameters for the formulated fluids. The behavior index was performed using linear regression (Figure 5). According to the results, the fluids were classified as pseudoplastics because they have 0<n<1. This is due to the physical characteristics and interactions of the particles. The consistency indices (k) of the fluids formulated with water (Fluid 1) and the water/glycerol mixture (Fluid 2) were similar, indicating that both have similar characteristics to yield strength.

Fig 5. Linearization of the flow curve of the fluids studied (own authorship).



It is possible to observe non-Newtonian pseudoplastic behavior with initial yield strength in the fluids, which is better suited to the Bingham model. Although some researchers claim that Bingham's plastic model is insufficient to explain the rheological behavior of fluids [15], it is a simpler model that can estimate some parameters of fluid behavior with near precision to other more complex models [15].

Tab 5. Rheological parameters and parameters of the Bingham plastic model and the Herschell-Buckley model. (Own authorship)

Fluid			Bingham		Herschell-Buckley	
	VA (cP)	VP (cP)	n	R2	n	R2
Fluid 1	6,5	6	0,006	0,9908	0,800	0,989
Fluid 2	21,5	22	0,0211	0,9902	0,531	0,956

4 CONCLUSIONS

In view of the ternary systems studied and the solubility isotherm curves represented in the ternary diagrams, it was possible to infer that all systems were capable of forming A/O microemulsion. Thus, the study of the microemulsified areas of the systems aims to choose the system that presents the largest region of microemulsion A/O. Among the systems studied, all presented microemulsion area, however the Water:Glycerol (40%)/TWN 80/Pine oil system presented the largest area for a range of 0 to 20% of surfactant. It is possible to apply them as a formulation for microemulsified base drilling fluids. The rheological assays showed that the formulated fluids exhibit non-Newtonian behavior, of the pseudoplastic type. This type of fluid is characterized by reducing its viscosity when subjected to a high shear rate, and increasing its viscosity when at rest (it acquires gel form). By decreasing its viscosity, it improves its flow through the column, by increasing the flow rate and reducing the pressure drop. The drilling fluid, in its most viscous form, is responsible for keeping the gravel suspended in the well, thus preventing the pinning of the drill string or drill bit by wedging, caused by the sedimentation of these on the drill.

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The process of musical teaching-learning in the Camerata Reference Group of *Plucked Strings* of the Guri Project

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ABSTRACT
This article presents the results of an academic research focused on the teaching-learning process in the rehearsals of the Camerata Reference Group of Plucked Strings of the Guri Project - ACIF Franca, SP. The general objective was to understand how the musical teaching-learning process occurs in this Reference Group (RG). The specific objectives were: to know how the structure and organization of the rehearsals of the GR Camerata of Plucked Strings (CCD) impact on the musical teaching-learning process; learn how CCD students learn music; understand how the social relationships established by the students participating in the CCD enhance their musical learning. Data were collected with the help of the Field Diary, through the observation of six CCD trials, which took place in Franca, SP, between May 3 and September 6, 2019. They were analyzed and categorized according to the specific objectives established. The results showed that the process of musical teaching-learning in the CCD is provided by the social relations that occur not only in the institutionalized times of the rehearsal, but also before its beginning and in the interval. It was observed that the students were guided by the sound result of the group and visually observing the body gestures of their colleagues, which constituted tricks for musical reading solutions or instrumental technique. The relationships established among the members of the CCD potentiated socio-musical interactions between the students, the conductor-educator and the area coordinators who sometimes visited the group. Despite some observed conflicts, these interactions allowed them to (re)recognize the experiences and abilities of the other, and this strengthened the students' engagement in group musical practice.

Keywords: Guri Project, Camerata Reference Group of Plucked Strings, Rehearsal as time and space of musical teaching-learning.

1 INTRODUCTION

The perspective of the rehearsal as a time and space for musical teaching and learning is not unprecedented. The review of Brazilian academic texts presents four authors (FIGUEIREDO, 1989, 1990; MENDES, 2008; SILVA, 2011; SILVA, 2012) that transcend the interpretation of the rehearsal as having only the objective of preparing for a musical performance. The reading of these authors reveals two different theoretical perspectives: Figueiredo (1989; 1990) and Silva (2011) approach the essay from a didactic perspective, concerned with the contents to be taught, the methodology capable of better managing the teaching process (SILVA, 2011), and the teaching procedures that should be mastered by the conductor during the rehearsal (FIGUEIREDO, 1990). Mendes (2008) and Silva (2012) approach the essay from a sociological perspective, interpreting the process of musical

teaching-learning as an exchange between the subjects of the pedagogical action (conductor and musicians) and seeing the latter as "social people inserted in a [social] space" (SILVA, 2012, p. 121).

This last perspective, which perceives the participants of a rehearsal as pedagogical subjects to establish relationships with each other and with music, who are agents of their learning and learn while teaching others, was the one that guided the research reported in this article, which had as its general objective to understand how the process of musical teaching-learning occurs in the rehearsals of the Reference Group (GR) Camerata de Cordas Dedilhas of the Guri Project - - ACIF[1] pole Franca, SP; and as specific objectives: to know how the structure and organization of the rehearsals of the Reference Group (GR2) Camerata de Cordas Pluckadas (CCD) 3of the Guri Project (PG)4 impact on the musical teaching-learning process; learn how CCD students learn music; understand how the social relationships established by the students participating in the CCD enhance their musical learning. Following the qualitative research approach, the research data were collected, and recorded in a field diary, through the observation of six CCD trials that took place in Franca, SP between May 3 and September 6, 2019.

Although the word observation is linked to the perception of what is in front of our eyes, it is important that we be aware of the aspects that are not captured by the simple look, these aspects will depend on the theoretical resources of the person who looks (MORATO; GONÇALVES, 2014). Therefore, remembering that the Guri Project is a social project, in order to understand the process of musical teaching-learning forged[5] in the CCD rehearsals, we theoretically base ourselves on the thought of SOUZA (2014) on music education in social projects.

According to Souza (2014), "when taking into account the characteristics of Brazilian society, music education began to face new challenges". These new challenges refer to "the epistemological and political-social dimensions of the practice of music education" (SOUZA, 2014, p. 12), that is, understanding the process of musical teaching-learning in social projects (and even in other spaces) does not depend only on the musical practices involved, but also on the social relationship engaged in the time/space of educational environments.

Souza (2014) presents some important concepts to reflect on the practice of music education in social projects: inclusion, diversity and social transformation. The term inclusion means music for everyone. In the field of music education, the term inclusion implies "considering that the reason for learning may be more important than the [musical] skills or competencies to be acquired" (SOUZA,

[1] Association of Commerce and Industry of Franca - SP.
[2] The expression Reference Group, as it appears many times in the text, will be abbreviated to GR.
[3] The name of the Reference Group of the ACIF Franca pole of the Guri Project, *Camerata de Cordas Pluckadas*, will also be abbreviated to CCD.
[4] Projeto Guri is also an expression that is repeated a lot during the text, it will be abbreviated to PG.
[5] To forge in this context means to shape, to give shape to. In this sense, we want to say that CCD trials have certain characteristics that "forge" a teaching-learning process that they are only capable of enabling.

2014, p. 18). Diversity is also an important concept when we talk about music education in social projects. For Souza (2014), "social projects are aimed at minorities who are often excluded or 'less visible' to society, such as the elderly, young people, children, women, blacks, members of the LGBT community [*sic*], bringing up issues of gender, race, generation, among others" (SOUZA, 2014, p. 20). The third concept that Souza (2014) describes is about social transformation; For the author, "music in social projects produces a musical education that should have the objective of raising awareness and contributing to transforming reality" (p. 20), that is, the student who develops musically in a social project must leave that environment aware of the process of which he was part as an agent and commit himself to the transformation of social groups such as those to which he belongs.

Given these concepts, we can understand that the function of music education within social projects goes beyond making music. In the CCD rehearsals, we pay attention to understanding the teaching-learning process in the face of the relationships that the students established beyond the instrumental performances and the repertoire.

2 THE GURI PROJECT AND THE *CAMERATA REFERENCE GROUP OF PLUCKED STRINGS OF FRANCA*, SP

> 23 years ago, the Guri Project began its work with children and young people in the Mazzaropi workshop, in the east zone of São Paulo; in 1996 the Guri Project extended the service by inaugurating the first center within the CASA[6] Foundation, a unit of the Tatuapé complex. (CULTURAL TERRITORIES, 2018).

The above quote was transcribed from a journalistic article about the Guri Project that TV Cultura de São Paulo aired in 2018; therefore, considering this source and timeline that can be found in Projeto Guri (S.d.(d), he was born in 1995 and completes in 2023, 28 years of musical educational activity.

The PG consists of a sociocultural program of musical education for children and young people from 6 to 18 years of age living in the capital, coast and interior of São Paulo. It also serves young people from 12 to 21 years old at the CASA Foundation centers in the State of São Paulo. It is, therefore, a social project that promotes education and collective musical practice for children and adolescents, in which music is not seen only as a result or skill to be achieved, but "is presented as an antidote to violence, to the street, to idleness, to risk" (HIKIJI, 2004, p. 3).

[6] The Foundation Center for Socio-Educational Assistance to Adolescents (Fundação CASA/SP), formerly the State Foundation for the Welfare of Minors (FEBEM), is an autarchy created by the Government of the State of São Paulo with the function of operationalizing the socio-educational measures applied by the Judiciary to adolescents who commit infractions. At the CASA foundation, they can serve a prison sentence up to a maximum of 21 years of age, as determined by the Statute of the Child and Adolescent (ECA). Available at: https://pt.wikipedia.org/wiki/Funda%C3%A7%C3%A3o_CASA. Accessed on: 24 set. 2023.

The program has more than 384 teaching centers spread across 282 cities in the state of São Paulo (PROJETO GURI, 2023), where courses such as musical initiation, choral singing, luthiery, plucked and rubbed string instruments, woodwinds, keyboards, and percussion are offered, with the objectives of promoting music education and collective music practice, stimulating creativity and teamwork, and spreading musical culture in its diversity.

Since 2022, the program has been managed by Santa Marcelina Cultura through a management contract with the Government of the State of São Paulo. The organization also has the participation of other governmental spheres such as city halls, entities of the System for the Guarantee of the Rights of Children and Adolescents, individuals, in addition to being sponsored by companies through the Culture Incentive Law (SUSTENIDOS, 2021).

In Franca, SP, the PG was established in 2002. In 2007, ACIF, which gives its name to the center, took over the management of this social project in the city. With this partnership, PG was able to move to a larger headquarters, expanding the capacity of vacancies and "serving about 805 young people" (PROJETO GURI, 2017). In 2021, with a new change of headquarters, the ACIF Franca center of the PG obtained the capacity to serve "826 boys" working "from Monday to Friday, in classes in the morning (8 am to 11 am) and afternoon (2 pm to 6 pm), and [offering] courses in plucked strings ([cavaquinho], guitar, viola caipira), percussion and drums, high strings (viola and violin), low strings (cello, double bass), children's musicalization, musical initiation and choir, keyboard, piano, woodwinds (clarinet, transverse flute, saxophone) and brass (euphonium, trombone, trumpet and tuba)" (PROJETO GURI, 2021), as well as luthiery (PROJETO GURI, 2018).

In 2010, the PG started the so-called Reference Groups, "a space for musical practice" that brings together students in more advanced stages of musical learning to participate in a collective of instrumentalists and/or choristers with "greater technical development and in a position to perform original works and more elaborate arrangements" (PROJETO GURI, 2019a). In addition to the improvement of musical training, the GR's value the professionalizing initiative that takes place from an incentive program of the sponsors, offering a scholarship with a maximum duration of 12 consecutive months for all members as a way of helping with transportation and other expenses, guaranteeing their participation in rehearsals and activities (PROJETO GURI, S.d.(b).

Young people between 12 and 21 years of age participate in the GR's, selected by a selection process aimed at PG students and alumni, "the candidates go through tests and interviews, being evaluated by a team formed by professionals in the areas of Education and Social Development" (PROJETO GURI, S.d.(c). The GR's enable them to develop their musical practice through various activities – collective rehearsals, interaction with other poles, public presentations, and the opportunity to play with musicians of nationally and internationally recognized performance. The GR's provide, therefore, a musical training that is socially and professionally referenced.

In 2012, the GR *Camerata de Cordas Dempilhadas de* Franca, SP was created, bringing together the instruments guitar, cavaquinho and viola caipira. In 2013, with environmental responsibility in mind, CCD was chosen to set up the Green Orchestra, a PG subproject that enabled the acquisition of musical instruments manufactured by the Oficina Escola de Lutheria da Amazônia, made of solid wood certified by the *Forest Stewardship Council* (PROJETO GURI, 2013).

Since its inception, CCD has promoted the coexistence of "boys" with renowned musicians. Thus, with the aim of contributing to the musical and professional training of its participants, in 2013 CCD debuted as a Green Orchestra alongside violist Ivan Vilela at the SENAI Theater in Franca, SP; in 2014 CCD was selected to be part of the scenic-musical show Lendas Amazônicas, recorded on DVD and presented in São Paulo (Theatro São Pedro, 2014, and Sala São Paulo, 2015); in 2018 he participated in the rereading of the work Milagre dos Peixe (Milton Nascimento) with Ivan Vilela. In 2020, with the impossibility of social agglomeration of people due to COVID-19, CCD recorded – remotely – the work Vide Vida Marvada (Rolando Boldrin) with Renato Teixeira for the program "Juntas e juntos: cada qual no seu quadrado", which aired on December 18, 2020[7]. These are some of the landmark events for CCD.

3 THE REHEARSALS OF THE *PLUCKED STRING CAMERATA*: STRUCTURE, ORGANIZATION AND MUSICAL TEACHING-LEARNING

During the observations, the CCD grouped 20 young people into four instrumental sections, five cavaquinists, five violists, and 10 guitarists, divided into two sections: guitar 1 and guitar 2. In 2019, rehearsals took place once a week, on Fridays, starting at 2 p.m., with an average duration of four hours, and a break for the break. Rehearsals tended to have a standard sequence of events: first the suits rehearsed separately, then there was a snack break, and after that, the work returned with the dress rehearsal. However, depending on the objective, the rehearsals were structured differently, such as when the public presentations approached, or when a visit was received from a pedagogical coordinator of the PG – on these occasions, the suit rehearsals were not carried out.

3.1 MOMENTS BEFORE STARTING THE REHEARSAL AND THE BREAK

Before the rehearsal started, some students were already starting to warm up their fingers on their instruments playing songs they liked, others were playing songs from the GR repertoire, still others were talking about various subjects. There was a day when three guitar students, together, observed the musical performance of one of them (Diário de Campo, 24 May 2019). Although they were outside the institutionally established time and space for the rehearsal, it seemed to have begun,

[7] See Vida Marvada (Rolando Boldrin), Guri Invites 2020, can be enjoyed on the video-sharing platform YouTube, available at: https://youtu.be/grakLbsw698. Accessed on: 24 set. 2023.

as the teaching-learning relationship between the three girls was materialized with the observations of the performance of one of them, interested as they were in solving typing problems on the guitar.

Another moment of sharing in the organization of the GR rehearsals was the break for snacks. Each week, a suit was responsible for taking and preparing the snack for everyone. At lunchtime, the students rested for a while, talked, played cards, played together songs that were not necessarily from the GR repertoire, and surfed the internet on their cell phones.

In these moments "outside" the rehearsal (before starting it and during the break), the students interacted, getting to know each other better and strengthening bonds that resulted in a better engagement in the musical teaching-learning process. Acknowledging the musical expertise of the other is an important characteristic for the musical practice of the group, however, establishing and maintaining a good affective relationship, respecting each other, their tastes, their habits and values, can lead to good musical and social teaching-learning relationships. This is a precept of social projects, advocated by the Guri Project, which values the "activities [...] always practiced in groups, which encourages student participation. Everyone is part of a team that goes through the same challenges and learning" (PROJETO GURI, S.d.(a). This precept is considered by Souza (2014) as the foundation of musical inclusion, the author argues:

> [...] To make music together, collectively, means not only to perform many sounds – which someone alone could not accomplish – but, on the contrary, to perform other important functions, such as preparing for readiness, being available and creating possibilities to organize oneself in the group; express themselves, listen to each other, exercise self-criticism, receive criticism, evaluate themselves (SOUZA, 2014, p. 19).

3.2 SUIT REHEARSALS AND DRESS REHEARSAL

Suit rehearsals preceded the dress rehearsal and took place before intermission. It was in the rehearsals of the suits that the students share their musical experiences on the instrument itself, solving questions of instrumental technique or reading scores, preparing, finally, to perform the songs together at the time of the general rehearsal.

It was also in the suit rehearsals that the GR students learned the division of labor and their respective professional functions within the musical groups. In each suit there was a student responsible for directing the rehearsal. The conductor of the CCD called this student the "head of the suit", similar to the professional orchestras and their heads of suit, *spalla* and other divisions of work, characteristics of this musical group.

The conductor of the GR would go to the "heads of the suit" to give them the indications of what would be worked on that day (which song to play first, how to give the entrances of the songs, what time to give a rest, etc.) and they guided their colleagues coordinating the dynamics of the rehearsal. Thus, "the 'head of suit' of the cavaquinho always expedited the staff to tune their instruments at the beginning of the rehearsal" (Diário de Campo, 24 May 2019). Similarly, in professional

orchestras "it is the responsibility of the chiefs of section to transmit to the group, in a first moment of preparation for each show, the instructions defined by the conductor for the execution of each work" (PICHONERI, 2006, p. 89).

The "heads of suit" of the CCD, however, were not paid more than their colleagues, they were only responsible for this function because they were students with more time and musical experience in the group. In any case, it cannot be denied that this function simulated a professional, and also musical, hierarchy within the group.

During the suit rehearsals, the students also had functions that went beyond the musical object, such as taking care of the instrument that was under their responsibility, organizing their materials and taking care of the place where they sat. We observe, for example, the students changing the string of the ukulele; the strings were provided by the PG, however, it was the students who changed them, and their instruments had to be ready for the dress rehearsal (Field Diary, 03 May 2019).

In the dress rehearsal, the groups were grouped together and the conductor took over the direction of the musical work. However, unlike what happens in professional orchestras, the conductor was at the head of the group not only to guide the progress of the works and conceive their interpretation, but to exchange with the students, listening to them, mediating them, guiding them, receiving their tips on instrumental performance and sharing them with the whole group. In other words, in the CCD, the regent was also an educator.

3.3 THE ORGANISATION OF THE TEST SPACE

As previously mentioned, the CCD rehearsals took place in two stages: the suit rehearsal and the general rehearsal. During the suit rehearsals, the students organized themselves in separate rooms, always without the conductor-educator. In the ukulele section, the students sat in a circle, allowing them to better interact and visualize everyone's musical performance. On the day we observed the viola suit rehearsal, the students were divided into two subgroups; even so, they kept in touch, moving between the rooms so that they could exchange ideas about the performance of some musical excerpts (Diário de Campo, 10 May 2019). The guitar players, as they were part of a larger group, always rehearsed together in the main room, the same room where the general rehearsal took place with the conductor.

At the dress rehearsal, the whole group was accommodated in the largest room of the PG headquarters, they sat in a different way from the suit rehearsals – in the shape of a semicircle, with the conductor-educator at the front.

The two spaces used for the CCD rehearsal, the suit rehearsal and dress rehearsal rooms, frame different social relations between the musicians in training. To understand this difference, we turn to Certeau (1998) who differentiates place from space, and who understands space as social space.

Space, from the perspective of Certeau (1998), is the practice of place, the way in which subjects transform it based on their uses, interactions and experiences. The headquarters of the Guri Project - ACIF Franca pole, before being a space for musical teaching and learning, was designed as a residential house, [8]a place (Certeau, 1998) to host family uses and interactions. In other words, the rooms of the house were transformed into teaching-learning spaces: bedrooms and living rooms, for example, became classrooms and rehearsals of the CCD, as well as the coordinator's room; the covered garage became the largest room in the headquarters (used for the CCD's dress rehearsal); Hallways, backyard *and entrance hall* have become spaces for waiting, for interaction outside of class and break. In the new configuration of these places – spaces for teaching and learning music – students, educators and coordinators coexisted and established other types of social relations. Bourdieu (2003) calls this relationship between individuals – not innocent of hierarchies and conflicts – occurring in the place, "social space", differentiating it from the physical space, but being shaped by it. Therefore, it is important to reflect on the social relations that this place provided to its visitors when it was transformed into the PG headquarters.

The rehearsal rooms, old rooms, were small and perhaps for this reason, the students positioned themselves in a circle so that everyone could observe each other (the small place did not allow them to position themselves in a row). It was interesting to observe that in the cavaquinho rehearsal room, for example, the students always sat in the same place and with the same arrangement of chairs in a circle (Diário de Campo, May 24, 2019), configuring social relationships where, even with the presence of the "head of suit", the students seemed to share teaching-learning in a more horizontal way.

The dress rehearsals were held in the largest room in the headquarters, so the students could be arranged in the shape of a semicircle, similar to the traditional formation of an orchestra, but only in two rows. The CCD's general rehearsal room, like the stages for the performances of large musical groups (orchestras, *big bands*, choirs, etc.), did not hold a single queue for everyone to position themselves on the same plane. The arrangement of people in rows, even if in a semicircle, configures hierarchical social relations, intensified with the division of musical labor.

The students who had been in the group for a longer time and had, therefore, better instrumental technical development, musical reading and more experience in musical performances in the GR, occupied the first row of chairs. On the other hand, the younger students, both by age and time of participation in the group, sat in the second row.

In the dress rehearsals observed, the young people always occupied the same chairs. However, when someone from the front row was absent, the conductor-educator would call another person from

[8] In 2021, the ACIF Franca, UF of PG pole moved to a new headquarters (PROJETO GURI, 2021), whose construction architecture is not for residence. It was not possible to investigate the origin of the building, but it appears to be a construction made to house a basic education school.

the back row to sit in the front, but his call was not always heeded. One occurrence caught our attention: Fabiana[9] and Douglas, who sat in the front row of the guitar 1 suit, when they arrived late, had to sit in the second row, because their seats were occupied with two other students who used to sit in the back. However, after the break, everyone changed places, the students in the second row, who had sat in the first row, returned to their seats and those who had been late were able to occupy their "due" places in the front row (Field Diary, 31 May 2019).

Each chair, in each row, occupied by the students materialized a space related to the social hierarchy and the division of functions of the musical work in the group, whether in rehearsals or in the public presentations of the CCD. That is, the organization of the place where the CCD's general rehearsals took place configured a social space that taught young musicians how hierarchical relationships work in the music profession. They learned where to sit; Thus, those who sat in the front row could encourage the students in the second row to make an effort to occupy a seat in the front row, but this arrangement of the space could also generate conflicts, if a student in the back row, for example, wished to occupy the front row, after all, in the front row every musician is always better seen by the public.

Therefore, the social spaces of the CCD headquarters and the reiteration of the musical habit of organizing rehearsals in rows, dividing the group's work between the "head of the suit" and the others, forged a social and professional learning in music, after all, each one should know the place that belonged to him in the configuration of the chairs in the rehearsal room.

4 TEACHING-LEARNING STRATEGIES IN THE REHEARSALS OF THE *PLUCKED STRINGS CAMERATA*

Several teaching-learning strategies were observed in the CCD rehearsals, from the communications between conductor-educator and students to, and mainly, the interactions between the students themselves during the musical performance. In this context, "verbal communication in rehearsal was not the only form of communication. Gestures, looks and body movements were also part of the essay" (SILVA, 2012, p. 113). Each of these forms of teaching-learning has its own characteristics and always permeates each other.

4.1 LISTENING AND OBSERVING

Although learning to read music was important for musical development and one of the objectives of the GR's of the Guri Project – after all, musical reading is part of the concern to create an environment conducive to musical professionalism (PROJETO GURI, S.d.(b), reading music was not the only learning strategy practiced by the students.

[9] All names quoted are fictitious.

At CCD, learning music by ear was quite recurrent during the group's musical development, both in section rehearsals and in general rehearsals. The sounds produced by the young musicians assumed a fundamental role for musical learning, from the moment the student was able to reproduce them on his own instrument, with the understanding of the repertoire.

In the quote below, in an essay on the ukulele suit, the students discussed a rhythmic cell that contained spindles:

> Caio, who has been in the group for a long time, was trying to explain these bars to his colleagues and said: "The important thing is to fall into the head of time in the next bar, not the number of notes [that are played], for now" (Field Diary, 03 May 2019).

Caio, the "head of the suit" of the cavaquinhos, was not concerned with the number of figures written on the score. As it was to give an effect of speed, he instructed his colleagues to take care to fall correctly in the strong tempo of the next bar, guided by the ear. Caio also told his colleagues not to worry "for now", not ruling out the need for theoretical understanding of these rhythmic cells in the future.

Similar events occurred during dress rehearsals, where students also used ear learning, even if the score was front on the shelf:

> There is a part of the song [Pablo N. 2, Milton Nascimento] that no one on the guitar was remembering, so the conductor-educator gave the students a little time to remember the reading of the score. Daniel, who has a very good musical ear, was recalling the music without the sheet music (even with the sheet music in front of him); he asked Jonas to play for him to catch his ear (Field Diary, Sept. 06, 2019).

Learning by ear helped the students a lot, since many still had poorly developed music reading. Thus, the resource of auditory perception became an adjunct in this learning, in which they were guided by the musical performance of the group, observing their colleagues.

Although the conductor-educator played a fundamental role in structuring time/space in the rehearsal, it was to the instrumental performance of the colleagues that the students' gaze was directed during the rehearsals. In the CCD, students helped each other by showing how to play so that others could imitate them. Therefore, looking at the other enabled an important form of musical teaching and learning. In addition to the indications of the conductor-educator, the members of the CCD opened their ears and attentive their gaze to observe and allow themselves to be observed, worrying about the learning of those next to them:

> At the end of the song Job's Slave, Carla asked Hannah what the ending was like, as she had forgotten. Ana showed her how she played on the guitar for her to remember, she played it twice, Carla observed well what she did and remembered it (Diário de Campo, 31 May 2019).

By unraveling the possibilities of musical learning in the interaction between the participants within the group, we realized that the students became responsible for the group's actions, while the whole group also became responsible for theirs. It wasn't just being part of, or being another member of the group, it was thinking that you are the group and the group is you, so the teaching-learning processes spilled over into everyone within the group, which resulted in the musical interaction of everyone present at the rehearsal.

4.2 LEARNING TO READ SHEET MUSIC: A COLLECTIVE CONSTRUCTION

The score is "a fundamental element in the organization and in the strategies for the preparation of musical works [of a] rehearsal" (SILVA, 2012, p. 126), understanding it is fundamental for the execution of musical works and arrangements.

As mentioned, the CCD students were in the process of learning to read music. In addition to individual strategies used to understand it, these musicians developed and exercised group readings during rehearsals. During an observation of the viola section rehearsal, we witnessed the moment when two students worked together to read the score of a new song in the repertoire:

> Jennifer and Eliane help each other to read a new song. Before playing, they look at the key armor and see the accidents; together, they orally read the notes of the score (of the melody); They also solfege some rhythms. At that moment, they read bar by bar: they analyze the score, pick up the instrument and play, then start all over again in the next bar (Diário de Campo, 10 May 2019).

The learning of that musical excerpt was, therefore, built jointly by the students, analyzing the musical notes written on the score to perform them on their instruments.

It is also important to mention the concern regarding the comprehension of musical writing, from more experienced students to novice students. There was a moment when Ariel was in doubt and tried to solve it with her colleague Beto, who, however, before helping him, told her to look in the score for the part in which she was playing. This was not because Beto didn't want to answer, but to see if Ariel was aware of the part he was playing (Field Diary, May 10, 2019); after Ariel found the piece of music he was in doubt about, Bob helped him with what he needed.

Some authors, such as Mendes (2008), believe that the score is an element that can hinder the communication of musicians, "because students 'get stuck' and stop communicating with others, at least through visible gestures" (MENDES, 2008, p. 40). In professional orchestras, where the skill of reading music is greatly developed and the musicians play what the composer of the work and the conductor direct, the score can indeed hinder the communication between the musicians during rehearsals. However, in the CCD, the score was another element on which the students relied to communicate musically within the group, developing the teaching-learning process, tracing together

in the speeches, gestures and roles, strategies to facilitate the understanding and execution of the arrangements and musical works of the RG repertoire.

4.3 STANDARDIZATION STRATEGIES FOR PLAYING PRACTICE

We classify the three instruments that make up the CCD (guitar, viola caipira and cavaquinho) in the family of plucked string instruments, that is, played with the fingers of the hands. They are very versatile instruments in relation to the possibilities of sonorities they contain, being seen as good harmonic accompaniers, with infinite rhythmic and melodic possibilities.

Plucked string instruments present several possibilities for locating the same pitch or musical note, as well as a variety of chords and their inversions, levada patterns and possible fingerings for the same musical passages. Faced with so many possibilities, CCD students used to standardize their fingerings, types of touch, and note location. The process of construction and negotiation of this standardization took place mainly in suit rehearsals, through face-to-face interaction. In this quote, the students outlined strategies for standardizing the execution of the chords and levadas of the repertoire, in one of the cavaquinho rehearsals:

> Caio commented on the difficulty of making a chord that was not suitable for this instrument; it was a song whose arrangement they were reading was for the guitar, so it was necessary to adapt it to the ukulele. [We asked:] *Have you ever tried reversing the chord?* He said yes, but it didn't work, so he said he made a division of the chord between the members of the suit (Field Diary, 03 May 2019).

The strategy was to divide a chord that had several notes among the members of the section, while some made some notes, others made the missing notes (such as a *divisi* of voices).

We observed a student of the guitar section writing down some figures on the score and realized that "rock" was written on one of the chords in the score in which he was reading (Diário de Campo, 06 Sept. 2019). We asked him why this chord was from rock, he picked up the guitar and showed us the position of the chord, whose hand shape is similar to the popular rock gesture, see Figures 1 and 2 below:

Figure 1 - Position of the "rock chord"



Source: Author's photograph (Field Diary, 06 Sept. 2019).

Figure 2 - Hand gesture characteristic of rock



Source: https://escolaproarte.com.br/dia-mundial-rock/. Accessed on: 24 set. 2023.

He named it this way because he didn't know the correct chord nomenclature, passing this tip on to all his peers.

The standardization of chords, levadas and fingerings occurred through the interaction of the students themselves, but also with the conductor-educator who personally assisted in the discussions of which fingering the suits should use.

The strategies used by the members of the CCD to teach and learn songs with each other included learning music by ear, observing visually, developing musical reading in a group and establishing gestural or non-gestural standardizations. These strategies built throughout the suit and general rehearsals showed us that the students exchanged experiences, making the whole group more aware of the possibilities of making music together; The student who built a strategy to understand some musical element, shared it with others so that everyone, through musical performance, mirrored each other learning music.

5 POWERS OF THE SOCIAL RELATIONS ESTABLISHED IN THE *PLUCKED STRING CAMERATA*

The social relationships established among the members of the CCD potentiated musical and personal interactions in the daily interaction between the students, and between the students, the conductor-educator and area coordinators who used to visit the rehearsals of the GR.

SOUZA (2014) states that music education in social projects involves the interaction and intervention of the members of a group. For this author, the musical inclusion advocated in social projects should privilege collective musical activities (2014, p. 19), but making music collectively does not only mean performing sounds together, but "performing other important functions" such as "[...] create possibilities to organize oneself in the group; to express themselves, to listen to each other, [...] to evaluate each other" (SOUZA. 2014, p. 19).

These "other important functions", exercised in the interactions between the students, were perceived during the observations of the CCD rehearsals, and they concern the recognition of the skills and musical development of the classmates (despite the conflicts that existed), the exchange of experiences, tastes and musical repertoires acquired outside the CCD, the coexistence with the heterogeneity of gender, and the development of concentration and group consciousness.

5.1 CONFLICT AND RECOGNITION OF THE IMPORTANCE OF THE OTHER

In one of the rehearsals observed, the conductor-educator asked the viola section what would be the best tempo for the performance of a certain song, because the section would make a more difficult solo.

> Bob ("head of suit") then indicated a tempo, but the conductor-educator asked Ariel if he could play the tempo proposed by the first. The interesting thing was that Ariel looked at Bob and asked him: *I can play along with this one, right?* (Field Diary, 03 May 2019).

There was a friendship that was also educational: Ariel trusted the "teacher's" advice of her more experienced colleague, Beto, who in turn knew the tempo that his classmate would be able to play in that song. The students' complicity leveraged the cohesion of the group and made the music happen, showing that it "is part of a socialization process [and] for this reason, it has a strong potential for mobilization and aggregation" (SOUZA, 2014, p. 16).

However, the social relations established in the CCD, which aggregated and mobilized the students, favoring the process of musical teaching and learning, were also marked by conflicts. This characteristic is not exclusive to this group, and can happen in any environment where there are interactions of several people.

In one of the conflicting situations observed, "Jennifer said that she preferred the old group, because she thought that the crowd was more united, there was no one 'in it'. In her opinion, [in the

group observed] there were some boys who want to show that they are the best" (Diário de Campo, 10 May 2019).

Even though the conflicts generated problems of affinity among the students, when they had the opportunity to get to know each other better, they were able to "recognize and endure [the] conflicts" (SOUZA, 2014, p. 19). We noticed during the observation of the rehearsals that Jennifer had more affinity with the people who participated in the CCD in previous years, however, she recognized the musical development of her classmates.

5.2 THE PRESENCE OF OTHER SONGS OUTSIDE THE CCD REPERTOIRE

At the moments of rehearsals when the performance of the repertoire was not the main event, the members of the group interacted by talking about their daily lives and tastes for the most varied things, and playing together other songs that were not part of the CCD repertoire. Thus, they made their individual tastes and musical styles known, and promoted the exchange of repertoires brought to the CCD space, as in the interval scene of one of the rehearsals in which "Daniel (guitar 1) and Beto (viola) played a choro [Pedacinho do Céu, Waldir de Azevedo]" (Diário de Campo, May 24, 2019), thus sharing musical experiences through a musical repertoire brought from outside the CCD space.

It was also common for the students to play other songs at the time of exchange of the works of the repertoire within the rehearsal itself. This allowed us to understand a little who the CCD students were based on the music they liked and the musical experiences they brought from outside of it.

Some members developed musical works outside the CCD, such as Erik, guitarist in a gospel music band, and Caio who played viola and guitar accompanying a country duo from the city of Franca, SP – both were part of the cavaquinho section in the CCD (Diário de Campo, May 24, 2019). The experiences that the students brought from their musical practices in other groups enhanced their musical formation and could impact the teaching-learning process at CCD, given the interactions within the group already mentioned.

5.3 GENDER DIVERSITY IN THE CCD

For Souza (2014), "the pedagogical conceptions present in social projects begin to consider diversity and heterogeneity as a rule and not as an exception" (p. 20). The author also considers that

> [...] Diversity is the norm and not a simple conjuncture phenomenon. Therefore, it is necessary to treat the different with understanding and not just with tolerance. Music can be connected to ethnicity, ideology, religion, sexuality, it can increase our understanding of the world. It can help us understand who we are and, thus, communicate with others (SOUZA, 2007, p.19 apud SOUZA, 2014, p.20).

In 2019, the year in which the observations were carried out in the CCD, its composition was balanced, with 11 men and nine women. In the ukulele section there were four men and one woman;

in the viola section, three male boys and two female women; and in the guitar section, four men and six women.

Ravet (2006) says that the forms of professionalization and construction of musical careers are distinguished due to different aspects of socialization, one of which concerns the gender of the instrumentalist. According to this author,

> The representations and images of instruments strongly condition the "choice" of the instrument made by the child and the educational community (parents and teachers). This [gendering] of instruments acts, then, from the beginning of the musician's training. Instrumental socialization is done in classes of men or women, where male and female sociabilities are separated, the learning of modes of instrumental performance (light/strong, etc.). These differences reappear later in the differentiation of careers (RAVET, 2006. Our translation).

Plucked string instruments are not very popular among women in Brazilian society. Silva Neto (2019), who studied the professional situation of graduates who completed the undergraduate course in music at the Federal University of Uberlândia, MG between 2010 and 2016, attested, for example, that among 47 graduates of the guitar course, only seven were women (p. 24). The fragile presence of women in the world of music can be confirmed if we consider another survey that had as a reference the database of members of the Brazilian Union of Composers (UBC) – an entity with 40 thousand holders, between men and women, responsible for 56% of the distribution of copyrights in the country: the participation of women in this entity has remained around 15% since 2019. The data from the research entitled *For women who make music* (published in 2021) are from 2020, and the professional categories that composed the research were: author and versionist, performer, musician, and phonographic producer (GANDRA, 2021).

These data are brought to highlight the importance of CCD in the training and possible professionalization of female musicians, after all, even in a slightly smaller number than men, women made up 45% of all CCD members (nine women to 11 men), contrary to the Brazilian reality demonstrated in the data of Silva Neto (2019) and Gandra (2021). This becomes even more important if we consider that CCD's instruments – cavaquinho, viola caipira and guitar – are not very common among female musicians. So much so that even in the CCD, women represent 20% of the cavaquinhos (one woman for four men) and 40% of the violas caipiras (two women for three men).

We see, therefore, that the social relations made possible in the more heterogeneous environment of the CCD, in terms of gender, potentiated a musical formation that was more in line with diversity.

5.4 DEVELOPING CONCENTRATION AND GROUP AWARENESS

Maintaining concentration during rehearsals was not easy and the GR experienced several events at the same time, such as the section rehearsals, the dress rehearsal, the preparation of the songs,

the technical difficulties that arose, the tiredness, the number of people playing at the same time. There were many events that could make it difficult to concentrate. Thus, it was up to the conductor-educator to keep the group focused, encouraging the students and making them aware of the importance of everyone during the rehearsals.

The students missed their classmates who were distant, either because they were absent or because they were unfocused, that is, the students needed to walk all together for the group's engagement. At a certain point in the observation, two students had left to change the strings of their instruments at the beginning of the dress rehearsal, "the whole group, then, missed the students who were missing in the suit; some even told the conductor-educator that they were not listening to the viola" (Diário de Campo, May 10, 2019). One might think that, in a musical group with 20 instrumentalists, two people would not be so missed, after all, even with the absence of these students, there were still three other instrumentalists covering the viola section in the general rehearsal. However, in the CCD, a musical group that depends on each and every one of its members, the absence of these students was felt.

Realizing that it is necessary to listen to one's own instrument plus the instruments of the 19 instrumentalists composing the group is the result of a teaching-learning process built over time, which requires the musical and social (re)knowledge of each student.

By getting to know and recognize the other in the social relationship that sustained the process of musical teaching-learning, discovering and perceiving the facilities and difficulties of each one within the group, interactions were intensified during the execution of the repertoire in the CCD rehearsals.

6 CONCLUSION

The general objective of the research presented in this article was to understand how the process of musical teaching-learning occurs in the rehearsals of the *Camerata de Cordas Dempilhadas*, Reference Group of the Guri Project - ACIF Franca-SP pole.

In the pursuit of this objective, we interpret the CCD essay as a time/space of teaching-learning in which its members engage musically establishing social relations, each one carrying their musical experiences and personalities, but all composing a group with a different identity from that of its members. The students were performers and also listeners of their own musical making, enabling teaching-learning processes through the relationships established during the musical performance together. Unlike musical performances, being a listener of one's own musical making enabled the group to share musical knowledge through the experiences that the students lived during the rehearsal, through the exchange with each other and with the conductor-educator, and through interaction in various ways: observations, conversations, scores, gestures and looks.

The structure and organization of the CCD rehearsals showed that the process of musical teaching-learning is provided by the social relations that occur not only in the institutionalized times for the rehearsal, but also before its beginning and in the interval.

If we consider that PG, as a social project, has among its guidelines: "to invigorate children, adolescents and young people their aesthetic, affective, cognitive, motor and social dimensions", to intensify their offer of "enriching experiences of sociability", to strengthen their "recognition of their resources [so that] they can be used in future projects", to provide them with "access to and appreciation of different cultural expressions" and to stimulate their "creations and presentations of musical groups" (PROJETO GURI, S.d(d), we suggest that the moments outside the institutionality of the rehearsals be taken into account, they are pregnant with all these intentions.

The places where the CCD's suit and general rehearsals took place, taken as social spaces, taught the GR participants about socio-professional hierarchies and the division of musical labor. That is, the PG's opportunity to stimulate, through the GR's, the professionalization of students and former students, offering them "a wide range of musical experiences", increasing their references (in meetings "with renowned names in the artistic world and presentations on the most important stages of the Brazilian music scene"), and enabling them "technical improvement, expressive capacity and the practice of composing and improvising" (PROJETO GURI, 2019a; S.d.(b), goes hand in hand with the social teaching-learning process of the profession.

The students exchanged experiences, making the whole group more aware of the possibilities of making music together; The student who built a strategy to understand some musical element, shared it with others so that everyone, through musical performance, mirrored each other. Within the rehearsal, the process of musical teaching-learning depended on the relationship that the students established with each other, and in this case, the others could be the group taken as a whole. Thus, it was in the group that the students mirrored themselves, allowing even those who sat farther away to interact by listening to the sound result of the musical performance together and observing the musical making of their closest other.

The relationships established among the members of the CCD were interpreted as capable of enhancing musical and social interactions between the students, the conductor-educator and the area coordinators who sometimes visited the group. Despite the conflicts observed, these interactions allowed them to (re)recognize the experiences and skills of their colleagues, and this strengthened the students' engagement in the group's musical practice. The musical interactions outside the CCD repertoire, during breaks and even in the exchange of songs during rehearsals strengthened their bonds, which also enhanced their engagement in the musical performance together.

The reflections that this research provides are important for music education. The CCD rehearsal is a space/time in which the process of musical teaching-learning took place synchronized

with the social relations established between the members of the group, present in the environment of the Guri Project, a social universe involved in musical content. Such reflections can also help conductors, students, musicians, researchers and music educators to identify the rehearsal and also the collective practice as a time/space in which all its members are able to interact by teaching and learning music. They can also add to the importance of music education in social projects, as several studies have already pointed out, by showing the bonds built (often through the resignification of conflicts) among young people from CCD, when they related socially through music.

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Relationships between the impacts of COVID-19 and teachers' quality of life

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ABSTRACT
Covid -19 pandemic has caused major disruptions in society, including education. Teachers suffered from several aspects, from possible contagion with the virus, as well as the adaptation of face-to-face classes to online teaching, which occurred abruptly, facing frustration, anxiety and the feeling of impotence in the face of the new reality. This study aimed to analyze the impact of the Covid -19 pandemic on the quality of life of a group of teachers from a municipality in the State of Goiás, surrounding the Federal District. Using the quantitative research method, we chose to use the Subjective Well-Being Scale (EBES) and assertive questions to make correlations between the questions. Among other results, the teachers showed that the greater the emotional self-control, the greater the desire to take advantage of life's opportunities and the less the feeling that life is bad.

Keywords: Teachers, Quality of life, Pandemic, Quantitative method.

1 INTRODUCTION

The Covid-19 disease has affected millions of individuals worldwide, causing complications in various organs, tissues and even death. Given the absence of more effective means of prevention such as the vaccine or any appropriate treatment, in 2020, the World Health Organization (WHO) recommended social distancing as the main way to combat the pandemic, among other preventive measures.

Undeniably, the Covid-19 pandemic has demonstrated negative impacts on people's health as well as the world economy. Studies indicate that professionals who work in direct contact with the public, such as teachers, may be susceptible to the negative impacts of physical distancing imposed as

a preventive measure (ALEA et al., 2020; WANG et al., 2020). This group has peculiarities due to the intense contact with children, adolescents, and adults throughout daily work hours (KHLAIF et al., 2020).

Social distancing may have affected the quality of life (QoL) of these professionals, since it addresses different aspects of the existence of individuals, which differently influence the way they perceive their own QoL, since it is a subjective and intrinsic assessment related to cultural, educational, moral and lifestyle factors (PINTO et al., 2021). Thus, "QoL is altered by the condition of health, housing, employability, access to food and basic sanitation, among other factors" (PEDROLO et al., 2021, p. 3).

Therefore, the objective of the present study was to analyze the impact of the Covid-19 pandemic on the quality of life of a group of teachers in a municipality in the State of Goiás, neighboring the Federal District.

2 QUALITY OF LIFE (QOL)

According to Almeida, Gutierrez and Marques (2012), the vast material on quality of life (QoL) is expressed as a multidisciplinary area of knowledge that encompasses concepts that permeate the lives of individuals, as well as popular knowledge. From this perspective, it deals with "innumerable elements of the daily life of the human being, considering from the subjective perception and expectation about life, to more deterministic issues such as clinical action in the face of diseases and illnesses" (ALMEIDA; GUTIERREZ; MARQUES, 2012, p. 14).

The term QoL is said in the language of contemporary society, being used with various forms and meanings, however, there is a consensus that it is good to talk about QoL, even without defining exactly what it is about (ALMEIDA; GUTIERREZ; MARQUES, 2012). Like this

> Common sense has appropriated this object in order to summarize improvements or a high standard of well-being in people's lives, whether economic, social or emotional. However, the area of knowledge in quality of life is in a phase of identity construction. Sometimes they identify it in relation to health, sometimes to housing, leisure, physical activity and eating habits, but the fact is that this way of knowing states that all these factors lead to a positive perception of well-being (ALMEIDA; GUTIERREZ; MARQUES, 2012, p. 15).

In this sense, studies on quality of life can focus on the search for alternatives to improve the standard of living of as many people as possible, as this does not depend only on the individual. Therefore, it is necessary to include the multiplicity of themes involving QoL, from social, health or professional parameters. These indicators can be analyzed (and are) by different areas of knowledge, with different references and procedures, and different definitions and conceptions are linked (ALMEIDA; GUTIERREZ; MARQUES, 2012).

For Martins et al. (2014), quality of life (QoL) is feeling good, safe, productive, healthy, depending on the lifestyle as daily actions of the human being. This reflects on opportunities and values from their eating habits to their professional and personal choices (FILENI et al., 2019).

Studies indicate (BROOKS, 2020) that the effects of confinement and collective trauma are the most responsible for the repercussions on the mental health of individuals, with the intensity of social distancing, the quality of family relationships, and the duration of this isolation being important variables in assessing emotional state.

It is important to note that the World Health Organization (WHO) defines QoL as the individual's perception of their position in life in the context of culture and value systems, always taking into account their goals, expectations, standards, and concerns (FRANCISCO, 2019). According to Francisco (2019, p. 11), quality of life

> It is a fairly comprehensive term that is affected by physical health, psychological state, personal beliefs, social relationships, and their relationship to the characteristics of their environment. The comprehension of QOL goes through several fields of human knowledge, biological, social, political, economic, medical, among others, in a constant interrelationship. QOL refers to the interest in life, so it is possible to establish that it is not something to be achieved, but rather a perception that is present in the life of the human being.

Tani (2002) explains that quality of life means much more than having the basic needs of survival such as food, clothing, work and housing met. It implies physical and mental health, harmonious and constructive social relationships, permanent education, respectful and friendly relationship with the environment, free time for leisure and opportunities to fully enjoy culture (PEREIRA et al., 2009, p. 16).

We found the theme of quality of life in several areas of interest, as a synonym of health (SCHMIDT; POWER; BULLINGER, 2005), happiness and personal satisfaction (RENWICK; BROWN, 1996), living conditions (BUSS, 2000), lifestyle (NAHAS, 2003). social, physical or psychological conditions (PEREIRA et al., 2006), concerns with the culture and context in which people are inserted (SCHMIDT; POWER; BULLINGER, 2005), religious aspects (MOREIRA-ALMEIDA; LOTUFO NETO; KOENIG, 2006) and the worker's quality of life (LACAZ, 2000; VASCONCELOS, 2001).

In addition to studying the quality of life of individuals through the qualitative approach, the construct can also be investigated by means of measurement instruments.

2.1 QUALITY OF LIFE (QOL) MEASUREMENT INSTRUMENTS

Some instruments were developed to measure quality of life. One of the most widely used was developed by the WHO group of scholars, the WHOQOL-Brief in the form of a questionnaire.

The WHOQOLBREVE questionnaire investigates teachers' perception of QoL. Composed of 26 questions extracted from the complete questionnaire, the WHOQOLBREVE is composed of four domains: physical, psychological, social relationships and the environment.

There is the Quality of Life (QOL) scale, which allows measuring quality of life (ALMEIDA, 2013). It consists of two versions: the parental form and the adolescent form that focus on the different concerns in the respective groups. The parental form encompasses 40 items spread across 11 dimensions: marriage and family life, friends, health, household aspects, education, time, religion, employment, *media*, financial well-being, and neighbourhood and community. The adolescent form does not contain the dimensions of marriage and employment.

In Brazil, the Psychometric Scale for the Assessment of Quality of Life (EQV) in adults consists of 23 items, divided into two factors: behavioral and psychological, and was developed by Soares et al., (2019).

Similarly, quality of life is demonstrated in the Satisfaction with Life dimension, belonging to the Subjective Well-Being Scale (EBES), by Albuquerque and Tróccoli (2004). This dimension consists of 15 items in order to cover the theme in all its fullness. Life satisfaction is a cognitive judgment of some specific domain in a person's life; a process of judgment and general evaluation of one's own life; an evaluation of life according to its own criterion (ALBUQUERQUE; TRÓCCOLI, 2004).

In view of the panorama presented in the period of the Covid-19 pandemic, it was necessary to investigate the relationships between the impacts of the pandemic phenomenon and the quality of life of teachers who work in the public school system of the Municipality of Cidade Oeste, located in the Eastern Region of the State of Goiás.

3 METHODOLOGICAL PROCEDURES

Using the quantitative approach, this study used the 'life satisfaction' subscale of the Subjective Well-Being Scale (EBES) (ALBUQUERQUE; TRÓCCOLI, 2004) to measure the quality of life of teachers.

The team of the Pedagogical Center of the Municipal Department of Education of the investigated municipality elaborated assertive questions that addressed social isolation, mental health and self-control in emotions, among others, to correlate with the items of the satisfaction with life dimension of EBES. The assertive questions had significant relevance due to the urgency and concern in understanding the effects of the pandemic on the quality of life of teachers.

Data analysis was performed by the statistical program SPSS - *Statistical Package for the Social Sciences*, which is a useful Data Editor for statistical tests, such as the correlation analysis discussed in this study.

The correlation technique is used when we need to evaluate the degree of relationship between two or more variables. It is possible to find out precisely how much one variable interferes with the result of another. The techniques associated with Correlation Analysis represent a fundamental tool for application in the Social and Behavioral Sciences, Engineering and Natural Sciences. The importance of knowing the different methods and their application assumptions is precisely because of the care that must be taken not to use an inappropriate technique.

4 RESULTS AND DISCUSSION

A total of 161 teachers (N=141; 87.6%) and teachers (N=20; 12.4%) from the public school system participated in the research, but it is possible to present an overview of the impacts of Covid-19 on their lives and the effects of social isolation on the daily lives of teachers.

Table 1 shows some of the main results of the participants' profile.

Table 1: Profile of the participants

Variable	Category	N	%
Marital status	Married	107	66,5
	Single	23	14,3
	Divorciado(a)	20	12,4
Age group	20 to 29 years old	7	4,3
	30 to 39 years old	44	27,3
	40 to 49 years old	66	41,0
	50 to 59 years old	34	21,2
	60 to 69 years old	10	6,2
Source: Survey data			

The instrument on people's "quality of life" is composed of 15 statements (ALBUQUERQUE; TRÓCCOLI, 2004). For the present study, there are three assertions that were analyzed by the correlation technique with Spearman's correlation index, called by the Greek letter *rho* (ρ).

First. Assertive: addressed social isolation

Assertion Item	**Quality of Life Item**	**Correlation Index**
During social isolation, the routine has been normal	My life could be better	- 0.172*
* Correlation level p< 0.05		

The results indicated that the teachers disagreed that the routine has been normal during social isolation, interfering with the quality of life. The negative correlation index (ρ= - 0.172; p<0.05) indicated inversely proportional information, i.e., the more routine activities were intensified, even during social isolation, the lower the feeling of improved life.

For Mozzato et al. (2022), the teacher's routine was full of social and professional interactions, with different interests and in constant socialization. The various social bonds broken during the

pandemic allowed isolation to trigger various "symptoms, which, in turn, can evolve into psychological disorders" (MOZZATO et al., 2022, p. 1850).

The mental health of people in social isolation can be affected by the fear of contamination, including family members (SHIGEMURA et al., 2020). The "isolation of the teacher, regardless of their will, has the potential to bring feelings of fear and anxiety that can worsen" (MOZZATO et al., 2022, p. 1850), since, during a pandemic, they are constantly faced with inconstancies and uncertainties (SHIGEMURA et al., 2020).

Second. Assertive: dealt with the mental health of the participants

Assertion Item	**Quality of Life Items**	**Correlation Index**
Mental health is healthy	I evaluate my life positively	0,344**
	I consider myself a happy person	0,288**
	I have more moments of sadness than joy in my life	- 0.328**
** Correlation level p< 0.01		

Information on mental health was correlated with three items of quality of life. Two relationships showed positive indices, showing that the more teachers evaluated life positively (ρ= 0.344; p<0.01) and considered themselves happy (ρ= 0.288; p<0.01), the more they perceived mental health as healthy.

However, the results also indicated, by the negative correlation index, that teachers showed that during the pandemic they had more moments of sadness than joy, thus affecting mental health during isolation. It is possible to infer that the teachers were influenced by the various news of increased illnesses and contagion of the disease, reaching worrying levels of deaths in the population.

With all the situation caused by the pandemic process, teachers faced other situations such as the use and mastery of tools and technologies (MACHYNSKA; DZIKOVSKA, 2020) as teaching strategies for remote work to replace face-to-face meetings to continue the educational process.

Thus, Araúo et al. (2020) and Gusso et al. (2020) addressed the illness of teachers, "especially due to the numerous uncertainties, fears, and insecurities, raising the level of stress, anxiety, and depression, often reaching exhaustion" (MOZZATO et al., 2022, p. 1851).

Third. Assertive: addressed emotional self-control

Assertion Item	**Quality of Life Items**	**Correlation Index**
I can maintain self-control in my emotions and fears	I've been taking advantage of life's opportunities	0,308**
	My life is bad	- 0.262**
** Correlation level p< 0.01		

The results on the correlations of the teachers' assertion of emotional self-control showed optimism in the quality of life. There is evidence that the greater the emotional self-control, the greater the desire to take advantage of life's opportunities (ρ= 0.308; $p<0.01$) and the lower the feeling that life is bad (ρ= -0.262; $p<0.01$).

For Lima and Gonçalves (2020), self-control proved to be indispensable at the time of the covid-19 pandemic due to the various confrontations faced by teachers. As Almeida and Alves (2020) point out, the adaptation of classes to online teaching occurred abruptly, facing frustration, anxiety, and the feeling of powerlessness in the face of the new reality.

On the part of teachers, self-control in emotions was necessary to avoid possible weaknesses in teaching (SANTANA FILHO, 2020). It is worth remembering that many students were demotivated during the pandemic, as emotions and feelings are closely related to motivation for learning and, consequently, to school success (TESSARO; LAMPERT, 2019).

5 FINAL THOUGHTS

The Covid-19 pandemic has caused numerous disruptions in the lives of teachers, including changes in educational practices. The transition from face-to-face to virtual classes was surrounded by unimaginable confrontations and challenges.

The mental health and self-control of teachers were of great importance for maintaining quality of life. Even with this feeling of robustness and resistance, the routine was modified, provoking, in many cases, serious symptoms of anxiety and fear.

Therefore, it is always valid to investigate the emotional state of teachers motivated by the sad experiences of the covid-19 pandemic, aiming to understand mental health to propose intervention care projects.

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The name of the rose: Analysis of philosophical clashes

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ABSTRACT
This article discusses how philosophy is represented in the work O Nome da Rosa by Umberto Eco. Therefore, it analyzes the literary text by finding the medieval philosophies that are in the speeches of the characters, explaining how such philosophies are related to theories outside the medieval environment. . The text of the beginning of the work related to the arrival at the abbey and the episode of the horse Brunello were researched, through a critical study of the comparative literature. The analysis of the text showed references to Charles Peirce's semiotics; the nominalism of Guilherme Ockham; and Buridano regarding the theory of the world encyclopedia. It also made it possible to find the analogy of the world as a book or mirror, referring to Alan das Ilhas; the connections with Roger Bacon's new science, the clashes between realism and nominalism, finally, the reference to the Aristotelian theory of causality. The result shows that the literary text appears as a tool for the study of philosophy: first as a text that reveals other philosophical texts; second as a didactic instrument that, through verisimilitude, makes the world of philosophy more accessible.

Keywords: Literature, Philosophy, Semiotics, Nominalism, Postmodernity.

1 INTRODUCTION

What do you know about the philosophy of Umberto Eco's The Name of the Rose? Literature of multiple genres, the work reaches the fortieth anniversary of its publication as a bestseller of great success worldwide and translated into several languages. The book is not only a publishing success and television recreation in film and this year (2020) a series, but it is also one of the most studied literary works of postmodernity. For many authors such as Bausi (2011), for example, the bibliography accumulated around the world on The Name of the Rose is imposing, and the book has already been questioned in several aspects: the relations with postmodern aesthetics, the sources and models, the theoretical and semiological implications, the links with the present day. Despite being a work analyzed in all these aspects, there is a need for deeper knowledge about the philosophical sources of the text, that is, the roots of philosophy that are in the intertext. This is exactly the function of this research. Today, after forty years, the work continues to impact intellectuals from different areas and the fruits of these studies have contributed to the understanding of the breadth of the literary text and its ramifications with other areas. In this sense, this study is concerned with finding medieval philosophies, or philosophical ideas, relating to ideas from other periods of philosophy. Due to the

breadth of the work, we chose as a text for analysis the passage that deals with the arrival at the abbey and the escape of the horse Brunello, right at the beginning of the work.

By analyzing the text, this research clashes in the first place with the philosophical stance of its main character, William of Baskerville, who acts and speaks, most of the time, referencing philosophers from the medieval environment and from other centuries. It is natural that the author also infers in philosophical dialogues, ideas from philosophies of other times such as modernity and contemporaneity, so the confrontation between the philosophical medieval and postmodernity is a constant in this work. This research fills, therefore, this still open space of finding and debating the philosophies present in the work. The path of analysis created in the research of the text elucidates two aspects, one formal and the other practical. The formal is the skill in the analysis of the literary text imbued with verissimilitude and the possible philosophical ideas behind the text. The practical refers to the didactic-pedagogical use of the literary text in the teaching of philosophy. How does Umberto Eco make medieval philosophy accessible to readers? We know that philosophy in general and medieval philosophy in particular are not easily accessible for students of philosophy, and present challenges for even the most experienced teachers. Therefore, this article aims to show the versatility of the literary text as a privileged element in the teaching of philosophy.

Despite the richness of the work, due to the short space of this work, we will analyze only one graft by making an analysis and finding the relationship of the text with other philosophers. In the first moment, we will see the relation of the work to philosophy in general. Then, analyzing the text, we find the philosophical attitude of the character Friar William relating to the semiotics of Charles Pierce. This game of interpreting signs outlines the theory of interpretation that predominates and thus becomes the worldview of an epoch. Next, we find references to William of Ockham's nominalism in direct confrontation with the Aristotelian realists who defended the existence of universals. This clash consolidated the language of the empirical sciences then springs, paving the way for successive scientific revolutions. After that, we realize that the character uses the technique of interpreting the world as an encyclopedia, referring to Buridano. The text also reveals the interpretation of the world as a book, or a mirror, or an Aristotelian immovable engine in reference to Alan of the Isles. The interpretation of the world as a mirror confronts the theory of mirrors by Umberto Eco and Jorge Luiz Borges, showing encounters and disagreements between the medieval and postmodernity. Finally, the analysis of the text refers to the conflict between realism and nominalism of scholasticism, the nascent science of Roger Bacon, and the Aristotelian theory of causality.

We reinforce the idea that the study of medieval philosophy is not easy to understand for beginners in philosophy, not even for professors in the field. In view of this, the analysis of the literary text, as done in this research, in search of its philosophical roots, can reveal itself as an ability to discover texts through the text, leading the scholar to the infinite chains of philosophical intertextuality.

Moreover, the literary text, such as The Name of the Rose, which revisits the Middle Ages without naivety, but with irony and creativity, appears as a brilliant text for the didactic-pedagogical teaching of philosophy.

2 THE NAME OF THE ROSE AND PHILOSOPHY

The work is known as a historical novel, political romance, medieval chronicle, but also as a philosophical novel. This last aspect is due to the diversity of philosophical ideas of the Middle Ages expressed in the dialogues of the characters in the work, accompanied by a strong intertextuality and irony that lead the literary text set in medieval philosophy to dialogue with philosophies of other times, such as, for example, Greek and Roman antiquity, modernity and postmodernity[1]. It is in this sense that, according to Piaia (2016):

> [...] Umberto Eco is recognized as having indisputably merited having, so to speak, cleared the medieval with the general public, placing as the basis of his novel not art or literature in the strict sense, but rather the thought of the medieval[2] (PIAIA, 2016, p. 108-109, translation wow).

The novel therefore makes a number of references to medieval philosophers and theologians such as Augustine of Hippo, Pesudo Dionysius, Alan of the Islands, Isidore of Seville, Blessed Liebano, Ugo of St. Vitus, Bernard of Caravel, Joachim of Fiori, Albertus Magnus, Thomas Aquinas, Bonaventure, Roger Bacon, Roberto Grassatesta, Dante Alighieri, Marsilius of Padova, William of Ockham, Giovane Buridano and many others. Despite the diversity of philosophers referenced throughout the work, our work is concerned only with those present in the text under analysis. Thus, from the Middle Ages, we will study in the text the nominalism of William of Ockham, the idea of the world as a mirror of Alan of the Islands and the references to Buridano. From modernity, we will refer to the semiotics of Charles Peirce. Thus, he recalls that these ideas of medieval thought, especially between the thirteenth and fifteenth centuries, are revisited by Eco not only as nostalgia, but in a credible recreation characterized by various elements of postmodern poetry, relating the medieval philosophical content with the ideas of several other eras in the history of philosophy.

It is in this sense that, according to Piaia (2016), Eco becomes the bearer of a postmodern poetics, in which there is an obsessive search for the new and the modern, but, on the other hand, he

[1] "The 'postmodern' also presupposes," Eco continues, "a different conception of time and, consequently, a particular way of signifying the concept of memory and the past. According to the perspective of postmodernity that it is no longer possible to project the future from the present – a projection that in modernity often assumed utopian and progressive traits – the return to the past becomes viable, since, after the rupture with history and tradition made by the avant-garde of the early twentieth century, there is no longer a limit to be crossed; instead of the 'limits to be overcome', what we have is a permanent search in a kind of database 'of all contemporary styles' (JAMESON, 1996) that can be accessed at any time" (AGAZZI; VINCI, 2012, p. 84).

[2] [...] Umberto Eco [...] deserves credit for having, so to speak, 'cleared' the Middle Ages for the general public, placing at the bottom of his novel not art or literature in the strict sense, but the thought of the Middle Ages [...].

succeeds in recovering and combining a recycling of the past, of texts and fragments that seemed to have lost their function. This connection between different philosophical periods with different authors and ideas is captured by the model reader[3] who makes the connection with several other texts/contexts and will perceive the existence of other ancient (Aristotle), modern, and contemporary (semiotics) philosophies between the lines of the dialogues created by Eco. Therefore, it is in this hybridism of returning to the medieval philosophical past with a postmodern gaze that Eco himself reports:

> I wanted to write a historical novel I don't know how faithful I was to that purpose. I don't think he failed to do so when he masked quotations from later authors (such as Wittgenstein) by passing them off as quotations from the time. In these cases, I knew very well that it was not my medievals who were modern, but rather the moderns who thought like medievals. I wonder if sometimes I have not lent my fictional characters a capacity to, from the disiecta membra of purely medieval thoughts, compose some conceptual unicorns that, as such, the Middle Ages would not recognize as their own (ECO, 2018a, p.558-559).

In this sense, The Name of the Rose carries a strong link between literature and philosophy. Through his great creativity, Eco intertwines a series of ideas from medieval philosophy with other eras in the history of philosophy, also expressing his own opinions, making the philosophical lines evolve and be interpreted according to the author's ideas. For him, a historical novel must not only detect the causes in the past of current social development, but must creatively trace the process of how these causes have developed up to the present day.

Therefore, still for Piaia (2016), The Name of the Rose is not only a political novel set in the Middle Ages, but above all a philosophical novel, elaborated with an eye on the fourteenth century and the other on the twentieth century with its philosophies and ideologies. Another aspect is that the author prepares an open text[4] so that the reader can also add his contributions according to his or her passability. This happens mainly through the intertextual paths, as Eco's novel under study here appears as a patchwork of other philosophical texts. Thus, the novel emerges to the reader as Eco's model as a text that will be pleasurable and challenging, a lazy machine that will be moved by the library, or encyclopedia mundi, of the reader's ideas. Thus, in Eco's novel there is a strong link between the medieval and the postmodern. In the postscript (ECO, 2018a), this relationship is evidenced:

> If a character of mine, comparing two medieval ideas, takes from them a third, more modern idea, he is doing exactly what culture did later, and if no one has ever written what he said, it

[3] For Eco, the model reader is the one capable of leaping out of the text, reconstructing the meaning of the text with all its culture. It is a fruiter, because the text is a lazy machine that needs the creative intervention of the reader to be activated. For Bernardelli (2010), Eco presents several types of readings, with two main ones: the semantic reader and the critical reader. The semantic reader elaborates his reading taking advantage only of the plot, of the narrative development of the story. On the other hand, the critical reader is the ideal user who launches himself in search of different textual meanings, of double codings of the text. The critical reader is evidently the one who goes in search of intertextual chains.

[4] "Eco proposes that instead of the work hermetically enclosed in on itself, we should read what he calls the novel-encyclopedia, whose image of an open knowledge can never be accepted as definitive, because the various levels of meaning can be interpreted in countless ways. The representation of the world as an unlimited multiplicity is mobile and suggests inexhaustible knowledge and languages, and is also a mapping of the life of a culture, understood as an intricate set of systems whose meanings are enhanced by narrative forms" (AGAZZI; VINCI, 2012, p. 97).

> is certain that someone, even in a confused way, should start thinking about it (ECO, 2018a, p.559).

Therefore, we will try to identify the texts that refer to the philosophical ideas within the literary work. This is not an easy task, because what one author interprets in one way can be seen in another way by another interpretant. In this sense, Eco (2018a) states that he received several observations about parts of the text that his readers considered medieval, but for him were contemporary attitudes.

> There are other pages in which the reader has savored as delightfully medieval certain attitudes that I felt were illegitimately modern. And that everyone has their own, usually distorted, idea of the Middle Ages. Only we, monks of that time, know the truth, but by saying it, we can be burned alive (ECO, 2018a, p.559).

Continuity, when we confront the medieval with the modern in relation to the philosophical ideas present in The Name of the Rose, we must be aware that it is a literary text and that "the novel is a machine for generating interpretations" (ECO, 2018a, p.530), therefore, we are in the field of verissimilitude and not in the rigor of formal philosophical logic. It is in this sense that, according to Murry (1968), a novelist's writing, despite all its analogies, is different in kind from the philosophical style, the novelist works with different material and has different objectives. For example, "a tragic poet is not a pessimistic philosopher, however much some critics may insist on treating him as such" (MURRY, p. 41, 1968). Finally, our delicate comparative work of finding the medieval philosophical sources in the literary text and making them dialogue with philosophers of other times is seen as a partial exercise and subject to future revisions due to the complexity of the subject.

3 THE TRICHOTOMOUS SEMIOTIC PATH AND THE SEMIOTICS OF THE ABDUCTION OF FRIAR GUILHERME

We now proceed to analyze a text from the work involving the episode of the arrival at the abbey and the horse Brunello. The first element to be noted is the philosophical stance of the character Friar William of Baskerville, who with an eclectic vision observes all sides of the path as he approaches the abbey; it then presents a series of interpretations of the world, of God, and of reality. We believe that the philosophical way in which the character interprets the signs is based on Peirce's semiotics. Obviously, it is the author of the text who creates the way of acting of his medieval character, recreating his way of acting with modern ideas. Here, then, is the first excerpt for analysis:

> As our mules trudged along the last elbow of the mountain, where the main path branched off into an interchange, giving rise to two side shortcuts, my master paused for some time, looking to the sides around the road, to the road, and above the road (ECO, 2018a, p.60).

At the beginning of his text, the author presents a path that takes off in three other paths, referring to the moment when the main characters Friar William and Adso of Melk approach the abbey,

making it clear that the path of semiotic interpretation can have at least three different interpretations. The figure of the path itself is already symbolic and presents what unfolds throughout the work as semiotic pedagogy, that is, Adso's evolution in interpreting symbols with the tutorship of Friar Guilherme. The trichotomous path is also a reference to the triad of reasoning proposed by Charles Peirce (2005), in which he presents the triad of reasoning, the triad in metaphysics and the triad in psychology and which will be repeated in several dialogues of the novel, making it clear that the text can have several paths of interpretations depending on the reader.

Another symbolic fact is Friar Guilherme's philosophical attitude, which represents one of the characteristics of philosophy of being an overall vision, a panoramic perspective of reality, which is why he looks "to the sides around the road, to the road, and above the road" (ECO, 2018a, p.60); further on, Adso also says that his master "was too much of a philosopher for my adolescent mind" (ECO, 2018a, p.155) and that he "had sharp and piercing eyes" (ECO, 2018a, p.155). Thus, the text recalls not only the philosophical capacity of Friar William, but also his investigative skills, using the methods of the new nascent sciences and being able to be compared with characters such as Sherlock Homes by Arthur Conan Doyle or even Dupin by Edgar Allan Poe. In this way, Friar William represents the modern man who is going to enter an abbey that is conservative in many aspects; he represents, among others, the new science of Roger Bacon, the ideas of the new politics of Marsilius of Padova, and the nominalism of William of Ockham.

On the other hand, it can be seen that Friar Guilherme's actions and statements are imbued with the reasoning and methodology of Charles Peirce's abduction. This type of argument, according to Reale (2008), infers that in order to solve problematic facts, we need to create a hypothesis, from which consequences can be deduced, which can be verified inductively, that is, empirically. The abduction methodology shows that scientific beliefs are always fallible, because empirical evidence can disprove the consequences of conjecture. Thus, Eco stitches together an interpretative evolution of the symbol that starts from Ockham's medieval to Pierce's semiotics.

3.1 SEMIOTICS AND SEMIOSIS: BRUNELLO'S SIGNS

Continuing the analysis of the text in search of philosophical representations, we now present the famous episode of the horse Brunello at the beginning of the novel in which Friar William describes the characteristics of the animal, where it passed and where it was without even having seen it, but observing and analyzing only signs of index type. From this perspective, according to Viscarde (2011), the main idea of the novel is that nothing exists but the signs, which cannot signify beyond themselves, but only the differences between them. The sign is absolute, the word, and even more so the writing, are equivalent to the lie "semiotics is, in principle, the discipline that studies everything that can be used to lie" Eco (2018b, p.4) and this is accepted because whoever reads or writes is aware of the

margin of lies possible in a text, and this point becomes pleasant, a cohabiting game, because "if something cannot be used to lie, then neither can it be used to tell the truth" Eco (2018b, p.4).

Moving on, since this analysis seeks the relationship between the text and Peirce (2005), let us see how the text represents the basic elements of semiotics, in which the intermediation between sign and things always needs an interpretant. In addition, the relationship between idea, sign and thing, that is, the semiotic triangle, becomes an unlimited semiosis: "such a sign can only be interpreted with another sign, an interpretant" (PENCO, 2006, p. 41). Finally, Pierce performs a classification of the signs as follows: similarity of the icon type; causality of the index type; and arbitrary causality of the symbol type.

For our analysis of the text, the index-type signs are the first to generate an analysis of the interpretant, because it was by observing these signs on the way that Friar William drew his first conclusions: "my master stopped for some time, looking (...), where a series of evergreen pines formed a natural roof, snow-targeted, for a brief space". (ECO, 2018a, p.60). After taking a close look at where the road was cloverleaf, Guilherme analyzes a series of index-type signs left by a horse, they are: "marks of a horse's hooves", "broken branches", "between the thorns long black manes", "small and round hooves", "the gallop quite regular", "he did not run disorderly as an unleashed animal does" (ECO, 2018a, p.60). These signs are perceived only by Friar William who is an interpretant capable of detecting the signs, his assistant Adso, not yet initiated in the theories of symbolic interpretations, cannot see any of this, reinforcing Peirce's theory that a sign always depends on the interpretant. Next, we can see the first hypotheses of Friar William:

> Rich abbey, he said. The Abbot likes to look good on public occasions. Accustomed as I was to hearing him make the most singular statements, I did not question him. Not least because, after another stretch of road, we heard rumors, and around a bend appeared an agitated handful of monks and fammulum. One of them, when he saw us, came to meet us with great politeness: "Welcome, sir," he said, "and do not be surprised if you guess who you are, because we have been warned of your visit. I am Remigius of Varagine, the granary of the monastery. And if you are, as I believe, Friar William of Baskerville, the Abbot would need to be warned. You, he ordered, turning to someone from the entourage, go up to warn that our visitor is about to enter the walls (ECO, 2018a, p.60).

Immediately after the analysis and verification of the indicative signs on the horse, Friar William is still able to make a social analysis of the abbey and the abbot, because he concludes that the abbey is rich without knowing it yet and that the abbot is vain without ever having seen him. At the moment, Friar William has only hypotheses elaborated by the method of Pierce's abduction that will be put to the test when he enters and remains in the abbey for seven days. The signs left by the animal led William to form two hypotheses: first, the existence of a horse with its excellent qualities, then the wealth of the abbey and the luxury of the abbot, launching one of the most controversial themes of the work, which is the poverty of Christ and the wealth of his church.

Continuing, the sign itself may be absolute, but the function of the interpretant is fundamental, for while Friar William knew the qualities of the horse and the richness of the abbey only through the indicative signs left by the horse, his secretary Adso could not interpret anything, and oscillating between apocalyptic and integrated only exclaims: "accustomed as I was to hearing him make the most singular statements, I did not question him" (ECO, 2018a, p.60). Therefore, the signs are only for those who have the ability to interpret them. In reference to Pierce's abduction theory, we can elaborate the following analysis:

Friar Guilherme observes in surprise a fact C: the various indices of a runaway animal left along the way.

But if A were true – hypothesis (the animal possesses several qualities, the abbey is rich, and the abbot is vain); C would be natural.

There is, therefore, reason to suspect that A is true. The veracity of A is confirmed according to the conversation that Friar William develops with Remigio, who was looking for the horse.

The world in Friar Guilherme's view are signs that must be interpreted, so he realizes that the group of monks guided by the Remígio barn did not come to meet him, but was looking for a horse "I thank you, Mr. Steward (...), and I appreciate your courtesy all the more because to greet me you have interrupted the persecution" (ECO, 2018a, p.60). Friar William's analysis leads him to always be one step ahead in the interpretation of the world, therefore, the monks who seek Brunello represent an outdated, frightened, apocalyptic mentality. Like Adso, they are not interpretants capable of reading the index-type signs left by an animal in nature. This dogmatic mentality is opposed to the methodology of the new science adopted as a methodology by Friar Guilherme who, continuing, states:

> But do not be afraid, the horse passed through here and headed for the shortcut on the right. You won't be able to get very far, because when you get to the manure dump you have to stop. It is too clever to launch itself down the escarpment (ECO, 2018a, p.60).

The ability to read the indexes gives Friar William the power to almost guess the geographical location of the animal. Amazed at the almost magical nature of Friar William, the barn asked, "When have you seen him?" (ECO, 2018a, p.60). The question of the barn is fundamental to the attempt to succeed in the hypotheses (ideas) of Friar William, who has a superior power to describe what he has not yet seen and in fact states:

> "We haven't really seen him, have we Adso," said William, turning to me with an amused air. But if you are looking for Brunello, the animal can only be where I have said. The barn hesitated. He looked at William, then the shortcut, and finally asked: Brunello? How do you know? (ECO, 2018a, p.61).

Finally, Friar William's interpretative qualities surpass any expectations of those present, for he not only describes the horse, knows where it is, but creates a hypothesis, and dares to say its name

causing general astonishment around him. By hypothesizing the horse's name, he goes beyond simple readings of index-type signals and into more complex speculations. He refers, for example, to the nominalist theory and uses his entire cultural encyclopedia to infer an assumption that we will analyze below.

4 NOMINALISM AND THE NAME OF THE ROSE

The nominalist theory is often presented in the dialogues of the work. The final hexameter "stat rosa pristina nomine, nomina nuda tenemus4F [5]" (ECO, 2018a, p.527), for example, became known to refer to one of the most important theories of late scholasticism and early modern philosophy, that is, the nominalism of William of Ockham (1280-1349). This is referenced several times by the character Friar William and also cited by Eco in his Postscript The Name of the Rose, in which the author states that he found "rational comforts requested from Ockham, to understand the mysteries of the Sign, at the points where Saussure is still obscure" (ECO, 2018a, p.535). In short, nominalism consists in saying that "the universal is not real, universals are names, not a reality, nor something grounded in reality. Reality is essentially individual" (REALE; ANTISERI, 2011, p.300). Returning to the text, let's look at the dynamics of the protagonist's interpretation to infer Brunello's name and the influence of the nominalist theory:

> "Come," said William, "it is evident that you are looking for Brunello, the Abbot's favourite horse, the best galloper in your team, with black fur, five feet high, with a sumptuous tail, with a small and round hoof, but with a fairly regular gallop; diminutive head, thin ears, and large eyes. It went to the right, I'm telling you, and hurry up, in any case (ECO, 2018a, p.61).

In this sense, the interpretative game between the index signs and Friar William's interpretation of discovering the horse and the name of the horse represents the first reference to nominalism[6] in opposition to the realist theory of universals[7]. It goes from a type reading

index and enters the conventional symbolic world of names. The animal is a horse, i.e. just a name, not a real universal concept and among horses it has the name of Brunello which refers to a particular animal (individual reality). Friar Guilherme confirms his first hypothesis: the indicial signs are of a horse, which is the "most generic and abstract name, because it refers to all the animals that can be indicated by the general form of that concept" (REALE; ANTISERI, 2011, p.300). Finally,

[5] The ancient rose being in the name, we have only the names.
[6] There were variations of nominalists from the most radical to the moderate. In general, for nominalism, "The universal would be a pure name that designates a multiplicity of individuals [...] there is no substantial connection between the words/concepts and the things [...] Not only does it not have an ontological status, but it also does not have a logical foundational status of the word" (REALE; ANTISERI, 2011, p.166, 169).
[7] There are also from the most extreme to the moderate. Realists "assert that universals exist in themselves, as Platonic ideas, i.e., ante rem, before things. Just as archetypal ideas are a model of reality, their knowledge is indirectly the knowledge of reality" (REALE; ANTISERI, 2011, p.166).

Adso's invitation to affirmation and participation functions as a pedagogy in which the master wants to pass on to the disciple his abilities, his ability to read signs in general.

But Friar William goes further and tries to prove his second hypothesis, which is to get the name of the particular horse right. The barn is astonished when Guilherme pronounces Brunello's name, such astonishment already confirms that the hypothesis of the name is assertive. The process of discovering the name is so important that William explains it three times: once for the monks and twice for Adso, continuing the pedagogy of introducing his disciple to the difficult world of interpreting the signs. In the end, only Adso, who remains with him, gradually learns the theories of signs, names, nihilism, and the theory of the world. Adso also registers the playful (ironic) air of Friar William, indicating another controversial theme, which is the theory of laughter and the second book of Aristotle's poetics, which runs through the entire work.

The third hypothesis is to confirm a series of qualities that Friar William had imagined of the horse by means of the observed signs, that is, an explanation of the individual through empirical analysis. All this description present in the text is based on the interpretation of the index-type signs that leads Friar William to the arbitrary world of names, but these, whether generic as "horse" or determined as "Brunello", are never universal ante rem (before things), as the realists wanted. They are empirical and concrete qualities of an individual thing or being.

5 BURIDANO AND THE ENCYCLOPEDIA MUNDI

After the explanation given to the abbey barn, Friar William is obliged to give another statement of his investigative method, this time to his disciple Adso who is the second to ask about the name of the horse. In the explanation, Friar Guilherme takes a leap out of the usual semiotic behavior and makes use of the common imagery of the time to create the hypothesis of the name Brunello, in fact, in the special explanation for Adso, he states:

> Okay, he said, but why Brunello? May the Holy Spirit give you more cunning than you have, my son!" exclaimed the master. What other name would you give it if even the great Buridano, who is about to become rector in Paris, needing to speak of a beautiful horse, has not found a more natural name? (ECO, 2018a, p.62).

The nominalist theory alone is not enough, Friar Guilherme makes use of one of his skills, which is the encyclopedic knowledge of a culture, considering in his interpretation the contributions of Buridano[8] and Alan das Ilhas, to help in the conclusions of his hypotheses. The relationship with the cultural encyclopedia is also triadic, following Peirce's theory, that is, the two signs or textual poles

[8] Jean Buridano (1300-1358) was born in Béthune, France. He was a religious and philosopher and also developed works in the field of physics. Considered one of the great scholars who lived at the end of the Middle Ages, although today his works are almost unknown. He developed and popularized the theory of Momentum, which explained the movement of projectiles and objects in free fall. Subsequently, this theory paved the way for the research of Galileo and for the research of the principle of inertia, of Newtonian physics.

that dialogue with an absent sign that is the cultural encyclopedia. Friar William interprets not only the index-like signs left by the animal in nature, but also its conventional signs (names). Now as a model reader (interpretant) of signs of an unlimited semiosis, he is able to link conventional signs to the cultural encyclopedia. It is in this sense that for Bernardelli (2010), every word we use is associated with everything we know about that argument, potentially from such a word we can invoke an infinite sequence of words, concepts, ideas and questions. This is fundamentally the attitude of Friar William when he uses a set of ideas common to the scenario of the time about a hypothetical horse to infer the name Brunello. Thus, every singular word or sign potentially refers us to an entire universe of meaning that Eco (1991) understands as an encyclopedia, for him the (encyclopedia world) can be understood as follows:

> The encyclopedia is a semiotic postulate [...]: it is the recorded set of all interpretations, objectively conceivable as the library of libraries, where a library is also an archive of all non-verbal information somehow recorded, from cave paintings to cinematheques. But it must remain a postulate because in fact it is not describable in its entirety (ECO, 1991, p. 85).

In this way, Friar William interprets the signs of the index type, but in order to give reasons for his hypotheses he is obliged to take into account his encyclopedic knowledge, that is, to make connections with the culture of the time. The name Brunello was part of the common imagination, as it was the famous name used by the authorities as Buridano, rector of the university of Paris, for his horse. Finally, what Friar William has before seeing the horse of flesh and blood are hypotheses, but in the course of the acts his hypotheses are confirmed or not. Thus, he goes deeper into his encyclopedic knowledge and cites another way of inferring the name by quoting Alan of the Isles and his worldview as a book or mirror.

6 ALAN OF THE ISLES AND THE WORLD AS A BOOK OR MIRROR

Still making use of his vast culture, being questioned once again by Adso, Friar Guilherme explains his discoveries about Brunello by making a connection with other ideas also common at that time of Alan das Ilhas[9] about the analogies that represent the world as a Book or mirror:

> And now tell me, I couldn't control myself, anyway, how did you know all this? "My good Adso," said my master, "all the way through the journey I have taught you to recognize the features with which the world speaks to us like a great book. Alan das Ilhas said that omnis mundi creatura quasi liber et pictura nobis est in speculum[10] and thought of the inexhaustible reserve of symbols with which God, through his creatures, speaks to us of eternal life (ECO, 2018a, p. 61,62).

[9] Alan of the Isles - Latin: Alanus ab Insulis - (1120 - 1203) - was considered a universal doctor Doctor Universalis for his great theological and humanist culture. He is the author of numerous doctrinal works in the form of poetry. The text quoted here by Eco is found in the work De incarnatione Christi - rhythmus perelegans.
[10] Every creation in the world, like a book or a painting, is like a mirror to us.

The idea of the world as a great book or a mirror is presented by Eco in several parts of the work. From the text presented here we can find three strands of interpretation: the world as a great book; the world as a mirror; and the world as a first cause in reference to Aristotle's theory of causality.

6.1 THE WORLD AS A BIG BOOK

The interpretation of the world as a great book requires the interpretive capacity of the reader. For Bernardelli (2010), each singular individual possesses the encyclopedia of their own culture and time in a different way from each other. Some portion of the encyclopedia will be owned by everyone – for example, the name Brunello was like a very popular fetish because it was the name of good horses of the authorities: "a monk who considers a horse excellent (...), cannot fail to see it as the authorities have described it" (ECO, 2018a, p.95) – other parts will be more technical and specific skills – for example, Friar William's broad vision of interpreting the facts by his specialized skills, resorting to the analogies proposed by Alan das Ilhas; abilities not yet accessible to his disciple Adso.

In this context, a comparative confrontation between the medieval and modernity emerges – not with postmodernity directly –; at the end of scholasticism, the medievals saw the world as a set of rhizome signs. On the other hand, Eurocentric modernity sought a single and totalitarian explanation for the diversities of nature, man and existence mainly by confusing reason with purely technical-scientific reason (creating universal explanations, rationalism, empiricism, positivism, enlightenment, socialism, capitalism) and despising the past in order to privilege the ideal of the new and progress.

But postmodernity, or part of it, seeks to revise the ideas of modernity in order to revalue the past in order to build the future without starting only from the present. From this perspective, according to Agazzi and Vince (2012), Eco registers the impossibility for contemporaries to describe the world through a single model and to achieve a perfect and conclusive knowledge, for this reason, postmodernity creates new symbols such as the mirror (possibility of multiple interpretative reflections), the labyrinth (lack of maps and certain guiding threads), the tower of Babel (diversity of languages, cultures without arbitrary connections). They are all symbols taken up in postmodernity that try to avoid one-sided interpretations and theories of modernity, and in many ways they are analogously similar to the labyrinth of rhizomes of the fourteenth century. Thus, from the point of view of analogical interpretation and symbols, postmodernity finds itself in an environment like that of the late Middle Ages as the context set in the novel. Finally, according to Guimaraes (1988), the context set in The Name of the Rose implicitly emphasizes the links between the fourteenth century and the present, since the two eras are equally experiencing a change of epoch. This return to the past to compare oneself with the present is characteristic of literary dialogism and values reading as a dialectical synthesis.

6.2 THE WORLD AS A MIRROR

The mirror used as a metaphor is present in several parts of the novel. In the prologue of the work, the phrase "videmos nunc per speculum et in aenigmate[11]" (ECO 2018a, p.49) appears, in a reference to Paul's letter to the Corinthians – 1 Corinthians 13:12: "videmus enim nunc per speculum in aenigmate[12]". Successive dialogues involving the mirrors as a reflection of various interpretations occur in the work; We will emphasize the episode involving the text that references Alan of the Islands, but making comments on other texts involving the analogy of the reflection of mirrors.

The presentation of the world as a mirror to be interpreted is directly influenced by the philosophy and theology of the Scholastics with their clashes between allegorical and symbolic interpretations of the world, of God and of the scriptures. The first step, according to Eco (2018a, p.155), "for there to be a mirror of the world, the world must have a form" that will be interpreted by human intelligence, creating a representative worldview or ideology. In The Name of the Rose, Friar Guilherme's semiotic interpretations engage in a clash of power through the readings of symbols, since it is the reading of form that guides the worldview of the time, in this case, the end of the Middle Ages. For Soares (2010), the mirror is naturally seen as an allegory of the mimetic mechanisms of literature, a symbol full of specific semantic loads. The following text on the struggle between sectarian groups shows that the mirror analogy represents a social and theological morality directly influencing people's lives:

> And those who killed the crazed penitents, restoring death to in order to defeat the true penance, which produced death, they substituted for the penance of the soul a penance of the imagination, an appeal to supernatural visions of suffering and blood, calling them the "mirror" of true penance. A mirror that makes the torments of hell live in life, in the imagination of the simple, and sometimes also of the learned. So that – as they say
> - Let no one sin. Hoping to tear souls away from sin through fear and trusting in replacing fear with rebellion (ECO, 2018a, p.155).

With this, the practical power of the interpretation of the symbol is transformed into social and spiritual power structured in codes and in struggle with other interpretations. Who could make the correct interpretation of the symbols in the setting of the novel? Only ecclesiastical authority, if only what has already been said should be discovered, however, Friar William exposes its novelty because he teaches Adso and others to interpret the world by themselves, showing that "authority has a nose of wax" (ECO, 1991, p.231) and that the tradition that holds the power to interpret symbols is a mutual of coercion. according to Eco (1991), it goes beyond the world of the scriptures and becomes valid for interpreting the real world. According to the Neoplatonic tradition, reality emanates from the One that shows traces of its origin in reality. The result of this are at least two forms of universal symbolic interpretations, one based on the analogy of being, in which the world is an effect of its first cause,

[11] We see only through mirrors and riddles.
[12] For now we see through mirrors in riddles.

presenting a metaphysical symbolism. The other, attributed to Alan of the Isles, is a more simplistic, strongly analogous and similar interpretation, in which everything reflects an image of the creator. This type of symbolism, especially from the bestiaries, presents the symbol in an open way, the lion can be analogically interpreted as a symbol of Christ (good) or the devil (evil). The lyrics and the world present us with different forms of interpretations; The important thing is to be around them to interpret the symbols. Finally, there is the question of who interprets the symbol and the best interpretation is the one who holds the power.

Consequently, life would also be an unlimited semiosis in which one always understands or explains a symbol by means of another symbol. To read the traces of this world would have been the task of medieval man, but not everyone was prepared. Adso, for example, needs to be started on this task. In the book, there is basically a pedagogy of the interpretation of mirrors, which in Eco (1995) are deforming mirrors that will require a careful interpretation by the reader. They are like straggs to enter the library that, deformed, frighten the unwary. The world is like a mirror, but the image presented always depends on the interpretation and capacity of the interpretant.

> Really ingenious. A mirror! A mirror? Yes, my brave warrior. A little while ago in the scriptorium, you boldly threw yourself upon a real enemy, and now you are frightened by your image. A mirror, which returns your enlarged and distorted image (ECO, 2018a, p.205).

According to Soares (2010), it is possible to make a comparison between Eco's explanation of mirror and Jorge Luiz Borges. In Eco, the theorization is done in his essay "On the Mirrors". The first thing is to know that we have a mirror in front of us, in Adso's case he didn't even know who had a mirror and feels overwhelmed by the panic of his shadow. There is an opposition between the architecture of the two libraries and the display of their mirrors; in The Name of the Rose Guglielmo and Adso come across a warping mirror. On the other hand, in the lobby of Borges's Library of Babel, the reflection of the mirror faithfully duplicates appearances. With this, Eco emphasizes the spirit of the time of postmodernity in relation to the end of the Middle Ages as a world that moves away from grand narratives and realizes the naturalness of living in a labyrinth of rhizomes of deformed mirrors.

6.3 REALISM, NOMINALISM AND CAUSALITY

The text that follows, with the words of Friar William, presents another series of philosophical theories imbued in the discourse. On the one hand, it represents Aristotle's theory of causality in which God appears as the final cause and immovable mover, leading to a realistic reading of existence in which each sign has a cause. On the other hand, the second part of the text represents the new interpretations of nascent science with Roger Bacon, Ockham and others. These emphasize the individual and the experiential in the process of knowledge with a strong critique of the theory of universals:

> But the universe is even more loquacious than Alano thought, and it not only speaks of the last things (in which case it always does so in an obscure way), but also of the next, and in this it is very clear. I am almost ashamed to repeat what you should know (ECO, 2018a, p.62).

The reference to ultimate things leads to Aristotle's theory of causality. To understand this theory and its relation to the text, let us make a brief summary of its meaning. According to Aristotle, metaphysics could be defined as the science that inquires about the supreme causes (etiology) and the science that studies being as being (ousiology), that is, sensible and supersensible substances. In Aristotelian philosophy, god is eternal and immutable, he is also "an absolutely first and absolutely immovable principle, from which derives the movement of the whole universe" (REALE; ANTISERI 2011, p.202). The set of symbols of nature can lead to the reading of its more distant causes, such as the existence of a principle. This way of interpreting the world was more accessible to Guilherme, but not to Adso or the general public, so he thinks that this way of understanding the world is obscure.

But, soon after, Friar William exposes that there are also proximate, sensitive, empirical causes, demonstrating a way of interpreting the world based on nascent science that, with Francis Bacon and Ockham, expresses the first steps of the empirical knowledge of the English Franciscans, speaking of things close with clarity. For Roger Bacon, for example, "truth must be found through the path of experience and the knowledge of nature depends on the use of mathematics" (REALE; ANTISERI 2011, p.274). Ockham, on the other hand, interprets the world "as a set of individual elements, without any true link between them and not orderable in terms of nature and essence" (REALE; ANTISERI 2011, p.299), which became known as Ockham's razor, as it perceives that the proper object of science is constituted by the individual. Or Intuitive knowledge refers to the existence of concrete beings and therefore moves in the sphere of contingency, because it attests to the existence or not of a reality. We know only the qualities or accidents that experience reveals.

Thus, Friar William presents two abilities of interpreting the world that were in confrontation in that reality, one Aristotelian-metaphysical and the other empirical-scientific nominalist. The character then begins to expose his ideas of a modern man adept at the new science, but still without disregarding a first cause of the universe.

7 CONCLUSION

The development of the present work enabled a bibliographic study of the presence of philosophy in the work The Name of the Rose. Due to the breadth of the work and the varieties of philosophies, we have analyzed only an excerpt from the work referring to the arrival of the abbey and the episode of the horse Brunello. In this way, a deep relationship of the work with medieval philosophy was verified, but also with other philosophical sources, so our first topic demonstrated that the work is

not only a reference to aspects of medieval culture, but that its structure is based on medieval philosophy revisited by Eco with theoretical elements of postmodernity.

The relevance of this study consists in analyzing an excerpt of the work that serves as a clipping of what can be done with the rest of the work, that is, detecting the philosophical currents in the intertext and making the necessary considerations and connections with philosophies outside the medieval. Other relevances are didactic-pedagogical to the teaching of philosophy, because this path of analysis of the literary text from a philosophical perspective can be redone in classroom practice, taking the learning of philosophy through the literary text. Since philosophical texts have a logical rigidity and a more specific vocabulary, the literary text, being analyzed in its verissimilitude, can be an instrument to approach complex philosophies such as medieval philosophy.

By verifying the text, it was demonstrated an influence of Charles Pierce's semiotics in the method of analysis of signs carried out by the character Friar William. The presence of William of Ockham's nominalism was also found in the understanding of the meaning of names in the context of the Middle Ages. The text also showed that the character makes reference to Buridano using his encyclopedic knowledge to handle the use of his hypotheses about Brunello. Then, the text made it possible to show that the character Friar William made use of his cultural encyclopedia to refer to Alan of the Islands with the theory of the world as a great book and as a mirror and demonstrating links between medieval aesthetics and postmodern poetics. It was also found that the text leaves between the lines a struggle between realism and nominalism, as well as a reference to Aristotle's theory of causality. Friar Guilherme makes use of all these philosophical currents in his discourse, but he always opts for nominalism and the methodologies of analysis of the new nascent science with Roger Bacon and Guilherme Ockham.

Finally, we believe we contribute to the discovery of philosophical theories within the work The Name of the Rose. This form of reading can also contribute to the teaching of philosophy, starting from of the literary environment as an accessible tool to philosophical theories. Due to the complexity of the text, we detected only the most explicit philosophies, and this research remains open, and other philosophers and other interpretations may be considered, depending on the researcher's perspective.

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Literacy and the process of linguistic literacy: Teaching based on linguistic assumptions

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ABSTRACT
The school is characterized by an environment in which the use of language will naturally occur in situations of social interaction. However, this same language is constantly being evaluated, in oral and mainly written forms. The process of adaptation to the school environment does not occur instantaneously with the entry into the classroom, because the child is not a "tabula rasa", on the contrary, he is already endowed with an internalized grammar, that is, a "language" learned in the family environment in which he is inserted. Thus, this study aims to relate to each phase of acquisition of the oral and written modality based on the contribution of Linguistics – as a science that studies language – at each stage, to what it refers to as essential in the teaching process during literacy and literacy, as well as the mechanisms of reading production as the deciphering and graphic and functional comprehension of the language.

Keywords: Literacy, Learning processes, Contributions of Linguistics.

1 INTRODUCTION

Every child is capable of learning to speak and write, thus building a means of communication whose focus is their own social integration. This child learns the language by living with other speakers, otherwise he would not learn any human linguistic sign (SAUSSURE, 2012; LABOV, 2008). Such coexistence enables the individual, in training, to learn the language and its structure based on the linguistic creativity allowed by the system itself in vogue (CHOMSKY, 1978). This process does not depend on theoretical knowledge of the language, that is, even if the child cannot explain the functioning of the language used, each sentence enunciated and, later, written will be within the conventions predetermined by the language. This is confirmed in the principles of Chomsky's generativisms.

Therefore, the process of linguistic acquisition is complex, since the graphic system of each word does not always correspond to the phonic system. The former, being a conventional phenomenon, does not always correspond exactly to the phonic system. Perhaps because we do not understand this difference, many of us run the risk of always striving for "right/wrong", despising the natural phenomena that occur from the acquisition of language.

Thus, an isolated word, with all its archphonemes, only exists because it has been reduced to a smaller dimension (CAGLIARI, 2010).

In larger dimensions – text – the code written through these archphonemes appears as a mystery to the child. Therefore, the child first acquires the oral modality and then makes the process of moving to the written modality. The inversion of this process generates complex internal conflicts that, in many cases, result in contempt for the school. The attempt to relate sound to grapheme is one of the main factors of embarrassment for both the student and the teacher. This is because differentiating the sound from the spelling is, in many cases, a challenge.

In view of this, we intend to understand the process of moving from oral to written in order to achieve literacy. Based on this, we realize that the school environment functions as a place of exclusion of the natural knowledge of the language, as well as analyzing whether this child knows how to communicate – read and write – as the school imposes on him. In this sense, the school often serves to introduce a language that is distant from the reality of the student whose context resembles the artificial one. The student is the target of quantitative evaluation, consisting of linguistic parameters that often do not emit any practical and usual meaning, contributing to the inhibition of this student as a speaking subject, "our caterpillar in metamorphosis". This practice casts doubt on the conceptions of this child as a speaking subject in formation and in relation to the previous knowledge of the language acquired by him.

How language represents the culture of a people or speaking community (HALL, 2011; CUCHE, 1999), it is natural for the child to develop linguistically based on the sociocultural and linguistic characteristics of the community to which he belongs. Thus, this discussion focuses on the processes of the transition from oral to written modality during the literacy process, taking into account the contributions of Linguistics so that the classroom environment becomes conducive to the learning of the various modalities of language (speech and writing), considering, mainly, the concrete situations in which the interaction is effective.

This study is based on explanatory methodology. According to Gil (2008), this method consists of identifying and describing the characteristics of the systematically observed phenomenon, as well as its contribution to their occurrence. The results discussed in this chapter are the result of the observation of the 1st year of Elementary School in a private school in the city of Catalão-GO.

2 THE LINGUISTIC "METAMORPHOSIS" THAT INVOLVES LEARNING TO WRITE

In the context of the classroom, specifically in a literacy class, it was possible to find a vast and fertile ground of social, cultural and linguistic values. Every child who enters the school believes that he or she knows his or her own language and therefore does not understand what it means to "speak wrongly" or "write wrongly".

The adaptation of the children to the school environment occurs gradually, as they trace a path of adaptation and learning. Written language is a complex process, since it does not occur as easily as

speech acquisition. As a result, several problems and conflicts are faced by students in literacy, which are almost always caused by the teachers' lack of understanding and non-acceptance of the students' linguistic reality.

During the classroom observations, we considered the propositions raised by the guiding work of this study, Literacy and Linguistics, considering the practices adopted by the teachers responsible for the observed class. It is important to say that the process of language acquisition in the written modality induces students, with the vast majority of 6 years old, to write "wrong" because they do not understand the correspondence between archphoneme and phoneme. In this way, we defend the importance of bringing to the classroom knowledge such as: linguistic variation, linguistic prejudice, etc., even in the context of literacy. What is often done is the highlighting to the happy me is wrong, or we don't exist, for example.

Adaptation to writing takes place in stages and, therefore, can be easily related to caterpillars. It feeds on many leaves and then wraps itself in a cocoon, going into a long hibernation.

Such a process focuses on your re-emergence as a beautiful, renewed butterfly. Thus, the infant babbles to then form small sentences and then learn the graphic symbol that represents each syllabic encounter that is present in the act of speech. For the first phases, we understand the need to pay attention to reading exercises, by listening to the reading done by the teacher, in order to know the sound corresponding to each word.

The different variations are also noticeable in the writing. However, correcting supposed "spelling mistakes" also needs to be done with major caveats. Wrong in what sense? What does it mean for a child to write *jakare* or *glo* instead of alligator or ice? Unfortunately, it was possible to notice that there is still the indiscriminate use of the red pen by some educators, a fact that caught our attention due to the reaction of the children to the red accents in the tasks.

Such an assumption does not mean that the writing is "totally wrong" or "totally right." But it is closer to what is considered "standard". Therefore, the teacher must adopt an encouraging posture towards the children. Encouraging them to clear their doubts, reflecting on "how I believe a word is spelled" to arrive at "how this word is actually spelled". This type of language intervention teaches the child to reflect as well as come to their own conclusions. This is a more efficient attitude than simply launching an answer without it making logical sense to the child.

In the literacy classroom environment, we also noticed the large number of activities done by the students. Such activities are carried out by reading undertaken on their own initiative, that is, by the students themselves. Because of this, a certain anxiety is generated in educators, which has sometimes hindered the enjoyment of the educational activity and, subsequently, its success.

On the other hand, the teacher cannot focus too much on activities that simply do not convey the basics necessary for the age group of his class. It is important for the teacher to use information that helps children to read. Writing is a result of the act of reading, or knowing the graphic system.

We infer that whoever is able to read, is able to write, and the reverse we know is not possible. We have discovered that a child knows how to be a copyist and at the same time does not know how to read.

During the process of learning to read, the teacher needs to have adequate tools – in addition to knowledge – to facilitate children's reading. For the most part, teachers have become accustomed to the fact that they read automatically and do not focus on the mechanisms of knowledge that the child needs to decipher written language in oral. It would be very interesting to think "what knowledge does it take to write the word home?"

And it is precisely this knowledge that will be necessary in the literacy process. It is not enough to "throw" letters at children, or to say that B has the sound of [b], because it can still be confused and interpreted as [p]. Another example is the child who says "*falao*" instead of "*falaram*" and needs to learn that [u] at the end of this word is written with A. It is not enough for the child to memorize which house is written with [s] and sour is written with [z], since the logic would be: "the [s] in the middle of two vowels has a sound of [z]?" In this way the child would be memorizing and not understanding. What, then, would it take to know how to decipher writing and read a word? Another point we bring up is the fact that the child needs to decipher what is written. The act of deciphering – coming out of the cocoon of the unknown of lexical meaning – is the most important aspect of the whole literacy process. The meaning of each word or text then apprehended becomes automatic. If the child discovers and understands that it is written, for example, the word hanger, he has understood, and once as a speaking subject of the Portuguese is acquainted with the word hanger.

This time, literacy becomes more complex as "the cocoon needs to be broken". It is from word by word that the child comes across sentences in a text situation. But, as children's speech is not based on texts, it needs to pay more attention to the whole set of words and not just to each one in isolation. However, it is not necessary for teachers to adopt the posture of thinking that every child has difficulties to understand what is written in the activities, but rather to explain the process, in order to make the transition from the oral modality to the writing of the language simpler, using activities that introduce individualized or collective reading.

Most of the problems that occur in this process come from the immediate response without generating understanding. It was possible to identify this practice in the classroom, in the observed class: the teacher, at all times, delivered the "ready" answers to the students, which compromised their full understanding. In the same way, teachers need to use oral vocabulary and materials – reading texts – according to the child's age, that is, with an appropriate vocabulary. Instead of reading something

like "she had white hair like snow," why not read "she had white hair"? We also emphasize that the curricular structure of the school needs to be focused on the child's linguistic needs. We found statements with complex words for the children's linguistic background, with commands that generated doubts about understanding what the exercise asked them to do. A conscious linguistics is one that deciphers the meaning of each syllable set, it is not "a monster that lives under the bed".

The act of deciphering does not mean understanding everything in its entirety. First, it is necessary to convert the oral modality into a written one. And this understanding is related to several other factors, for example the continuing education of educators, the reformulation of the school curriculum, because without this the literacy process will not occur, and our little butterfly will not come out of the cocoon.

Letting the child alone come and find out how a word should be spelled is a constant mistake, because it does not stimulate the understanding of how the writing of what is spoken is done. The child must be led to understand language in such a way that he is able to identify the ways in which he appropriates language.

The linguistic notions that define the signifier to the signified to form an acoustic image (SAUSSURE, 2012) (the child's individual meaning about some lexia) occur from the moment the child is able to join the sonority of each syllabic pair of the word (CAGLIARI, 2009). It is at this stage that the acoustic image is formed, as the child is able to identify what he is reading and gives due meaning to it. The cat becomes a meowing animal, and has whiskers and is written with [g], while the fish is discovered as a small animal that swims and is written with [p].

And when it comes out of the cocoon, "our little butterfly" discovers a whole world in which it is possible to represent on the sheet of paper the respective sonority of everything it says, and just like the "adults" this "butterfly" will begin to glide under the alphabet when it begins to express itself through writing.

3 THE IMPORTANCE OF SPEECH FOR LEARNING TO WRITE

First, we highlight how necessary it is to listen to children and let them speak. The school should not only be concerned with spelling, but also with the functioning of speech. The Portuguese spoken in Brazil is not yet considered a separate language, distant and different in totality from the Portuguese spoken in the world, but many studies already characterize it as Brazilian (PERINI, 2010; BAGNO, 2004), although the school itself is not attentive to this evidence.

When a child arrives at the school environment, he or she already has a linguistic background related to speech. This little butterfly begins its process of metamorphosis towards the final stage of literacy, consisting of previous knowledge related to the oral modality, and acceptable by the conventions that the linguistic system allows.

Before teaching how the language works, the school should encourage speaking and show how it works. According to Cagliari (2009), language actually exists through people's speech and is only there fully realized. In a language there are different sound values for each alphabetic symbol and spelling alone does not give us clear guidance on the pronunciation of the language and its dialects. Difficulties in recognizing speech sounds are often added to difficulties in trying to explain orthography from speech.

Separating the letters that make up the alphabet into vowels and consonants will only make sense to the child if these letters represent the sounds present in his speech, these will be, in the future, classified as vowels and consonants, according to phonetic notions.

In children's speech, vowels and consonants represent different articulatory modes. The attention paid to consonants is not as instructive as it could be, and it is not as different as attention to vowels. It is common for children to be unable to distinguish between phonic pairs, as well as voiceless sounds from voiced sounds – b/w, f/v, t/d. The distinction between voiceless and voiced consonants also depends on the dialect in which the child speaks.

In a classroom, there are students from various regions of the country, there we also find a variety of different pronunciations for children's spelling mistakes. Therefore, we highlight the importance of the school respecting and understanding the dialects, that is,

> the school must respect the dialects, understand them, and even teach how these varieties of the language work by comparing them with each other; These must include the prestige dialect itself, under conditions of linguistic equality. The school should also show students that society assigns different social values to different ways of speaking the language and that these values, although based on prejudices and false interpretations of linguistic right and wrong, have very serious economic, political and social consequences for people. (CAGLIARI, 2009, p. 71).

Cagliari (2009) shows how little we learn during several years of study and how schools, even naively, have difficulty in assessing how much a child in the literacy process has been able to learn. For this reason, the school lacks to distinguish speech problems from writing problems, because speech has an infinity of dialects and orthographic writing is the only use of the Portuguese language that does not admit variation. Therefore, learning the Portuguese would not only be learning how the language and its varieties work, but also studying linguistic uses as much as possible, and this does not only mean reading and writing, but also includes training to understand linguistic varieties, especially the standard dialect.

For the student, respecting linguistic varieties means understanding his world and others, a student will never be able to come to the conclusion that his parents, or the people in his environment, are incapable of the "wrong" way of speaking, much less feel diminished by it. Because this type of prejudice, from being passed down from generation to generation, is ingrained in society. If students learn to value linguistic varieties, societies will tend to change their behavior towards this prejudice

and will have a more appropriate attitude towards linguistic differences. In writing, for example, "the little butterfly" begins its process of change, because it is from this moment that it begins to correlate and understand which graphic symbols represent each word it speaks.

We live in a world where writing is of paramount importance, both for communication and for children's literacy.

This process requires us to have some notions about the use of the language in different regions of the country, if we are in the position of linguist-educators in a literacy classroom, because it is important to understand how those children pronounce words due to regional aspects. However, the teaching of the Portuguese language in schools is linked to a single type of norm and is more concerned with the appearance of the letter than with the message that the student wants to convey, or his attempt to write. So

> Writing is a new activity for the child, and for this very reason it requires special treatment in literacy. It is expected that the child, at the end of a year of literacy, will know how to write and not that he will know how to write everything and with absolute correctness. This is an important point and one that relegates to a secondary plane the concern with spelling during the first school year. (CAGLIARI, 2009, p. 82, emphasis added).

With this, we understand that it is not just a matter of teaching how to write, but of explaining what writing is. In the words of Cagliari (2009), "[...] the school teaches how to write without teaching what it is to write [...]". It is necessary for the student to know that writing is a matter of attempts, discoveries and personal experimentation, it is a process that requires motivation.

Throughout the literacy process, children will write more, motivated by elaborate exercises whose purpose is restricted to the production of texts and writing training. This requires students to write more and more, without a logic, without a reason with themes chosen by the teachers themselves. Like this

> many students have to write essays on absurd topics, such as "Grandma's Farm", "Pingo d'água" and others; in most cases, they do not get the real chance, at school, to write what they would like and in the way they would like [...] the way the school treats writing easily leads many students to hate writing and, consequently, reading [...]. (GAGLIARI, 2009, p. 87).

Consequently, writing at school demotivates the student, in the sense that he does not have the opportunity to write about topics that are common to him. However, we need to read and write for some reason and this justifies the child's desire to write. This taste is lost over the years at school for the reasons already explained in this chapter.

The writing system has a direct or indirect commitment to the sounds of a particular language, in the writing system of the Portuguese language, we use different types of alphabets, letters, characters of an ideographic nature, punctuation marks and numbers. Each letter has a phonetic segment such as: knife [ʃɑkɒ]. Another point is the diacritics such as: acute accent, grave accent, tilde, circumflex accent

and also question mark, exclamation point, period, ellipsis and quotation marks. In our system we have letters, numbers, acronyms, ideographic signs, among others, which is of paramount importance for the alphabet, having as its main base the letter. And this tangle of graphic symbols that give dynamics to the words when spoken represent real challenges to children's understanding.

At first, the literacy process begins with the writing of small scribbles, with strokes and lines, which reveal an attempt to write something that has been imagined. After all, the little butterfly is developing. However, most schools do not allow the child to start learning little by little, from the beginning they impose rules on students. This time, "to start writing, children do not need to study grammar, as they have already mastered the Portuguese language in its oral modality" (CAGLIARI, 2009). This is why many students, during literacy, choose the letters according to the sound of the word, so they end up using a letter that corresponds more to their expectations to the rules imposed, for example: dici (said), susego (quiet), licho (garbage), cei (sei).

Some "spelling mistakes" made by children occur around the structure of the word, such as the intervocabular junction and segmentation: "*eucazeicoela"* (I married her). The way to spell letters, or the improper use of uppercase and lowercase letters in addition to graphic accentuation is very common, and accentuation in particular is not taught at the beginning of learning, for this reason there are many words without accents in the texts. For example: you (you), not (no). At this stage, the butterfly is already in the "cocoon", almost ready to break through it towards the world of writing.

To this end, we start from the principle that reading is essential, not only in the school context, but as an agent of insertion of this individual in the linguistic society for the rest of his life. For this, students need to have the teaching of writing combined with the practice of reading simultaneously, which often does not occur because the school does only one or the other. It is of paramount importance that the teacher adopts a posture of guiding this child, showing him that speech and writing are not substitutable for each other, but need to coexist together, reading is the achievement of the objective of writing (CAGLIARI, 2009, p. 131).

It is up to the literacy teacher to have the necessary tools to help them during the literacy, reading and literacy process. It is necessary for the teacher to consider the student's reading, because the familiarity that the student already has with his or her idiolect will make the literacy process easier and smoother (CAGLIARI, 2009).

Reading is a decipherment of the written code that the reader must decode, understanding what has been written he will be able to make a reading understanding of what has been read. For the child to read a text, it is necessary to first let him study it, decipher it, as well as practice his reading (CAGLIARI, 2009, p. 141).

Reading requires the reader to reconcile a series of biological factors that occur during this process in a natural way. While the child is engaged in the exercise of reading, his body becomes a

complex activity, for example: changing the breathing, adjusting the rhythm, the accent and the intonation. Regarding the decoding of the letters, they present themselves to the student as a new world of knowledge that he is acquiring. For example, uppercase letters differ from lowercase letters; Cursive writing differs and from stick writing, handwriting from one teacher to another also presents a challenge to comprehension.

And the child must know to the point of not being confused all these differences, because it is this salad of information that the school expects to occur in the minds of the children, but that has never been taught to them.

Therefore, for children inserted in the family social field, until the moment they are enrolled in school, all this information is strictly new and must be treated in a tenuous and careful way, in order to avoid gaps in their learning, which can compromise their future learning.

4 FINAL THOUGHTS

The advent of writing was a historical process of constructing a system that aimed at representation and not a process of codification. At the beginning of schooling, the systems that represent language are presented, as to what expresses language and the numerical system. The difficulties faced by children in the early grades, more specifically in literacy, are those related to the concept, that is, the meaning to which the constructions of the system are attributed.

Thus, faced with this obstacle, it is common for children to reinvent their systems, starting from writings that resemble the sound of words (nest – ninio), or mirrored writing (Ɛ - 3). The writing of the alphabet can be considered as a system that graphically represents a grapheme, as opposed to the writing in ideographs that express conceptual significance. Therefore, we consider our writing to be a code that converts graphemes into phonemes.

In view of this finding, we realize that due to the sound arbitrariness of some graphemes in which their phonetic representation is the same, some cases related to difficulties in literacy are due to the confusion that occurs in the minds of children related to: which letter represents a certain sound?

Therefore, the learning of the written modality, understood by us as finally understood, takes place through the conscious construction or representation of a system (graphemes). Even if one knows how to speak within what is considered "adequate" and makes the correct perceptions about each word-forming grapheme, this cannot be considered as ideal, because the student can be an expert copyist, for having memorized and not understood.

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SEVEN
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Current challenges in design teaching

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ABSTRACT
This analysis responds to the thinking of a humanist current regarding understanding and its links with praxis, focused on design. It is unavoidable that designers in training are widely aware of their teaching that encourages reflection on themselves, their temporality and spatiality, their context and the important role that knowledge and research play in this. To understand design as theory, as a process and as a result, the unconscious vestiges must be reviewed, since research is unquestionably found in each of the actions of a designer.

Keywords: Design, Research, Understanding, Education.

1 INTRODUCTION

As designers, we are constantly in contact with the world. These correspondences emanate from the creation and representation of the environment that surrounds us, always responding to questions and needs for communication or the solution of problems of formal configuration.

From a critical design perspective, research emanates and this is not generated about design, but in and for design, this means that, based on concrete experience, the intention to search for all the parameters involved in practice is conceived to translate them into the various theories necessary to understand design.

Research thus implies leading to reflection and sustaining the foundation of all design praxis. As Vieira (1961) mentions, there are two aspects of design, that of the representation of the facts that occur in the project process in their causal and circumstantial correlations on the one hand, and on the other hand, that of a naïve consciousness that conceives itself superior to the facts, pretending to dominate design from the outside. According to the latter, designers consider themselves free to understand what is designed as they like.

This dissertation is based on considerations by Paulo Freire, for whom every understanding always corresponds to an action. Having grasped an epistemological challenge, man acts. Thus the nature of action corresponds to the nature of understanding, if the latter is critical, the action will also be critical. If we want to allude to a "magical understanding", the action will also be magical. (Freire, 1994, p. 97-113)

2 UNDERSTANDING ISN'T EVERYTHING FOR DESIGN

On the basis of the premises set forth above, the discussion about understanding and comprehension is opened. Used synonymously, understand and comprehend are terms that operate on different levels of knowledge; the first refers exclusively to the realm of the making of design, the naked doing, without attributes; that of its causal or pragmatic determinations; the second alludes to the designer and the value of his conduct.

Understanding is an act of intelligence, an act of knowledge, of insertion of the being of design, of grasping or apprehending its internal determinations and its external relations. Like any act of knowledge, the result of research, it is a relationship between concepts and objects. To understand is to explain, to unfold being, to specify its content, to know its meaning. Human beings understand when we recognize the meaning of what we have some kind of knowledge, even if it is only descriptive.

When propositions are explored, the understanding begins with their interpretation, which implies a threefold determination, corresponding to the dimensions of every sign:

- Semantics, concerning the relation of the proposition to the reality to which it refers.
- Syntactic, relating to the internal meaningful structure of what is proposed.
- Pragmatic, linked to the recipient or receiver and the scales of capture of what has been received in a sign exhibition. (Morris, 1994)

The planes of the sign shape epistemological and logical aspects of interpretation. Consequently, understanding involves a twofold process concerning the meaning of what the suggestions say and concerning any corrections made to the propositions.

Epistemology establishes rules of relation between object and concept, and logic establishes rules of relation between concepts in meaningful propositions. The first orders the world, the second thought. Knowledge is, in essence, the ordered relation of concepts. The act of knowledge is, above all, conceptual praxis, operating on concepts, relating them, which implies investigating. To act with concepts means to relate them, and this is only possible when one investigates systematically.

Design propositions are fundamentally, but not exclusively, prescriptive, ordering behaviors. A communication system emanating from design is a set of prescribed behaviors, ordered behaviors. Every design structure includes definitions and statements, which are essential to specify the scope and conditions of application of the standards.

Design is understood when it is possible to identify the delimited behavior and its conditions of possibility; when the requirements for the application of certain guidelines are determined, and the conduct is recognized in advance. However, it is not enough to understand in order to recognize the design, it is necessary to understand it.

To understand is, in addition to penetrating design, to go beyond its forms and take it, to gird it, to embrace it, to make it intimate and one's own, to unite it within oneself, to merge it, to share it; It

is an act of reason that not only explains; it also justifies, attends to the hidden motives of human behavior, which learns in its evaluative dimension and judges designs in order to make them visible from other points of view, to accept them and to share or reject them; It decides on the foundations of what is known.

The ability to comprehend a theory, a person or a piece of knowledge determines the measure of the rationality of the object that is understood and of the subject that does so.

Comprehension imports the evaluative factors of a domain that is not exhausted in the explanation centered on human action, it implies considerations of an ethical, social, cultural, political, religious, aesthetic nature, etc., conscious or unconscious, integrated or not in a conceptual system that constitute what with greater or lesser precision and at different levels of knowledge is called worldview. spirit, object, ideology, etc.

Understanding is the totalizing task of knowledge, it is the final mission of the unity of knowledge, it demands the maximum rational effort to which man's knowledge can aspire. To understand is the work of the intellect, to comprehend is the work of reason, while the former divides men, the latter unites them; The first identifies in order to distinguish, the second in order to integrate, is consolidated with research processes and is understood as a critical understanding of reality. (Santos, 2008)

The principle of rationality of doing – and of knowing – presupposes that all the differences, the contradictions that occur in reality, are part of the same world in which they find accommodation, governed by the same laws and common to all. The attribute of comprehension is, in this world, the supreme desire of human wisdom and can only be accessed through research, despite the fact that, according to Gómez and Lambuley (2006, p. 79), we come from a city culture that pays frank homage to the laziness of thinking and investigating.

3 CRITICAL DESIGN THINKING IN RESEARCH

In another order of ideas and with a similar sense, as in the practice of the act of design, in order to apply any model of design teaching, a reflection on the meaning of research in this discipline is required, to define what it is and what it means for professional communities. What is most worrying in this regard is the lack of consensus on how we identify the contents of the projects and how they contribute to the real purposes of this activity. Richard Buchanan states that:

> Behind the discussions, there are fundamental differences in vision and philosophical perspective. Possibly we will have major consequences in the development of design research for a certain period of time, but there will be consequences, affecting both the practice and education of design. Changes are coming sooner than we expect. [The author expresses concern] about how we will train the next generation of students who will have to understand the legacies of design and raise the challenges of new learning. (Buchanan, 2001, p. 23)

It must be recognized that design does not have a theme in the traditional sense that other disciplines and fields of learning conceive. The characterization of this task is linked to the conception, planning and creation of objects with various purposes, and this sequence is considered to meet personal, professional and collective objectives. Many theorists conceive design in terms of a project, which do not reach the theoretical essence or the proposal of a set of taxonomic categories with which a structure can be accessed from which new proposals of knowledge arise.

When we talk about research in design, ideas are directed towards what is designed, which makes it difficult to delimit research to an infinite number of material objects and the immaterial conceptions they imply. It is for this reason that it is convenient to make a distinction between the way in which research is constituted for the design design process, and the subject matter that is linked to the discipline itself.

When we study design, we are linked to a human action emanating from identifiable socio-cultural factors. According to constructivists, society itself is a phenomenon whose structure and organization, like what is designed, is carried out by human beings, not arises from nature; Thus, there is the possibility of carrying out cultural studies on what design has been in the past, what it is today and what it could be.

> The fundamental principle of critical thinking receives in the problematization, the questioning of what is given and established through a social-historical integration of concrete phenomena in order to understand them in the framework in which they arise, operate and acquire their significance; A perspective that aims to elucidate, in the cultural field, which tendencies attend symbolic products, whether progressive or conservative, those that resist and dispute the power of the day, or those that naturalize their possession and ways of exercising it. (Margiolakis & Gamarnik, 2011, p.104-105)

What this reflection leads to is that in order to understand design, numerous disciplines are required to study its various aspects, and to understand that it is an area whose understanding cannot remain in the reductionism of the production, distribution and consumption of objects, design recognized as a discipline is much more extensive, vast and abundant in its cognitive conditions. and it is the duty of research to delve into them in order to increase the intelligible corpus of an activity so important to civilized life.

There are many possibilities to investigate both the causes and the socio-cultural effects resulting from this human intervention recognized as design. Sadly, we do not have paradigms for the research of the discipline, although it is not a discrete and stable phenomenon, while its knowledge can be considered considerably cumulative.

4 THE PROBLEM OF DESIGN RESEARCH

Nor is there any acquiescence (acceptance, conformity) on the applicable criteria of the multiple methods with which one can approach the various values of design. The interventions that are carried

out always have productive intentions and the projects that are carried out based on them generally remain at very basic levels of research, they only provide generic or discursive characterizations and in the best of cases leave some objectual testimony in which the circumstantial usually has greater transcendence than the conceptual.

In order to expand the accumulated knowledge on design, it is essential to identify research problems that advance the epistemological *corpus*. Likewise, it is urgent that research translates into the formation of communities of researchers who work in relatively defined periods on a set of epistemological territories for which there is scarce literature, insufficient authors and incomplete theories.

Every year, numerous opportunities for project funding or funds allocated to research grants are lost due to the lack of support from a guild that, to date, has not been able to bring together the most outstanding experts in interdisciplinary searches. Although it seems that the dissemination of the results of research projects only has an impact on academic communities, it is inevitable to observe the detriment that there is in the concentration and materialization of design that we see daily. The resources of appropriation, imitation, plagiarism and copying have become a recurrent practice, as well as repetition and stylistic recycling, which do not have the validation of the unpublished.

Despite the fact that postgraduate courses in design are not recent, and that their fundamental principles have been known to all: the training of teachers and researchers, these purposes have not yielded the results that could be expected. One of the main problems is that there is no articulation of convenient routes that serve as guidelines for teachers, students, professionals, researchers, and even for the development and evolution of curricular maps in teaching programs.

There are authors such as Víctor Margolin (2010: 73-74) who harshly question the purpose of opening up doctorates in design, since, according to him, the orientation is unclear. The author speaks of a dissociation between research design and the design professions. It also highlights the fact that local and international design associations such as ICOGRADA (International Council of Graphic Design Associations), ICSID (International Council of Industrial Design Societies), AIGA (International Association of Design Professionals) and IASDR (International Association of Research Design Societies), have little or no connection to the world of design research.

Consequently, the general field of practice is not called upon to serve a specific purpose at another level, and the consequence is that there is no formal relationship between the design research community and those who design.

5 THE ISOLATION OF RESEARCH COLLECTIVES

There are other interesting phenomena, the first of which lies in the amount of design research carried out by experts from other disciplines, who ignore the field of design and its specific patterns, even though they bring interesting elements that underlie both interdisciplinary theory and practice.

The second lies in the international recognition of important research niches carried out by designers, a case in point is Finland with the Cumulus programme (2018), with more than two decades working with universities around the world on projects in the different areas of design. Although they have made efforts to disseminate the results of their efforts, and that they are accessible on the Internet, the language barrier is a major impediment for researchers in Ibero-America.

In addition to the international program, Aalto University in Helsinki, (A!, 2018) has managed to transdisciplinarily merge arts and design with economics in technology, planning advanced studies in fields related to the various options of design in the firm idea that innovation is possible based on interaction. Unfortunately, the research carried out on this site is the property of the industry and is not part of the achievements that the international design community can benefit from. There is no way to access the theoretical underpinning, the process or the results of the projects.

A second singular case is the Massachusetts Institute of Technology (MIT), which has opened the doors for experimentation, taking risks in solving problems together with designers and artists, understanding that its interdisciplinary laboratories cannot leave out creative professionals. Media lab graduates are well prepared to carry out design-related tasks of an advanced nature, however, they are trained for working life and often find their career path in large corporations. Likewise, MIT has been committed to maintaining the publication of important journals on the history and general culture of design for decades (MIT, 2016).

It is also worth mentioning the efforts of the University of Palermo which, through its annual congresses, encourages both students and teachers to get involved with research and, contrary to the criteria of many universities that profit from their publications, the *Design Proceedings* (UP, 2018) and other titles are available as open knowledge on the Internet. These types of actions allow the formation of important research groups to work for and for the generation of knowledge about design, "knowledge is an attribute of the human being. [It is important] to detect, observe, describe, compare, define, classify, argue, explain, reproduce and create [...]" (Morán & Alvarado, 2010, p. 3-5)

This is how we find these islands of knowledge, which do not even communicate with each other. They find around them groups whose language is absolutely technical and in general the discussion and literature on how to establish better relationships between the fields of research and their improvement, have a minimal audience.

Third, and no less important, is the lack of focus on research, as is done in other disciplines. Generally, universities, when they have a faculty, open separate departments for areas of knowledge

as the optimal front to specialized problems and projects. This does not happen in design, faculties tend to present a single parapet, without looking for the different fields of competence of the discipline.

Not even in postgraduate studies are there specialization, the propensity is to call them master's and doctorate in design. At most, in some universities it is indicated that the level refers to graphic design, industrial design, architectural design, etc., but it is still too broad a panorama. It is expected that in the future it would be possible to find master's degrees and doctorates in interaction design, mobility design, proxemic design, sustainable design, to mention a few specialties.

6 EDUCATION AS A TERRITORY OF RESEARCH

Graduate programs should be referred to as well-identified generic problem areas of research, thus giving students certainty about the direction of research that is feasible to undertake. It is also possible to suggest interdisciplinary postgraduate degrees, e.g. master's or doctorates in design history, design pedagogy, sociology of design, etc. It must be assumed that "learning in universities, in this sense, is an intellectual and professional experience, but also a personal, social and ethical one." (Medina & Mendoza, 2009, p. 56)

In this way, research streams would be opened with topics in which experts from other areas, interested in design, would participate. This is what constitutes the content of research recognized as the study of design, to distinguish it from research on design processes.

To clarify the areas of research and design teaching at the graduate level, it would be important to: distinguish between design research and design studies; delimiting the role of practice in research projects; differentiate the kinds of practice from design, so that at least the lines of research can be developed based on well-identified domains; Make an effort to circumscribe the practice of design and clarify the distance it maintains with other types of analogous practices.

Bruce Archer (1995, p.11) recommended for decades the construction of research nodes, which would be representative of the formulation of interrelated research activities, he is credited with the first organized attempt to establish the conditions of design research, based on a tripartite scheme: *research about practice, research for the purposes of practice, and research to support practice*tags. This resulted from the need to approximate the meaning and value of projects, as well as their potential, to the interests of others. When researchers in a field are clear about what they do, such nodes emerge easily.

Design research is international, although the communication of its results is obstructed by the lack of a common language among researchers. There are specialists in Brazil, Japan, Korea, the United States, Mexico and other countries whose work is not known outside their own territory. This is particularly evident in the history of design, where much research published in non-Spanish-speaking languages is unknown to Ibero-American researchers.

The need to review research trajectories and identify seminal texts that have been published in different areas, whether in the form of books or articles, is transcendent to provide feedback to education. It is not possible to demand advances and changes in the teaching of design, if there are no shared efforts in research initiatives and the exposure of diverse interests in projects.

> Research is educational to the extent that it can be related to the practice of education [...] two points: first, teachers must be intimately involved in the research process and second [...] action theory is clearly testable by action research. (Stenhouse, 2007, p. 42-49)

Recovering the literature of the discipline is one of the emerging tasks, since alternatives can be extracted from it to reconsider the lines of research of a postgraduate degree. Design knowledge is the heritage of students, teachers, researchers and professionals in the discipline.

According to Robyn Tudor, educational support through research into the interactive and socially situated nature of creativity as a higher-order human capacity, can be found in the "cycle of imagination" proposed by Vygotsky. (Tudor, 2008, p.11) This notion of creativity implies an intentionally generative form of productive learning that activates the search for new knowledge. This is easily distinguished from traditional forms of reproductive learning that aim to merely replicate established knowledge and skills. Vygotsky's (Lindqvist, 2003, p. 245-251) view of creativity emphasized human inventiveness and focused on the ability of individuals to speculate and foresee the future. This includes anticipating change, while at the same time participating in the present without forgetting that the past is a guide that inspires moving forward.

Research contributes to the teaching of design, insofar as it engages with the multiplicity and integration of important ways of signifying visuality. Research is a way to focus on the realities of growing local and global diversity, integrating its results into multi-literacies. It is an approach to the cultural differences that have become the center of the designer's pragmatics.

A good part of the transformations in design comes from the contributions of new technologies, with which research must interact at subtle levels of cultural insertion, since change also obeys new cognitive and social relationships. This translates into hybrid forms and informal writings, which are found on the web and are part of the *body* of knowledge that comes from particular research. There are therefore many reasons why research must change if it is to respond to the new demands of knowledge, helping students to have access to contemporary theories and thought.

As Cazden (1996, p. 64-72) mentions, institutionalized schooling is still the most important crucible of research, and at the same time fulfills the function of assimilating the results of this into teaching.

To be relevant, teaching-learning processes need to incorporate the ideas of different objectivities, subjectivities and intersubjectivities. To this end, the resources provided by research projects are fundamental, design cannot do without them.

6.1 RESEARCH AS A WAY OF APPREHENDING CONTEMPORARY DESIGN OR *EPISTEMOLOGICAL METAMORPHOSIS*

The variety of epistemological and axiological conceptions, which have proliferated as fashions in the last decade and affirm in all tones and for all reasons, the impossibility of values, adds to the wide diversity of reasonable arguments. The multiplicity of currents, ethical, social, political, economic, etc., that shape the underlying interests and aspirations in everyday life, as well as the language and average culture of society, allow us to understand design in very different ways.

These versions of design, design and designers, coexist and merge into more or less conscious eclecticisms, making them more difficult to understand. However, it is not permissible to renounce it, because the risk is to accept any order as legitimate, in times when the criteria of truth seem to have lost rational foundations, this is where research is the great mediating task.

In times when the language of knowledge is common and evaluative tendencies are expressed in it, the profound aspects of understanding underlie the homogeneous background against which debates of the theoretical and practical problems that confront each other take place. In times like the present, characterized by the fragmentation and randomness of knowledge, we reach the point where over-specialization reaches fundamental categories and disappears from the sciences into the common language. The impossibility of posing and solving problems with the prevailing models of knowledge makes the theme of the need for conscious research recurrent, so that understanding rises to the foreground and exposes the intellectual and evaluative difficulties that are proper to it.

During the Middle Ages, the language of Aristotelianism and Christian theology provided the common ground on which Augustine of Hippo (1946), capturing the spirit of the age, asserted in his *Sermon 43* that one need only believe to understand. This orientation makes possible systems of thought and intense debates on the subject. The profound divergences between the intelligences of the time do not, on the contrary, impede the understanding of the common world, as designers do today.

The change of times is announced, in that same world, during the thirteenth century, by Abelard, the great persecuted, who inverts the formula and claims the need to understand in order to believe, avoiding words devoid of intelligibility and reasoning. (Abelard, 1983) Today, the diversity of languages and methods, as well as the multiplicity of conceptually unrelated subjects, make such possibilities unthinkable. Fragmentation has reached such levels that any attempt in this direction requires the reconstruction of language if it is not to serve to hide and disguise reality and pervert thought and the reunification of the world and disciplines such as design; conditions that highlight the problems of perception and the role of reason in the so-called tendencies that obey only the superficial and ephemeral.

These are days of transition in which, the deployment of intelligence, is followed by the withdrawal of reason; days when knowledge gathers about itself and recounts the achievements of its

expansion. For design, immersed in an acute crisis of identity, efficacy and validity, it is time for redefinitions because it can never be the same as it was in the world that gave rise to it, where it was identified, effective and valid, because that world has disappeared. The chrysalis of design culminated its development phase more than two decades ago and it is unquestionable to complete its metamorphosis, epistemologically speaking.

The present world is no longer one of compositional and formal regularity for which the law is an adequate formula of expression, today's world is a more flexible and mobile one. We evolve in a changing present at the speed of electronics, where compressed time and space demand immediate normative proposals, not typical of the slow design process, but of the dependent decision expressed in the available codes, agreements, alliances, consents, etc., that make up the daily applause.

The generality of the approval has become a point of reference and is no longer, on many occasions, the measure to resolve and identify the particularity. The variety of social and cultural relations demands norms that are less and less precise, more individualized, and difficult to derive from general theoretical contents.

The rational imperative has ceased to be "let us reflect" to give way to "let us proceed", in the face of which design has lost its guiding capacity, in the same way that what is designed has ceased to be the result of a design project and, therefore, of a research project, given the multiplicity of doctrinal currents that prevent its unity. Freire's (1994) formula, according to which action derives from understanding, is thus destroyed; Design is no longer a challenge to reason, and its nature no longer corresponds to the principles of reason.

It cannot be otherwise, the variety of knowledge models, -central subject of epistemological debates in design-, also implies diversity of projects, leading design along paths in which it has lost its authority and with it, the ability to orient its guidelines based on methodological normativity.

Design has ceased to respond to its old conception of general regulation and lacks defined criteria for establishing particular regulations demanded by current social relations. Both the design and its foundations, immersed only in their practical effects, lack the principles and criteria of validity that allow establishing the paths in which a future horizon of the profession is regulated, despite the fact that its formal categories and discursive developments are feasible due to technological resources.

In design, as in medicine, the efficacy of the general formula manifests itself and makes full sense in each particular case to which it is applied. It is not enough to know the general measures that are thought to be suitable for the desired purposes; neither laws nor prescriptions are sufficient or expedient in all cases in which they apply; Like human organisms, each social relationship has its peculiarities and demands, as in medicine, special treatment in order to achieve the goal demanded by discourses, genres and messages. This requires an effort of research, of understanding, of intimate, intense and precise knowledge.

The idea of the mechanical reality of the world presupposed not only the general validity of technology, but also its strict efficiency and adequacy to each case included in it, as well as the possibility of applying the general formula to each problem automatically, through the operation of a strictly formal deductive reasoning. However, just as physical phenomena presented so many small deviations from the calculations in the laws, that not even the most complex artifices could correct or explain, and a new interpretation of the world and the movement of bodies became necessary, a circumstance that gave rise to Einstein's Theory of Relativity; Thus, the twenty-first century has demonstrated, due to the lack of research and reflection, the insufficiency of formal deduction and the impossibility of conjecturing all the social variants regulated by design. Unfortunately, design is still awaiting its revolution and its understanding has become increasingly difficult, imprisoned in the artifices of the complexity of the current regulatory regimes.

The problem of understanding design is a problem of rationality, not just of intelligence, which means a reasoned world, a mediated reality that is constructed from intellection. There is no given reality, reality always presupposes the judgment that determines, defines and identifies it, every reality is in itself its judgment, its critique and therefore also its negation. (Del Palacio, 1991)

The world created by the reason of the Enlightenment, that of mechanical reason, has been transformed; but design continues to think of it as if in essence it had not changed, as if it had not been altered in any way by cybernetics or electronics, as if it had remained a given... And the design with which it is intended to be regulated, according to its own formulas, overwhelmed by social relations, has become a "whitewashed sepulchre", the office of Pharisees whose demand for attachment to individuality has deprived it of its meaning, which is fulfilled in every act of its application, so much so as to inspire phrases such as "*I am not surprised that you do not like my work, I'm surprised you like yours"* This is an indicator of the arrogance that can be reached with the deification and fatuity that we suffer in design.

Understanding design requires investigating it in the world created with its help, taking into account all the social factors that determine its form and content, according to the cultural patterns that promote its conditions of validity and effectiveness, as well as the specific circumstances of the relationships in which it is objectified and actualized. Design belongs to the intimate sphere of the human being, and in it is found the sphere of action that is proper to it and defines it.

7 CONCLUSIONS

In the most recent decade, it was stated at the 2016 Cumulus Conference (Kung, 2017), that the nature, practice, and production of designs have undergone fundamental changes in response to the challenges posed by the speed of change in convergence with technology, politics, sustainability, poverty, terrorism, and emerging revolutionary cultures. In the same way, tradition, methodology,

pedagogy, thoughts and concepts of life, humanity and design, compete towards the creation of a new and never before imagined aesthetic, questioning the needs of beauty itself.

In such a dense and intense society, we are intimately confronted with these social, economic, and cultural upheavals that arise from the legacy of our colonial culture, the persistent psychosis of survival in a transient society without identity, idealism, or reason.

The theme *of "open design from research to everything*" emerges as a contextualized answer to a global question, a question that resonates as the path of the fusion of cultures and peoples, but more importantly, alludes to the new universal possibilities of design at a time when clashes and exchanges between cultures, Ideologies, peoples and society reaches a new level of noise and savagery, demanding new poetics of creativity, and ethical and sustainable solutions as well as new expectations of process design and participation.

Research in open design opens up at least six transcendent themes: education, empathy, engagement, environment, ethnography, and experiment. Through research and discussions, perspective and rational horizon, researchers help rekindle the original purpose and the transcendent place of design in an increasingly complex but interdependent world that demands an unprecedented set of solutions and processes in the near, accessible and achievable future.

To Maritza Ramírez, who taught me that words have more power than images and that mental blindness is more harmful than physical blindness and can lead us down uncertain and wrong paths.
Today I know that it is difficult not to count on the eyes, but it is possible to "see" in a different way and for this reason, I value the word in all its dimensions.
I had forgotten to listen, convinced that vision is a priority. Now I am aware that there are thirty-two senses, maybe more... And I recognize that one word can convey much more than other resources.

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SEVEN publicações acadêmicas

Higher education regulation policies and the neglect of pedagogical training of higher education teachers

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ABSTRACT
This article aims to identify the profile of the higher education teacher in Brazil, directed by the regulatory policies embodied through the National Curriculum Guidelines (DCN) and, especially, the National System for the Evaluation of Higher Education (Sinaes). The research modalities adopted in this study were documentary and bibliographic research. The results obtained reveal that the regulatory policies of higher education in Brazil, intensified in the second half of the 1990s, began to systematically regulate this level of education in line with neoliberal market principles and, consequently, changed the conception of educational evaluation, which began to be directed towards the control of higher education institutions and, consequently, for the reconfiguration of the profile of the teaching staff of this level of education, which has become strongly characterized by: titration, productivism and restricted domain of the specific contents of specific areas, directed by regulatory policies to the detriment of the development of didactic-pedagogical knowledge, which do not occupy centrality in the concerns of the country's government policies.

Keywords: Regulatory policies, Higher education teaching profile, Market demands.

1 INTRODUCTION

The consolidation of neoliberalism in the last two decades of the twentieth century and its constant search for the implementation of business rationality in all forms of social relations crystallized, in the institutions of the bourgeois state, the mechanisms of regulation and evaluation, both based on a homogenizing, quantifying and controlling perspective.

Institutional evaluation as a regulatory device began to be implemented through the various state reforms of a neoliberal nature, in all areas, including social and education, and was not immune to this process. Thus, it began to perform the function of classifying courses and institutions, focusing on the measurable and standardized results established by prescriptive policies, guided by international organizations and business associations.

In the Brazilian case, neoliberal policies advanced strongly, especially at the beginning of the country's (liberal) redemocratization process, and had their entry point in the ephemeral government of Fenando Collor de Melo (1990-1992) and its deepening and consolidation in the government

administration of Fernando Henrique Cardoso (1995-2002) and in the governments that followed (VAZ; MERLO, 2020).

With the discourse of confronting the overcoming of the financial crisis of the 1980s that affected all of Latin America, the Brazilian State implemented, from the 1990s onwards, a series of reforms in order to regulate public policies, organs and state instances, according to the new order of capital and the demands of neoliberal society (ROSA *et al.*, 2023).

In this set of reforms, education was eminently targeted by reformist neoliberal policies, especially higher education, since the latter, being reconfigured, according to neoliberal principles, has a primordial role in the training and conformation of the working mass, including teachers of all levels of education; the construction of knowledge that is immediately useful to capital (financial and productive); and the dissemination of neoliberal ideologies that mediate and guide the social relations of the bourgeois order and provide the contribution to the full functioning of capitalist society.

In order to meet these demands, the Brazilian State intensified the model of regulation called, by Santos Filho (2000), the contraction of the State, that is, the regulatory State becomes the expression of neoliberalism in higher education, which is constituted by the reformulation of its functions, as a financier and the only one responsible for the maintenance of (public) higher education. starts to act as a standardizer and monitor of what is established as the role of Higher Education Institutions (HEIs) and their professors.

From this perspective, the first regulatory frameworks of the neoliberal educational reformist policy were established, namely: Law No. 9,394/1996 (new LDB), which introduced the notion of competency-based training and, subsequently, from 2001 onwards, the first National Curriculum Guidelines (DCN) for undergraduate courses (bachelor's and bachelor's degrees), whose functions consist of directing, in fact regulating, the professional training model within the HEIs and to establish the student and teacher profile, both for bachelor's and bachelor's degrees.

Regulation here is understood as a set of mechanisms that permeates the establishment of verifiable rules, encompassing the procedures and strategies that seek to mold people, the acceptance and subjection to these same rules, thus aiming at the maintenance and harmony of a given system (MAUÉS; MOTA JUNIOR, 2011).

Thus, after the control policies guided by the bias of minimum contents in the 1960s, the agenda of the time is training by competences, conducted especially by the DCN with the help of institutional evaluation instruments, whose purpose is to ascertain, monitor and assess what is being implemented of the regulations established for the training of new workers. demanded by the new social reconfiguration that is more unstable, dynamic and flexible, which implies reconfiguring the teaching profile, given that they are on the front line of the formal training of these new workers.

That said, this article aims to investigate the teaching profile guided by institutional regulatory policies. Its materialization occurred through a systematized study, conducted by bibliographic and documentary researches that contributed to the collection of data, later analyzed under the bias of Bardin's Content Analysis (1977).

Regarding bibliographic research, Severino (2007, p. 122) understands this type of research as the one developed:

> [...] From the available record, resulting from previous research, in printed documents, such as books, articles, theses, etc. It uses data or theoretical categories that have already been worked on by other researchers and duly recorded. The texts become sources of the topics to be researched. The researcher works from the contributions of the authors of the analytical studies contained in the texts.

Thus, bibliographic research does not focus on experiments or in search of information or empirical data, whether from document analysis, reports, interviews, etc. As its raw material is already published data, it is necessary to carry out a literature review stage.

In addition, bibliographic research is essential for the collection of historical and epistemological data about a certain universe that encompasses the object of the research. In this case, searching for the duly recorded facts and historical contexts of a given policy is essential to, at least, problematize, reflect and understand, for example, the process of neglect of didactic-pedagogical training in higher education teaching perpetuated throughout liberal and neoliberal education policies (GIL, 2008).

The analysis of data in this type of research must always be rigorous, since the bibliographic research focuses on secondary sources that may have data collected and processed wrongly and to reduce the possibility of repetition of mistakes "it is convenient for researchers to ensure the conditions in which the data were obtained, to analyze each information in depth to discover possible inconsistencies or contradictions and to use different sources, carefully comparing" (GIL, 2008, p. 51).

With regard to documentary research, Evangelista and Shiroma (2019, p. 85) emphasize that the analysis of documents, especially those that deal with public policies for education, must advance beyond the apparent and descriptive aspects, which are manifested at first glance, and should,

> [...] deciphering, in the texts, the announced or veiled objectives of a given policy, in order to understand how the bourgeois hegemonic project is articulated or confronted, how they impact the class struggle, how they collaborate or hinder the construction of a sociability that overcomes the capitalist mode of production.

Thus, documentary research, according to the above-mentioned authors, is a fundamental element in the elucidation of data, since it fosters the problematization of the constitutive information of a given policy, in this specific case the policy of regulation of higher education. In addition, it helps

to unveil the directions of this policy and its true political, epistemic and pedagogical purposes; highlighting its impacts and consequences as an integral policy of the ongoing higher education reform.

The data collected were analyzed by the Content Analysis method, as it provides fundamental elements for the coding, categorization and interpretation of the data, through a detailed detail that elucidates in a dialectical way the complexity of the object under study (BARDIN, 1977). These research and analysis techniques together enabled a better understanding of the impact of these policies on higher education teachers.

This article is structured in two parts: The first is the introduction which, in addition to situating the object of the present study, presents the objective and methodological path of the investigation and seeks to problematize the implementation of regulatory evaluation of a neoliberal character in Brazilian higher education. The second addresses the regulatory aspects of the DCN and institutional evaluation in the reconfiguration of higher education teaching.

1.1 INSTITUTIONAL REGULATORY ASPECTS IN THE CONSTITUTION OF HIGHER EDUCATION TEACHING

The theme of teaching in higher education has gained greater emphasis in the last three decades, and from now on, there has been a relative growth in scientific studies directed to this field, which still needs much elucidation and deepening, especially in a context of intense regulation of higher education and teaching at this level of education (MASSA; TEIXEIRA, 2018; VEIGA, 2011).

The inclusion of this theme in scientific studies was fostered, above all, by the policy of regulatory institutional evaluation, introduced by the neoliberal doctrine in Brazilian HEIs from the 1990s onwards, which highlighted the "quality" of teaching and, consequently, the quality and performance of the teaching staff (VEIGA, 2012). This evaluation policy for undergraduate courses was consolidated in 2004 with the institutionalization of the National System of Evaluation of Higher Education (Sinaes), instituted by Law No. 10,861 of April 14, 2004.

Thus, the last decade of the twentieth century and the first decade of the twenty-first century witnessed the beginning of the materialization of the creation of the legal and political conditions for the creation of a National Evaluation System (SNA) at all levels, from basic to higher education, and in graduate studies this evaluation system was consolidated in the 1970s (PAIVA, 2017; NEPHEW, 2003).

Sinaes, conceived and supervised by the State, through departments of the Ministry of Education (MEC), instituted: self-evaluation, which involves, in its scope, the evaluation of teachers by students; the external evaluation of higher education institutions; and the evaluation of the courses and, including the National Student Performance Exam (Enade). The results (concepts) of this evaluation have come to serve as parameters for the performance of the institutions and for the renewal

or non-renewal of the recognition of the courses. In this way, institutional evaluation and state regulation in the scope of Brazilian higher education were effectively consolidated (ROTHEN; BARREYRO, 2010).

With regard to the evaluation of courses, the Sinaes Law emphasizes in article 4 that "The evaluation of undergraduate courses aims to identify the teaching conditions offered to students, especially those related to the profile of the faculty, the physical facilities and the didactic pedagogical organization" (BRASIL, 2004).

In this context, in an analysis of the MEC/Inep document (2017) called "Instrument for the Evaluation of On-site and Distance Undergraduate Courses", it is noted that there is little or no requirement for the didactic-pedagogical training of university professors. Considering that the dimensions of the quality indicators related to teaching pointed out in the document deal only with the evaluation of the organization of the teaching and learning process (organization of the curriculum, methodologies, management and planning) and the didactic and infrastructural conditions of the courses. Only in the indicator referring to distance education does it mention training for tutors.

Therefore, it seems contradictory to evaluate the teaching conditions presented to students without promoting adequate conditions for teaching practice, especially in the function related to teaching, which, in this case, should necessarily include teacher training, considering that the knowledge derived from specific training for teaching is essential for their pedagogical practice.

The aforementioned MEC/Inep document (2017) is a tool used since 2008 by Sinaes, and determines that the evaluation of undergraduate courses must go through three dimensions: 1) didactic-pedagogical organization; 2) faculty and tutorial staff and 3) physical infrastructure. Of which the first two are directly related to the teaching staff (MEC/INEP, 2017).

In the dimension related to the faculty, some points of analysis are highlighted: the first refers to the evaluation of the Structuring Teaching Nucleus (NDE) of the course, of which a mostly quantitative evaluation is carried out related to the work regime and the title of its members, as well as its performance in the monitoring and updating of the Pedagogical Project of the Course - PPC (MEC/INEP, 2017).

However, in the context of the pedagogical training of the members of the NDE, this is not evaluated, such an action would be opportune, since the professors who are part of the composition of this nucleus have the following attributions: the design, continuous monitoring and updating of the PPC of the undergraduate courses (CONAES, 2010). Due to their political-pedagogical character, these attributions require a broad and solid training that involves, in addition to technical competence, pedagogical and political competences, both of which are neglected, both in the training guidelines and in the evaluative and regulatory policies of the Brazilian State (VEIGA, 2012).

Therefore, the possible reflexive/critical weakness of the teaching staff that makes up the NDEs, arising from the lack of theoretical bases of the scientific-pedagogical and political dimension, caused by the lack of critical training and particularly for teaching, can leave this collegiate body (NDE) more vulnerable to external prescriptions, whether methodological, content and/or conceptions (CONTRERAS, 2002). These prescriptions imprint models of pedagogical projects that, in general, do not correspond to the real institutional needs and broad demands of society.

Thus, the lack of a State/institutional training structure that considers the development of pedagogical capacity, nor of politics, weakens the implementation of a collectively and conscious project capable of promoting a professional and human training based on the balance of the tripod teaching, research, extension and the practice/theory unit, and thus compromises the offer of a broad education, which would have the potential to provide a transformative action in the subject/teacher, and consequently in the students and in the social reality (VEIGA, 2016).

Consequently, this situation of an NDE weakened by the absence of a broad and critical education, corroborates the lack of criticality and reflexivity, which can lead to the acceptance without questioning and without broad discussions of training projects articulated within the offices of business associations, government agencies and international organizations, with academic institutions only being responsible for their mere compliance.

It is important to note that the NDE was instituted by Conaes Resolution No. 1 of June 17, 2010, which limited its composition to the teaching category, with at least 60% of the members with *strict sensu training, and* at least 20% of the Full-Time Regime, therefore, the categories of students and administrative technicians were excluded from its composition. This measure demonstrates the exclusionary and authoritarian aspect of this legal provision, which established as one of the attributions of the NDE "To ensure compliance with the National Curriculum Guidelines for Undergraduate Courses" (CONAES, 2010, n. p.). Therefore, what can be inferred is that the veiled role attributed to this collegiate is that of inspector and guarantor of compliance with the prescriptions of regulatory documents.

The second point to highlight in the MEC/Inep document (2017) (Instrument for the Evaluation of On-site and Distance Undergraduate Courses), deals with the evaluation of the coordinators of the undergraduate courses, at this point, qualitative aspects are evaluated such as: the performance of the manager and the relevance of this performance with the pedagogical project of the course; the interaction with the faculty and students; the ability to explore the potential of the faculty, among others. However, at no point is there any mention of the evaluation of the pedagogical training of the course director, who is also a teacher (MASSA; TEIXEIRA, 2018). Since, being a professor and, preferably, a doctor of the Exclusive Dedication or Full-Time Regime are requirements for the function of director of colleges, when referring to public HEIs (PALMEIRAS; SGARI; SZILAGYI, 2015).

Therefore, this director/coordinator deals directly and indirectly with the teaching and learning process, both in the internal environment of the classroom and in the broad context of the course management, thus requiring a broad training that involves both the knowledge related to management and the knowledge related to research and teaching activities, which in the case of the latter is simply neglected by state policies. whether these are training or evaluation policies (PALMEIRAS; SGARI; SZILAGYI, 2015).

With regard to the third and last point of analysis in the MEC/Inep Document: Instrument for the Evaluation of Undergraduate Courses (2017), in this case, the evaluation of the professor, the situation is not very different, the following are evaluated: the academic title, the work regime; professional experience outside of teaching and professional teaching experience. Likewise, no traces or notes were found in this document referring to initial and/or continuing pedagogical training, nor in relation to the requirement to implement an innovative teaching and learning performance based on the balance and integrality of teaching, research and extension as a parameter for academic quality (MASSA; TEIXEIRA, 2018).

The emphasis on the title and professional experience without the requirement of pedagogical training leads to a deficient performance of pedagogical practice which, in turn, does not dispense with the mastery of specific teaching knowledge, which in addition to knowledge of specific content, encompasses knowledge of the teaching and learning process; the ability to interact with students; ability to turn specific content into teachable content; knowledge of various teaching methods and techniques, among others, with a view to better student learning (MASETTO, 2009; VALENTINE; SILVA, 2020).

In this context, there is a close alignment of the instruments of evaluation of higher education with the training policies of the National Graduate System and, although this presents graduate studies as a space for the training of researchers and professors for higher education, it is evident the preference and privilege that is given to the training of researchers in a way that is disconnected from the non-existent pedagogical training. both in training actions and in internal and external evaluation actions that prioritize degrees, experience and scientific production to the detriment of training actions inherent to pedagogical science, which is so necessary for the construction of teaching knowledge and the teaching and learning process (CUNHA, 2009; ZABALZA, 2004).

From the implementation of the evaluation of a regulatory nature with a focus on results, the teacher, and his pedagogical practice, became the target of greater attention, monitoring and institutional control, including the responsibility for the success or failure of the student's performance. This performance began to be measured by Enade and to occupy a central place from 2008 onwards,

with the creation of the Preliminary Course Concept – CPC, [1]as a preponderant instrument in the supervision and regulation of higher education, whose greatest weight is on the performance of students and on the teaching title (ROTHEN; NASCIUTTI, 2011). While in a contradictory way, institutional pedagogical training, which should be guaranteed and promoted by the State, continues to be neglected, even in its purely technical line (VEIGA, 2016).

Article 5 of the Sinaes Law states that Enade:

> § 1 [...] will assess the performance of students in relation to the syllabus provided for in the curricular guidelines of the respective undergraduate course, their abilities to adjust to the demands arising from the evolution of knowledge and their competences to understand topics outside the specific scope of their profession, linked to the Brazilian and world reality and to other areas of knowledge (BRASIL, 2004, n. p.).

Thus, the direction of pre-conceived contents and pre-determined competencies by the DCN of the courses, which in the neoliberal State takes place under the guidance of organizations/associations/movements that represent the business sector, also shape the "training" and consequently the teaching practice, given that their own training (recruitment) comes to be governed by the same logic of training for the development of predetermined competencies in a movement generally from the outside in. that is, from the market to schools/universities. As can be seen in Chart 1, below:

Table 1 - DCN of some bachelor's degree courses and teacher training

COURSE	**TEACHER TRAINING/QUALIFICATION**	
Administration	DCN/2005 - does not mention teacher qualification.	DCN/2021 (Resolution No. 5/2021) - Proposes that the course should maintain a permanent continuing teacher training program aligned with the development of the competencies defined in the Pedagogical Project.
Engineering	DCN/2002 - does not mention teacher qualification.	DCN/2019 (Resolution No. 2/2019) - Provides for a Permanent Training and Development Program for its teaching staff, with a view to valuing the teaching activity and developing the skills defined in the Pedagogical Project.
COURSE	**TEACHER TRAINING/QUALIFICATION**	
Medicine	DCN/2001 - does not mention teacher qualification.	DCN/2014 (Resolution No. 3/2014) - Establishes a program for the training and development of health teaching aimed at the greater involvement of teachers with the Pedagogical Project of the Course.
Pharmacy	DCN/2002 - does not mention teacher qualification.	DCN/2017 (Resolution No. 6/2017) - Establishes permanent teacher qualification and training, with the purpose of improving the quality of teaching and the collective construction of the social function of teachers.

Source: The authors themselves from the DCN of the administration, engineering, medicine and pharmacy courses (2023).

[1] CPC is an indicator for the classification of courses, whose concept ranges from 1 to 5, consisting of: i) Enade result and indicator of difference between expected and observed performance (IDD); ii) faculty qualifications; iii) teaching work regime; and iv) students' perception/opinion about the infrastructure and pedagogical project of the course. Courses with CPC 3 or 4 are considered satisfactory and exempt from the *on-site* visit to have their recognitions authorized. CPC 5 courses are considered "reference" courses.

The first versions of the DCN of the bachelor's degree courses did not mention the need for teacher training/qualification. However, courses in this area (bachelor's degrees) have been tending to include teacher training in their curricula. This situation is fostered from the latest versions of the DCN of these courses, which began to point out the need to offer this training, with the exception that it must be carried out through permanent programs offered by the HEIs themselves, and must be directly related to the enhancement of the materialization of the competencies established by the PPC of the courses which, in turn, they must be aligned with the competencies determined by the DCN of the respective courses.

The new DCN show remnants of a certain concern with pedagogical training for teachers working in undergraduate courses. However, they delegate this responsibility to the HEIs. In this way, the State continues to exempt itself from this responsibility for teacher training, even in a pragmatic bias, as pointed out by the DCN and passes it on to the HEIs. Thus, the pedagogical training of higher education teachers is not a State policy, becoming more of a policy restricted to the HEIs themselves, without the specific allocation of financial resources by the State for this purpose, which makes it impossible for it to be effectively materialized on a continuous basis (VEIGA, 2016).

If, on the one hand, the DCN fosters a certain "autonomy" over the direction of training, on the other hand, it limits it, due to the restriction of financial resources and infrastructure necessary to carry out this training action, in addition to the indication that this training is linked to the competencies prescribed to undergraduate graduates.

From this perspective, Resolution No. 2, of April 24, 2019, when instituting the new DCN of Undergraduate Engineering courses in art.14 § 1, emphasizes:

> The undergraduate course in Engineering must maintain a permanent Training and Development Program for its faculty, with a view to valuing the teaching activity, the greater involvement of teachers with the Pedagogical Project of the Course [...] so that they assume a greater commitment to the development of the desired competencies in the graduates. [...]
> § 2 The institution must define indicators for the evaluation and appreciation of the teaching work in the activities developed in the course (CNE, 2019, p. 6).

As the conception, organization and monitoring of the PPC are the responsibilities of the NDE, as already seen, the continuing teacher training (provided for in the PPC) is another challenge to this faculty collegiate, which in the case of engineering courses, as well as in other bachelor's degree courses, its members (professors) are not trained for teaching, and have not had undergraduate and graduate training in their training. With rare exceptions, the development of the pedagogical dimension, and now they are faced with the challenge of conceiving, in addition to the project of training undergraduate students, of also conceiving the program of permanent training of teachers at this level.

Because the State is absent from its role of instituting and promoting national policies for teacher training for undergraduate courses, delegating to the HEIs (the colleges) the obligation to qualify their teachers through continuous institutional training programs, after entering the institution and in full exercise of their functions – without pointing out sources of resources or the conditions for their realization – training that the DCN are emphatic in restricting the relationship with the restricted competencies demanded for graduates, that is, based on a totally pragmatic/utilitarian bias (PEIXOTO, 2021; SANTOS JÚNIOR, 2022).

Thus, the bourgeois state abdicates its role of promoting the conditions of education, but not of the content and purpose of this training, which is demanded by the competencies required in the national guidelines, and assumes "[...] A role of paramount importance is to define the objectives of the education system and the curriculum to be adopted. The other role of this post-bureaucratic state would be to 'govern by results' (MAUÉS; MOTA JUNIOR, 2011, p. 390). For which evaluation is used as a monitoring and control tool.

With regard to the duty of HEIs to define evaluation indicators (internal evaluation) and a policy for valuing the teaching work. This is an obvious obligation, because evaluation as a democratic and formative process must come from the institution itself, in order to constantly seek to know its concrete reality in order to correct its flaws, it would be the "moment when institutions have greater possibilities to present their considerations and carry out a more collective construction of their actions and reflections" (MENEZES, 2012, p. 82), both in terms of its institutional training organization and its teaching and research practices, among others (RASCO, 2000).

However, due to the fact that the results of the internal evaluation do not have weight in the CPC, which is generated by the external evaluation of a regulatory nature, the HEIs end up submitting to the guidelines governed by the external evaluation and its dictates. With regard to policies for valuing teaching work, the situation is no different, as external evaluation values the degree (without the need for pedagogical training), scientific research and academic production – without the need for production in the pedagogical area – therefore, the policies of the HEIs also tend to this alignment (VEIGA *et al*., 2008; ZABALZA, 2004).

Such a situation, driven by the implementation of neoliberal principles, arising from the constant transformations within bourgeois society, has increasingly made formal education an instrument for the reproduction of the conditions of capitalist production, and for the subordination of labor to capital.

Such rationality adopted with greater intensity, in the Brazilian case, dating from the second half of the 1990s through the neoliberal State, which, following an international trend, assumed new functions from the Administrative/Managerial Reform of 1995, which aimed to constitute a managerial public administration and the consolidation of a regulatory and evaluating State.

According to Barroso (2005), regulation is a somewhat polysemic, plural and diverse concept, which, depending on the area, can take on different meanings and positions. With regard to the way in which education systems are coordinated, "The regulatory process includes not only the production of rules [...] that guide the functioning of the system, but also the (re)adjustment of the diversity of actions of the actors according to these same rules" (BARROSO, 2005, p. 733).

In this way, regulation has a double objective, the first consists in standardizing, that is, establishing the norms that would provide the balance and proper functioning of a given system, and the second consists in shaping the subjectivities of the subjects, so that they submit to the rules of the game of capital. As not all actors passively submit to these rules, sanctions are imposed as a measure of repression and reordering of the game. In this way, the regulatory instruments are conceived as a form of control and monitoring, to verify if, in fact, the rules have been and/or are being complied with, and their results promote awards or punishments to HEIs and teachers, who end up becoming hostages of the regulatory policies promoted by the regulatory State.

Therefore, in the face of the new demands arising from the neoliberal system and the minimum standards of "quality" constituted by it, it is that from the 1990s and 2000s, the institutional evaluation policies of a regulatory nature were established, having as reference the DCN, and the competencies demanded by it, which directly interfere in the training of the undergraduate. and the teacher, who is also directly responsible for the student's good performance.

The results of this control and regulation (evaluation) device have revealed that this quality standard has not been achieved (VEIGA, 2012), especially in peripheral countries such as Brazil, a situation that places the responsibility for students' lack of learning about teachers, their training and performance, thus guiding a pragmatic and light education. and a performance that is also pragmatic and regulated, based on an idea of quality directed and restricted to some pre-established competencies and skills, with no nexus to the sense of quality in its broad and socially referenced approach.

In this domain, an expanded training for teaching in higher education, which has historically been neglected by the Brazilian capitalist state, does not see any perspective or tendency to be contemplated in the legal devices and norms of the new neoliberal logic that, in turn, subordinates the curriculum; scientific-technological production; and the training to the logic of the market, and highlights in the graduate program a utilitarian and productivist training that favors the technical-scientific field useful to companies, whether in the industrial and/or service sectors, to the detriment of an integral education, which involves in its composition the dimensions: scientific, technological, political and pedagogical, the latter so necessary to the teaching and learning process in the undergraduate program.

2 FINAL THOUGHTS

The capitalist project of the neoliberal managerialist state has expanded vertiginously in all spaces and ideological apparatuses of the Brazilian state, especially in the educational sector through the implementation of regulatory policies of a market and economic nature.

As a result of the profound changes in the functions of the State as a political entity, provider and executor of social policies, it became a policy manager, assuming the role of regulator and evaluator of the policies demanded by the market, especially in the areas of education and teacher training for the levels of education.

From this perspective, the prescriptive documents of the higher education policy postulate, in general terms, an education in undergraduate courses based on a market logic that privileges the business principles of overvaluing the development of skills aimed at a technical professional performance. Pointing out to the teachers the execution of teaching techniques, such as active methodologies that focus on the principle of learning by doing, based on the pedagogies of learning to learn and on their basic values of capitalist pragmatism. It was noticed that these principles are the basis of the training of teachers of bachelor's degree courses, since, in general, this technical training is the only one that these teachers had access to.

Regarding the external institutional evaluation, it was found that there are no indicators of quality of evaluation related to pedagogical training, but good results are required in the teaching and learning process; It points out quality indicators for infrastructure and the performance of the teaching staff, without effectively providing the necessary support for teacher training and pedagogical practice.

What is perceptible is the intention of delegating the success and failure of teaching to the private and non-public, individual and non-collective spheres and, above all, to attribute the problems arising from the neglect of structural resources from teaching to the teaching performance, that is, to transfer the responsibility for deficient teaching to teachers.

The study also points out that in the neoliberal policy of higher education, institutional evaluation tends to assume a meticulous function of measuring what is being implemented from the regulatory frameworks of the managerial State to the HEIs with regard to the contents, behaviors, values and principles of the bourgeois neoliberal society, that is, a mechanism of control of the bourgeois State over the HEI, and on teacher training and practice.

Therefore, the alternative of new social and economic parameters for educational policy, especially for higher education, has never been more necessary, in view of the adoption of paradigms that overcome the bourgeois hegemony of education in the policy of regulation, in order to postulate an effectively democratic process of teaching and institutional evaluation in which HEIs resist the corporate attacks of evaluation as a control device.

To this end, it is necessary that HEIs and academic associations vehemently oppose the current arbitrary model of institutional evaluation and outline strategies and processes of self-evaluation that involves, in fact, all segments of the academic community (students, professors, administrative technicians) in a permanent and collective process of discussions and debates around the problems, challenges and possibilities. with a view to improving the education offered and promoting a participatory academic space, aware of its social and transformative role.

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The Covid-19 pandemic and its transformations: Challenges and perceptions experienced with remote classes

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ABSTRACT
This study will address a current topic (2020/2021) and its consequences, experienced by this teacher who writes to you, during the period of the Corona Virus Disease 2019 (Covid-19) pandemic. Likewise, it will be reported how this process was developed during this difficult time that we are all witnessing.
Initially, I would like to address the various conditions that were caused in my body due to the "coronavirus" disease, but I believe that the perspective I have for this reflection will trigger even more arguments, since it was an experience surrounded by doubts, fears and concerns , in addition to the fact that research and studies on this topic are still insufficient and scarce.

Keywords: Remote Classes, Pandemic, Public health.

1 INTRODUCTION

In this approach, my main objective is to bring reflections on Covid-19, its sequelae, and the process of remote teaching during this period. In addition, considering the scarcity of empirical studies on the subject, as well as the need for more advanced methods for the treatment of patients, I chose to prepare a study based on my own experience report. Therefore, I explored the data collection I obtained during this internship, while I was hospitalized at the Hangar Field Hospital, in Belém do Pará. In addition, I determined my theoretical collaborator mainly in Samaja (1987; 1993; 2000; 2003; 2004).

Further, regarding the origin of this pandemic, Fahd, Santiago-Vieira and Nascimento (2020, p. 2) described that the SARS-COV-2 virus was initially identified at the end of 2019, in the city of Wuhan, China. And it quickly spread to several countries, promoting a major pandemic, officially decreed on March 11, 2020, by the World Health Organization (WHO).

It is understood that, from then on, the most immediate consequence of Covid-19 was the exorbitance in the health systems that ended up making it impossible to provide adequate and satisfactory care to the populations, thus generating the death of more than one million people, in addition to the low resources and the lack of professionals necessary for the real functioning of health institutions.

In line with this and referring to my experience, I can emphasize that close to the date of July 6, 2020 I had my first contact with the "coronavirus". Soon after, I started to present several symptoms related to this virus (such as loss of smell, loss of taste, tiredness, body aches, fever, among others),

which caused my hospitalization for a period of 15 (fifteen) days at the Hangar Field Hospital, in Belém do Pará. However, after these days of hospitalization, I still had to be isolated from my family, friends, and co-workers for another period.

We were observing the repercussions and effects of Covid-19, a pandemic spreading through every country in the world, causing death and suffering to all people. There was a huge reduction in the mobilization of individuals in society, many losses, even with the restrictions imposed on contact and social interaction to maintain physical distance between people, to avoid contamination with the virus. We were also forced to remain in our homes, isolated and/or quarantined, in addition to complying with other preventive measures defined in Brazil by Law No. 13,979, of February 6, 2020 (FAHD; SANTIAGO-VIEIRA and NASCIMENTO, 2020, p. 2).

Still on the catastrophic scenario that the "coronavirus" pandemic has caused around the world, the authors Fahd, Santiago-Vieira and Nascimento (2020, p. 2) comment that:

> There was a large-scale shutdown of the productive activities of industries, commerce and non-essential services, and the partial or total closure of cities (lockdown). Thus, considering the context of the twenty-first century with globalization that interconnects economic, political, and social determinants internationally, the Covid-19 pandemic has generated a global crisis that has supplanted aspects of the health emergency.

Furthermore, regarding the hierarchical dimensions related to the circumstances of knowledge arising from health events, the author Almeida Filho (1997, p. 2) presents the following points:

> First, in a recursive sense, insofar as it exists—it consists of iterative, reproducing, and transforming processes of hierarchical interfaces; second, in a conflicting sense, since each hierarchical order maintains a high level of autonomy in relation to the other plans for the occurrence of health events.

Covid-19 arrived like an earthquake, or a hurricane, or a tsunami in our lives, leaving marks that will never be erased from our history. The world will no longer be the same, as we are experiencing a very complex scenario. We have seen educational institutions being closed, leading to the face-to-face stoppage of their activities and giving way to a new prism of remote classes. And a remarkable scenario was to be able to witness the need, the need and the impact that health suffered, since public and private hospitals were completely full, generating absolute despair in people.

To corroborate what was previously said about educational institutions, it is worth mentioning the words of Fahd, Santiago-Vieira and Nascimento (2020, p. 3) who say that "Ordinance No. 544 of June 16, 2020 of the Ministry of Education authorized 'the replacement of face-to-face classes' in public institutions of Higher Education by remote classes".

However, the proposed theme covers my own reports of experiences and sequelae lived during this period of the Covid-19 Pandemic

2 METHODOLOGY

The approach of this study was qualitative, descriptive in nature, and sought to understand the processes of meaning of remote classes in my experience during the period of 15 (fifteen) days in which I was hospitalized at the Hangar Field Hospital, in Belém do Pará, between July 7 and 22 of the year 2020. It was configured as an experience report in which the teacher and researcher became an instrument of this study, thus explaining the data experienced during the Covid-19 pandemic stage.

The literature review of this study sought articles that address the theme presented to support the appreciation of the central categories of study: health and remote teaching. However, it can be seen that this theme will continue to seek research from experience reports, as I observe that many people, like me, who acquired this virus, also had their lives, their dreams and their perspectives transformed.

The survey of this information experienced by me regarding my experiences with remote classes and in the public health environment took place during the academic period of remote classes, referring to the months of March to December 2020.

3 DISCUSSION OF RESULTS

The discussion of the results achieved can be summarized following two axes of evaluation that are articulated based on the challenges and perceptions experienced during the pandemic, comprising the months between March and December of the year 2020. Therefore, the axes are: a) Access to and participation in remote classes; and, b) The experiences obtained with remote teaching in the experience of the Covid-19 pandemic.

3.1 ACCESS TO AND PARTICIPATION IN REMOTE CLASSES

The announcement about the suspension of classes due to the Covid-19 pandemic made me very worried about the uncertain future of my studies. And about what my relationship with technology and the development of my learning would be like.

"Inclusion, control and affection make up the triad of fundamental needs to be satisfied by the group" (ARAÚJO, 2012, p117). When we observe this triad, we have a tendency to growth, and I understand that this growth is necessary in our environment, in order to develop our ability to communicate with the whole, and technology will not only be a barrier for me, but a way to be able to transform my difficulty into something productive of learning. which is what I faced and have overcome in this long period of pandemic.

Faster than I expected, I received the sad news about the closure of educational institutions and the reality of the world of digital technologies as a teaching tool for each and every student. As a result, my graduate classes moved online due to the distancing situation due to Covid-19.

And for me, this teaching had a great impact, since I am a graduate student and I didn't know how to handle these digital technologies as new teaching tools very well, in addition to not knowing how these tools could have all the support that there is in a face-to-face classroom.

In addition, this type of distance learning was very complicated for my view as a student, since in the midst of chaos, with the internet not supporting a great demand from students, I suffered a lot with this teaching. I couldn't understand the process of this new technological adaptation.

In a classroom we have the opportunity to interact better with teachers and classmates. It's quite different than being behind a cell phone, laptop, tablet, or computer. I often noticed the insecurity of some teachers in handling this technological tool during the development of teaching, since there was a continuous fear of not being able to achieve excellence in the course of the process.

Similarly, some teachers needed the support of students who knew how to better handle this digital technology, including video applications, reading applications, slide creation applications, websites, and many others, in order to assist as "technical support" to teachers. And I believe that we have all been impacted in some way by so many rises in the technological world, whether these are in the areas of health, education, economy, commerce, and other areas.

The impossibility of holding face-to-face classes between teachers and students is due to the great measures of social isolation. Thus, remote classes served as an alternative in order to facilitate teaching to students.

The teacher develops his discipline through online classes, recorded or live, by video conference or some other similar resource, thus making the workload equivalent to face-to-face classes, with no loss of content for students.

This adaptation generated a tsunami in me after I had contact with Covid-19, as I feel very limited about the complexity of technology. The changes experienced by me with this new perspective of using technology came to personalize my experience even more, I had to invest time and effort in search of knowledge, and this process has not been easy, because the resources and equipment during this period were at very high values.

Technology is a product of science and engineering that involves several instrumental assemblies; They are technical methods that seek solutions to problems.

Access to remote classes, for me, was very complicated, but I got the opportunity to learn and have new knowledge and new experiences that made me see a new beginning, and thus, being able to develop a great knowledge experienced by me at this time that was the Covid-19 pandemic.

3.2 THE EXPERIENCES OBTAINED WITH REMOTE TEACHING IN THE EXPERIENCE OF THE COVID-19 PANDEMIC

The transformations generated by the advance of the "coronavirus" pandemic have caused several changes around the world, in various areas of society, such as in the areas of economy, health, education, sports, among others, even in the social factor.

A major cause of transformations in the social environment was isolation and/or distancing, including in face-to-face teaching activities, contributing in such a way to remote teaching, that it was constituted and instituted in the area of education through preventive measures of distancing between people.

Understanding the problem from the perspective of remote classes, the authors Miranda, Lima, De Oliveira and Telles (2020, p. 2) expressed that in the face of all the catastrophes produced by the pandemic in 2020, the educational area is the one that has suffered one of the greater consequences, such as the paralysis of face-to-face teaching in schools, whether private or public, thus affecting students, teachers, parents and the entire school community, at all levels of education. Therefore, this situation ends up interfering with the learning, desires, dreams and perspectives of many students, motivating a feeling of postponement of all plans in the educational environment. In addition to generating an interference in the family life of all the relatives of those involved, as well as variations in work routines and occupations.

The suggestion of remote teaching to the private network, for me, arose as a great challenge, because having access to the knowledge of the digital age at the current moment complicated my mind too much.

And, in the same way, the financial conditions experienced by me also greatly influenced this process, since it was required to teach with quality access to classes, through computers, tablets, notebooks and free access to the internet, a factor that ended up generating some discomfort in me, since trying to adapt to this new reality in which we are living, It is not at all attractive and easy, based on the premise of the current economic condition of the country and the world.

Being confined to her home, often going through moments of stress due to the internet not contributing much to the transmissions of remote classes, was extremely suffocating. On many occasions, when trying to access classes, I ended up witnessing a total collapse of use.

When we had to elaborate the activities developed by the university, it was an unusual moment, because this generated in me a great psychological pressure, very unpleasant, as a result of endless problems with access to the internet, which happened frequently.

Furthermore, according to Pezzini and Szymanski (2015, p. 2) it is noted that,

> Among all the difficulties that education in Brazil is going through, there is currently a great lack of interest on the part of many students in any school activity. They attend classes out of obligation, without, however, participating in basic activities. They are apathetic in the face of

> any initiative from the teachers, who confess to being frustrated for not being able to fully achieve their goals.

However, I was able to verify that many technological resources were used by teachers and students during the remote classes I had access to, such as the use of video conferences, lectures, online platforms, video productions, Youtube, Whatsapp, Zoom, Google Meet, Teams, and other resources, as well as the cell phone and notebook itself.

In view of this narrative, the author Cordeiro (2020, p. 6) praises the creativity of Brazilian teachers by stating that:

> The creativity of Brazilian teachers in adapting to the new reality is indescribable when it comes to the creation of media resources: creation of video classes so that students can access asynchronously beyond classes through videoconferencing for the execution of synchronous activities such as in the classroom. An educational revolution about how efficient technology has been and how much people need to be able to this technological advancement.

With regard to these digital tools and platforms, it is understood that they emerged with the purpose of adding to an experience never seen before, since we all need to seek to adapt to this new technological moment.

In the eyes of Cordeiro (2020, p. 04) we can see that,

> The advancement of digital information technologies has enabled the creation of tools that can be used by teachers in the classroom, which allows greater availability of information and resources for the student, making the educational process more dynamic, efficient and innovative. The use of technological tools in education should be seen from the perspective of a new teaching methodology, enabling the digital interaction of students with the contents, that is, the student starts to interact with various tools that enable him to use his mental schemes from the rational and mediated use of information.

Also in this understanding, the author Cordeiro (2020, p. 5) points out that the use of these technologies, considering active learning methodologies, can greatly contribute to the process and development of remote teaching, in addition to providing students and teachers with more effectiveness and autonomy, in order to achieve human development in a broad way, reaching all its areas, especially the reality in which we live today.

What to talk about remote learning? It was something completely new to me. There was a lack of interest on my part, as access to the internet was difficult. Also, having to reconcile work, family, impaired health due to contamination with Covid-19 and more studies, was laborious and complicated, causing, therefore, a lot of physical, mental and, especially, emotional exhaustion.

In addition, the difficulties experienced by me in this pandemic period were a great advance for my educational and professional knowledge.

Faced with the absence and difficult access to remote classes with the new teaching suggested by the Covid-19 pandemic, I had to adapt and look for ways to learn how to use this new teaching platform and thus be able to complete my studies.

Similarly, Cordeiro (2020, p. 10) points out that few Brazilian educators have had the appropriate training to deal with these new digital tools. Teachers need to reinvent and relearn new ways of teaching and learning. Nevertheless, this has been a path that, although difficult, is fundamental to achieve a differentiated situation in Brazilian education.

4 CONCLUSION

In view of the results obtained, it is possible to conclude that currently education, as well as in other sectors, is in a process of development, in search of the new. And we are experiencing this even within this catastrophic scenario.

The scenario that we are taking on, both on the part of teachers and students, has been growing, and one day it will become great. We know that this journey ahead will be challenging, but we continue to seek more knowledge and improvement until we reach the goal.

We know that there is also a lack of interest on the part of students, because there is a lack of infrastructure for us in terms of technological equipment. And it is necessary to use creativity and strategies to adapt to this new process of remote teaching. Since the difficulties with access to the internet, health, psychological, emotional, cell phone, notebook, computer, among others, will always exist.

However, it is up to us to look for new ways to adapt to this turbulent and chaotic scenario in which we are currently inserted.

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SEVEN publicações acadêmicas

Teacher as a mediator in a high school community of practice that produces digital mathematical performance

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ABSTRACT
In this article, we discuss characteristics of the teacher's role and training based on a PhD research that investigated aspects/dimensions of how the negotiation of meanings occurs in a Group/Community, in which high school students produce digital mathematical performance (PMD). The Research is part of a mosaic of Researches of the Research Group on the Process of Teacher Training and Work of Mathematics Teachers. PMD is configured as the use of Arts and digital technologies (DT) in Mathematics Education, conceived as a didactic and pedagogical proposal, as an Active Methodology. Community of Practice is about the combination of a common domain of knowledge, a community of people who care about that domain, and a shared practice. We report part of a qualitative research, which used some concepts of Content Analysis and Arts-Based Research. The data were produced during the years 2018 and 2019, in a private school in Ribeirão Preto-SP. Participants created four PMDs in the two years of the Research, involving Function and Potentiation. The methodological procedures were field notes, PMD, Video recordings of classes and Semi-Structured Interviews. We investigated a pedagogical and multimodal environment that was configured in a different way from the traditional one, with an interaction between students and teacher, who acted as a mediator, providing the creation of an artistic and technological environment. In addition, in this interaction, we were able to perceive the interaction and sharing of concepts and practices, aspects that can lead to resignification in the teacher training process.

Keywords: Arts, Digital technologies, Teacher training.

1 INTRODUCTION

The Doctoral Research, partially reported here, is included in a mosaic (GREGORUTTI; FIRÃO; MISKULIN; SELIGARDI; MILAN; ABREU., 2022) of the Research Group in the process of training and teaching work of Mathematics teachers[i].

In our Doctoral Research (GREGORUTTI, 2022), we investigate aspects/dimensions of how the negotiation of meanings occurs in a group/community in which high school students produce Digital Mathematical Performance (DMP).

Particularly, in this article, we explore characteristics of the teacher as a mediator and his training in relation to this artistic and technological environment that, at times, has assumed some characteristics of Community of Practice.

Digital mathematical performance is conceptualized in this research as artistic and digital narratives of Mathematics. Specifically, we understand PMD as the process of communicating

Mathematics using the Performing Arts and as digital representations of these performances (GREGORUTTI, 2016; SCUCUGLIA, 2012).

Community of Practice (WENGER, 2001) It is made up of people who engage in a collective learning process. This Community has a shared domain for the actions and efforts of the participants.

We investigated, then, the teacher's mediation and the relationship with his training, based on the production process of four PMD, by high school students, from a private school in Ribeirão Preto-SP, throughout the years 2018 and 2019. In this way, we perceive the teacher as a mediator, providing the creation of an interactive, artistic and technological environment. In addition, in this interaction we were able to perceive the interaction and sharing of concepts and practices, important aspects that bring us the need to rethink a possible resignification in the process of teacher training.

1.1 DIGITAL MATHEMATICAL PERFORMANCE, COMMUNITY OF PRACTICE AND TEACHER EDUCATION

Made up of people engaged in a process of social, collective learning in a domain, who share: a concern, a goal or a passion for actions they do and learn, through an interaction, how to do these actions increasingly improved. This definition proposes, but does not intentionally assume, that learning may be the primary reason for a community to start, or that learning may be the incidental result of interaction between participants in a community (MISKULIN, 2010, p. 4).

The beginning of the conceptualization of the Community of Practice (CoP) was developed in dealing with situated learning and the socialization of knowledge in a CoP (MIST; SILVA; ROSA, 2006). Then, the concept was addressed, again by Wenger (2001), considering three dimensions – mutual commitment, joint action and shared repertoire (MIST; SILVA; ROSA, 2006). Finally, Wenger, McDermott and Snyder (2002) worked on the CoP with a definition related to informal groups.

The first concepts of CoP are related to the participation of members in a system of activity, in which participants share understandings and shared meanings coined in their lives and for their communities.

In the second understanding, for Wenger (2001), to be alive, to feel alive means to be frequently engaged in the search and in the process of achieving ventures of the most varied kinds. From the simplest, such as ensuring our physical survival, to the most advanced, such as the search for pleasures in a greater way. This search provokes interactions with other people and with the world, increasing our relationships as human beings. We can say that Wenger (2001) understands that this interaction provides a socially shared learning process.

In the third understanding, communities of practice are understood as the formation of people who engage in a collective learning process, based on a shared mastery of human effort. For example, a network of surgeons exploring new techniques (WENGER, 2015).

This domain is the link between the participants, the members of the Community. It takes place through the connection in a common interest and knowledge. That is, a subject that allows the formation of a possible determined identity in the interaction of some moments of this Community.

Wenger, McDermott and Snyder (2002) point out that mastery inspires community participants to contribute to it, to participate actively, guiding shared learning and attributing meaning to the actions established in that community.

Knowing the domain – its limits, its potentialities – allows members to determine what activities they will engage in and how they will do so. Without this commitment to the domain, the Community will become just a Group of Friends (BENITES-BONETTI, 2018; MENDES; MISKULIN, 2013; MISKULIN, 2010; ISKULIN; SILVA; ROSA, 2006; SILVA; SILVA; MISKULIN, 2010).

In the case of the Group/Community studied in the Doctoral Research, partially reported here, the domain was given by the mathematical concepts (placing the mats concepts) in an ENEM problem, such as potentiation and function, among others, studied during the production process of the PMD.

The Community is made up of a group of people who are concerned with the common domain. These members should help each other, share ideas, information, actions that allow for shared learning. The community will become CoP if participants interact and learn together (WENGER; MCDERMOTT; SNYDER, 2002). There needs to be a sense of belonging, of mutual commitment, among other aspects.

In the case of this research, the Community was formed by the teacher/researcher (author of the PhD research), by a group of high school students from a private school in Ribeirão Preto-SP and the life history of these people. Also, the place (the school) and its history and the interaction between all. The Group/Community was constituted in some moments of our interaction in this research.

Practice is not a simple "doing". It is a historical and social "doing" that gives meaning to what one is doing. It involves social living, participation recognized as participants in a given community and who create their own ways of "doing something" (WENGER, 2001).

The practice is formed by a repertoire of shared actions. Here we have the possibility of articulating common goals, dialogues, actions, reflections and collaboration (MISKULIN.; SILVA; ROSA, 2006). All these actions imply a way of learning and teaching.

In the case of the group analyzed in this research, the practice took place through the production of artistic videos of Mathematics, which we called PMD (FIGHT; SCUCUGLIA; GADANIDIS, 2014). That is, by actions shared in the High School Group/Community when producing PMD, which was composed of writing the script of the videos, producing, recording and editing the video. In addition to the Interviews and Questionnaires answered by some of the participants.

Joint action tends to maintain the Community. For this, a collective process of negotiation of meanings took place. This process involved the complexity of participants making a mutual commitment.

This community that produced PMD, involved an artistic, educational and technological environment. Arts and Mathematics have related in many ways throughout human history (ZALESKI FILHO, 2013).

The notion of digital mathematical performance emerged in 2006 (GADANIDIS; FIGHT, 2008), expanding the dialogic space between these fields in Mathematics Education (BORBA; SCUCUGLIA; GADANIDIS, 2014; GREGORUTTI, 2016). In this way, LDCs can take on various understandings. One of them brings PMD as a line of research in Mathematics Education that is in its initial phase of implementation (BORBA; SCUCUGLIA; GADANIDIS, 2014; SCUCUGLIA; GADANIDIS, 2013), with academic research in several areas.

Another understanding of PMD approaches PMD as multimodal narratives that aim to communicate mathematical ideas through artistic integration (BORBA; SCUCUGLIA; GADANIDIS, 2014).

Our focus will be on understanding that approaches LDCs as an Active Methodology (MISKULIN, 2020), with didactic and pedagogical possibilities, that is, as a methodological strategy of the work of the teaching action for teaching and learning of Mathematics, with integrated use of Arts and Digital Technologies in Mathematics Education.

The PMD tries to bring the knowledge of Aesthetics closer together, as it occurred in Ancient Greece (MARCONDES, 2001). The PMD aims, in this understanding of being Active Methodology (VALENTE, 2017), create an environment for students to actively participate from the beginning of the creation process, inspired by the Pedagogy of the Oppressed (FREIRE, 2011).

It is in this movement that the performative environment can assume, at times, some of the characteristics of Community of Practice (WENGER, 2001). However, for the scope of this article, we will focus on the relationship between teacher mediation and work with PMD.

In this environment, then, the teacher's mediation becomes much more complex. The teacher will not only be focused on transmitting knowledge, in the center of attention. The teacher will be more associated with guiding learning, helping students to create their learning projects.

From this perspective, teacher education needs to be discussed, since there is ample research on teacher education (MEGID, 2009), which alert to new teacher practices, especially teaching practice as a social practice (WENGER, 2001).

Corroborating this perspective, we have the research from our Teacher Education group (BENITES-MANTTI, 2018; MENDES, 2013; RICHIT, 2015; RODRIGUES, 2016) address the concept of Communities of Practice in the teacher training environment, in the educational context.

These researches used several aspects of the Community of Practice, socially shared learning as a very important aspect that emerges from a social practice in the process of teacher training.

Miskulin (2009) points out that technological development provides a new dimension to the educational process. The author points out that this development allows us to transcend outdated paradigms of the traditional model. The author also addresses the importance of teachers being prepared for these changes in order to make ICT an integral part of the student's reality.

Thus, she affirms the need for resizing in the conception of teacher training courses, conceptions that can transcend traditional training, which prioritizes teaching technique, to the detriment of a critical reflection on the use of technology in the educational process.

Javaroni and Zampieri (2015) also point to a resizing in teacher training for the use of DT. The authors also question whether schools would be prepared to support teachers in this regard:

The authors corroborated the research of authors such as Bridge (2014) that address initial teacher training dominated by specific contents, to the detriment of pedagogical knowledge.

However, both in this article and in the Thesis that generated it (GREGORUTTI, 2022), we do not assume fatalism (FREIRE, 2019). We seek to highlight dialogue in the classroom, teaching and active learning, detached from technicality. We see ourselves as beings in transformation, not adaptation. Thus, we think, according to Freire (2019), that teaching involves creating possibilities for students to develop their curiosity, trying to make it more critical.

And then, we ask ourselves: How is the teacher's mediation in the environment of mathematical performance production, which at times has assumed some characteristics of a Community of Practice? In this article, we seek to outline answers to this and other questions about the relationship between teacher training, performative and digital environment based on the analysis of the three PMDs produced in a private high school in Ribeirão Preto-SP, between the years 2018 and 2019.

2 METHODOLOGY

The Research Methodology communicated here was qualitative, with the use ofBased Research (FINLEY, 2005) and Content Analysis (BARDIN, 2011). Field Notes, Video Recordings of the classes, Interviews and the PMD, produced with the participants were the methodological instruments for the production of the data analyzed.

Four PMDs were produced throughout 2018 and 2019, in the High School of a private school in Ribeirão Preto-SP. The meetings in the two years had as a problem to be solved the following question of the National High School Exam (ENEM):

A city government is concerned about a possible epidemic of an infectious disease caused by bacteria. To decide what measures to take, you should calculate the speed at which the bacteria reproduces. In laboratory experiments of a bacterial culture, initially with 40,000 units, the formula for

the population was obtained: p(t) = where t is the time, in hours, and p(t) is the population, in thousands of bacteria. Regarding the initial amount of bacteria, after 20 min, the population will be40.2^{3t}

(a) reduced to one third.

(b) halved.

(c) reduced to two-thirds.

d) duplicate.

e) tripled.

Throughout the meetings, the students produced two videos, based on their parody of a funk song. The first video is a music video for the song called "Exponential of Bacteria". The second is an animation called "Exponential Bacteria":

In 2019, the students produced two videos throughout the meetings, based on their parody of a funk song. The first video is a music video of a parody of a Funk. The second, a recorded theater with the title "Bacteria in the Kingdom":

The classroom, in our view, was configured, during all the meetings, as a multimodal learning environment (WALSH, 2011), since, in all meetings, students could use projectors, laptops, colored pencils, crayons, costumes of various types (hats, wigs, makeup, clothes, etc.), musical instruments, chalkboards, among others. for the possible interaction between the participants, the teacher and the available material, arising, in some moments, the negotiation of meanings, through the PMD. In addition, the subjects of this research consist of thirty-three (33) high school students from the aforementioned school.

3 RESULTS AND DISCUSSIONS

And to be dialogical, for true humanism, is not to say that it is uncompromisingly dialogical; it is to experience dialogue. To be dialogical is not to invade, it is not to manipulate, it is not to "sloganize". To be dialogical is to commit oneself to a constant transformation of reality (FREIRE, 2017, p. 51).

We begin this section with a quote that addresses dialogue, understood as a constant transformation of reality (FREIRE, 2017). In our educational context, it is not a simple task for the teacher, students and school culture to work in a dialogical perspective, since we perceive the complexity pointed out by many authors, since teaching with traditional Pedagogy tends to persist (BRAZIL, 2018, 2020; FREIRE, 2016; SAVIANI, 2020).

Corroborating these authors, some of the participants in the production of PMD reported in this article point out that teaching is mechanical, technical, boring, and opposed to thinking:

Peter: In the basic part, it's mechanical. Knowing more, less, times, sharing, you take it for life, but it's very technical. I only learn how to perform a procedure. Not thinking. Log type. The procedure is quick, you don't think about what it is. It's very technical.

Mary: I think it's very boring. Those who do well in Mathematics are not those who think too much, they are those who use the techniques that Mathematics has. [...] It's very technical, more mechanical. Procedural.

If dialogue is one of the factors that will be one of the possibilities of teaching different from the traditional one, another aspect is the active participation of the students, with the mediation of the teacher (FREIRE, 2015; BRAVE; ALMEIDA; GERALDINI, 2017) in the educational process. Dialogue, mediation, and teacher are interrelated. Some demonstrations by students go in this direction:

Peter: And then we gave you a lot of ideas for that. We are the ones who created the lyrics. We took a cell phone to choose the song, listen to it and get the beat. And also to make the lyrics. To record we use the cell phone camera. Quite different from what the traditional classroom is.

Paulo: Because you [teacher/researcher] led the environment, created the environment and the people who participated. The room was very different. In a circle, chairs are set apart, with costumes. Various technologies available. And I think more conceptual. Because we think, we create.

So, active students, in a dialogic environment is a completely different characteristic for the teacher, accustomed to a more traditional environment, in which he is at the center of the educational process (FREIRE, 2011). The role of the teacher will transform it into a mediation for the creation of an environment with characteristics that provided the sharing of ideas and concepts among the participants. The teacher's mediation, then, becomes very important in this process (ROMANELLO, 2016; SILVA, 2018; BRAVE; ALMEIDA; GERALDINI, 2017), because, as already mentioned, the teacher becomes one of the participants in the learning group/community, mediating the process through a social practice (WENGER, 2001), where the participants participate and have the possibility to make rectifications on the mathematical, pedagogical and artistic concepts, worked on in this interaction.

The second characteristic with which the teacher's mediation could be transformed, in this interaction, with the theoretical and methodological perspectives of the authors mentioned above, would consist in the alteration of the traditional classroom, since there were "objects" different from those that are commonly found in the classrooms (BRAZIL, 2018; FREIRE, 2013; OECHSLER, 2018), such as costumes, technologies, musical instruments, among others. It is an environment format to highlight multimodality (WALSH, 2011)

Carolina: The room was different. In the face-to-face room, the room had different materials, with different desks. We used some things that we brought from home. There was a lot of different things in the room.

In addition, the layout of the classroom was in a different format than what is traditionally known, as the students were in a circle, with the chairs apart. The rows of desks gave way to a more open space, which allows the students' bodily performance, the uniform gave way to a more colorful environment, with costumes and props, among others.

This proposal, which was configured in a more dynamic way, also involved the technological aspect. In the process of creating this environment, the teacher used a larger space for visualization and experimentation by the students, whether recording or editing a video, composing a song, etc.

With this change in the teacher's mediation, in this interaction, emphasizing the dialogue, for the use of Arts and digital technologies, ceasing to be the center of knowledge transmission, it may lead to a transformation in the training of this teacher and these students, in the sense of a reification of pedagogical and mathematical concepts (WENGER, 2001)

Valente and Almeida (2020) point out that opportunities are needed for teachers to be able to use Digital Technologies in the classroom, to enhance new teaching practices. In addition, the use alone is not enough, as these teachers would need to pedagogically appropriate these technologies, to provide an improvement of the curriculum and an integration into the teaching and learning processes.

The authors also point out that Digital Technologies have not been appropriated by Education, at its different levels of education, as they have been implemented by the productive sectors, telecommunications, and the evolution of science. However, there are opportunities for the use of digital technologies in the teacher's practice, which we will show below, presenting some research.

This factor also appears in research on the use of digital technologies in Mathematics Education, since teacher training is dominated by specific contents, also to the detriment of technological knowledge (BENITES-BONETTI, 2018; CHINELLATO, 2016; ROMANELLO, 2016).

4 CONSIDERATIONS

Considering the thesis partially reported here, we point out that PMD as an Active Methodology (VALENTE; ALMEIDA; GERALDINI, 2017) It will contribute to the resizing of the teacher's role in the classroom.

First, in order for teachers to be prepared for these changes, it will also be necessary to transform teacher training. A training that will give greater prominence to pedagogical training.

The teacher will cease to be the center of knowledge transmission to a role of environment creator. It is the teacher who will create the environment that can enable interactivity, the sharing of ideas and the negotiation of meanings. We understand, then, that all the aspects/dimensions pointed

out in our Research (GREGORUTTI, 2022) are related to the teacher's didactic and pedagogical decisions. These choices also depend on the permission and guidance of the school's coordination and management.

The change will involve a teacher willing to create a different environment in terms of the physical layout of the classroom: from a more formal, rowed-up, gloomy space to a more open, colorful space, conducive to dialogue and interactions between students, which will promote students to the center of activities. The teacher will also leave the physical center of the classroom in many moments.

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Nutritional and metabolic repercussions of bariatric surgery on the maternal body and newborn

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ABSTRACT
Obesity is a public health problem in the world and one of the most serious to face according to the World Health Organization. The surgical treatment of this disease is done through bariatric surgery, which in addition to weight loss occurs the remission of diseases associated with obesity, such as diabetes and hypertension. The indication for this surgical procedure is based on four criteria: body mass index, age, associated diseases, and duration of the disease.

Keywords: Pregnancy complications, Bariatric surgery, Pregnant women's nutrition.

1 INTRODUCTION

Obesity is a public health problem in the world and one of the most serious to face according to the World Health Organization. The surgical treatment of this disease is done through bariatric surgery, which in addition to weight loss occurs the remission of diseases associated with obesity, such as diabetes and hypertension. The indication for this surgical procedure is based on four criteria: body mass index, age, associated diseases, and duration of the disease. Thus, it has now become a frequent procedure for the treatment of this chronic disease. However, in women of childbearing age who became pregnant after the procedure, some disadvantages were observed in relation to the disabsorption of some nutrients caused by the surgery, which end up having repercussions on the maternal and child bodies.

2 OBJECTIVE

To discuss the nutritional impacts on women who became pregnant after bariatric surgery and their possible consequences on the newborn.

3 METHODOLOGY

The present work consists of a literature review with exploratory and retrospective research carried out in the Scopus and PubMed databases, between June 03 and 24, 2022, using the descriptors "pregnancy complication" AND "bariatric surgery" AND "nutrition during pregnancy". Seven articles were selected for the writing of the abstract, using as exclusion criteria cases of articles without free/open access, titles discrepant with research interests, repeated articles in the databases, review articles, articles published before 2017 and also subtracted from the reading of the abstracts, thus totaling the amount of 5 articles.

4 RESULTS

It was observed that women who became pregnant after bariatric surgery had nutritional and metabolic repercussions on the body, as well as newborns. A high prevalence of micronutrient deficiencies was observed in pregnant women and neonates who were born small for gestational age (SGA). In addition, one study showed vitamin A deficiency in 90% of the pregnant women in the sample. Another study, however, revealed that pregnant women with nutritional counseling had a lower rate of SGA babies, as well as pregnant women who had low weight gain during pregnancy had a higher rate of SGA children and those who underwent fertility treatment (n=14) did not have any SGA babies. In addition, it was observed that neonates of mothers with Roux-en-Y gastric bypass had micronutrient deficiencies in the umbilical cord. In contrast, another analysis of a retrospective case-control study revealed that there is no statistical difference between women who became pregnant before and after 1 year after bariatric surgery regarding hemoglobin, ferritin, and 25-OH Vit-D.

5 CONCLUSION

Pregnancy after bariatric surgery causes nutritional impairment in both mother and newborn. There is evidence on the relationship between SGA neonates and those with micronutrient deficiencies when nutritional counseling is not carried out during pregnancy. Therefore, the importance of multidisciplinary follow-up of these pregnant women can be perceived, so that quality dietary follow-up can be carried out. However, another study concluded that there was no difference between post-bariatric pregnant women before and after one year in relation to hemoglobin, ferritin and 25-OH Vit-D.

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The textual genre *comic strips* under the light *Gilles Fauconneir*

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ABSTRACT
The present study is a reflection on the Cognitivist Theory, based on the reading of Mental Spaces, from the point of view of Gilles Fauconnier. Fauconnier's cognitive approach is applied to the textual genre comic strips to illustrate the occurrence of the comprehension process that is based on Mental Spaces. As a discursive genre, we seek to conceptualize the comic strip to situate it as an important object of reading. The proposed analysis is directed to the Armandinho comic strips produced by cartoonist Alexandre Beck.

Keywords: Cognitivism, Fauconnier, Comprehension, Comic strips.

1 INTRODUCTION

The practices of reading and comprehension of texts allow the reader free access to the most varied means of information and types of knowledge. The complexity of the act of reading and the multiplicity of components involved in the process are questions raised by scholars and professionals in the field who, from different perspectives, try to unveil the "art" of reading.

Due to the importance of reading for man and for the society in which this man lives, this work proposes a discussion about the cognitive approach to reading, based on *Gilles Fauconnier's Theory of Mental Spaces.* The field of analysis in which the theory will be applied focuses on the textual *genre comic strip*, understood as an emergent space that is constituted through the information from the reading in processing in the working memory, which searches in the long-term memory for pertinent prior knowledge and also processes the new knowledge arising from the reading of the text online.

2 COGNITIVE APPROACH TO READING

The reading perspective addressed in this study is based on cognitive linguistics, specifically, on the model of mental spaces, proposed by Fauconnier. However, one cannot begin a discussion like this without first reviewing the ideas that became the starting point for modern linguistics in the twentieth century. It was decided to search for some concepts of modern linguistics, which as *a counterpoint,* will start the analysis. Initially, the *book* that exposes Saussure's ideas, built from notes written by his students between 1907 and 1911, at the University of Geneva, is resumed. The studies

present language as an articulated system, in this approach language is form and not substance, and must be studied in and of itself. From this perspective, the *immanent study of language* is carried out , abandoning any extralinguistic factor. Recognized as structuralist theory, it understands language as a set of rules, which constitutes an organization, a system. Martelotta then exposes more characteristics of this approach:

> From this perspective, the relations between language and society, language and culture, language and geographical distribution, language and literature or any other relationship that is not absolutely related to the internal organization of the elements that constitute the linguistic system are excluded (MARTELOTTA, p.114, 2013)

From this perspective, language studies are based on linguistic forms that are carriers of meaning; That is, the meaning is in the word, and the linguistic sign is formed by a signified and a signifier. For Saussure, the meaning of the word needs to be deciphered by the mind.

Noam Chomsky opposed structuralism by proposing generativist theory. Theorists of this approach assume that language is not an independent component of the mind, or other mental faculties. Unlike the Saussurian theory, in this one, it is essential to keep in mind that linguistic competence is innate, stemming from human genetic inheritance.

Classical cognitivist theories are based on symbolic representations, which can be manipulated by certain rules. These theories compare the human mind to a computer, since the mind would be formed by modules and submodules, which would perform their functions unconsciously, quickly and mechanically, such as reflexes. There are several hypotheses that underlie the cognitive theory, Koch makes the following reflection on it:

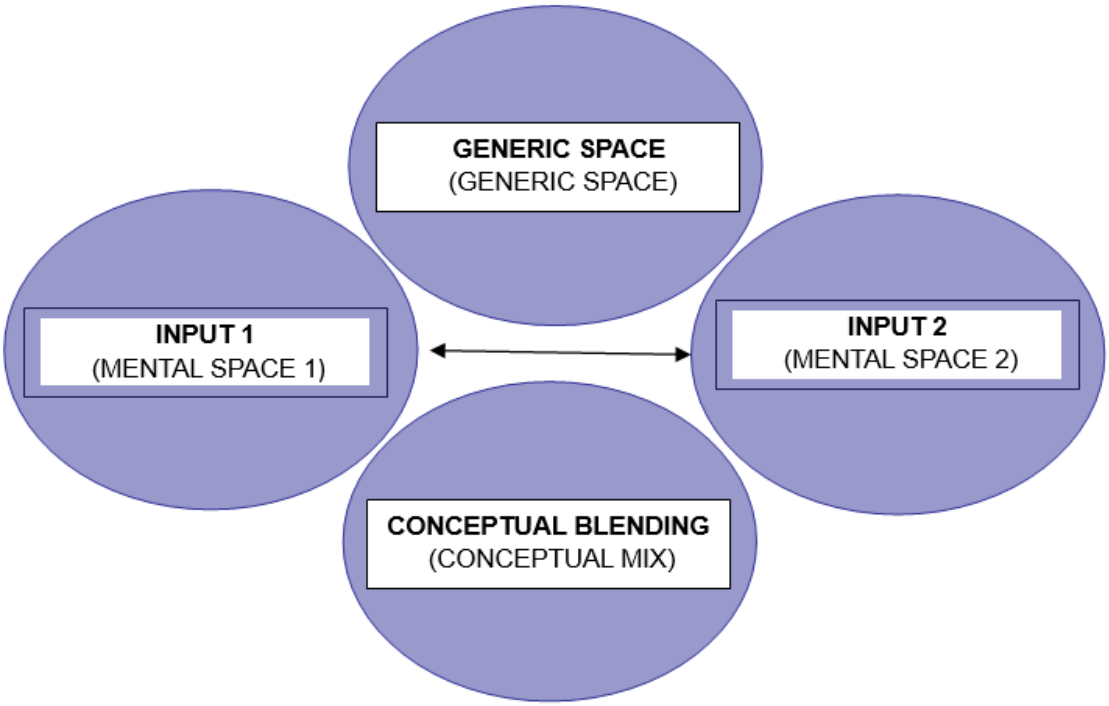
> In any case, a basic principle of Cognitive Science is that man mentally represents the world around him in a specific way and that, in these structures of the mind, certain processes of treatment take place, which enable very complex cognitive activities. This is because knowledge does not consist only of a static collection of experiential contents, but also of skills to operate on such contents and use them in social interaction (KOCK, p. 37, 2011).

On the other hand, Gilles Fauconnier's Theory of Mental Spaces is based on the conception of *language as a cognitive instrument* and no longer as a mental faculty. This dissidence of cognitive linguistics that has detached itself from classical theory treats meaning from a different perspective, it is not the word that possesses the meaning, but the mind; language has the function of guiding and activating the meaning. The model works with an integrative perspective of cognition, which goes against modular cognitive theories such as Chomsky, considering cognitive organization as an integrated system of language and sociocultural structure.

The role of language for Fauconnier is to construct *mental spaces – space builders*, characterized as demarcated fields, are equivalent to a part of the mind, which is imagined as a vast space. In other words, mental space is part of a large terrain, which is the human mind. Texts, words,

and linguistic forms, in general, are considered responsible for the construction of these spaces, which are formed at the time of speaking, reading, writing, and thinking. They play the role of guides for these actions, which create these spaces as new subjects arise, meeting the momentary needs of use. Because they are made up of linguistic forms, they are discursive mental spaces, because they serve the purpose in which language is involved.

Fauconnier's theory postulates that imagination and integration of identities is a process represented by four hierarchically organized circles, which he calls the *Minimal Network*. The network works with two mental spaces – input 1 and 2 – and from them, a third mental space is obtained, the so-called *Conceptual Blending*. As an example, below is a diagram of the *Minimal Network*.



The conceptual blend integrates the components of inputs 1 and 2, creating an emergent structure. *Conceptual Blending* refers to the ability that differentiates man from other animals: the ability to conceive concepts and integrate them to form new patterns of thought. According to these considerations, one can conceive how meaning is processed by the human mind. According to Ferrari:

> Conceptual blending is a mental operation that can be considered the origin of our aptitude for inventing new meanings. It consists of an operation through which a partial projection is established between two initial spaces (*Input 1* and *Input 2*), which allows a correspondence between analogous elements. This correspondence, in turn, is licensed by the *Generic Space*, representative of the abstract structure that the initial spaces have in common. Finally, there is a fourth space, called *Blend,* which brings together elements projected from the *inputs*, establishing an emergent structure of its own that does not exist in the initial spaces. (FERRARI, p. 120-121, 2014)

In accordance with Fauconnier's theory of mental spaces, it is proposed the analysis of the cognitive processing of reading and the production of meaning, applying its concepts and form of conception to the concepts of *comic strips*, as a discursive genre present in the educational environment.

3 THE COMIC STRIP GENRE

The act of reading has become an essential activity for civilized man, because it inserts him into a world of knowledge and social possibilities unimaginable without its presence. Knowing how to read has become an indispensable condition for access to any area of the sciences and, even more, for effectively participating in life in society, since reading has a utilitarian function, but also a transforming function of this society. Morais (1996) discusses the social function of reading as follows:

> Reading is already indispensable in everyday life, even outside the professional sphere. Written texts replace spoken information, individually, at airports and stations, shops, banks... It is no longer a question of being able to read only the name of the subway station, the advertisements or the telephone number of someone on the list, but of knowing how to read computer information, weather reports, tourist catalogues, medicine leaflets, instructions for the use of household appliances, etc. p.21, 1996)

There is a consensus among researchers and teachers that reading and understanding texts are highly complex cognitive activities. They are made up of numerous internal processes related to the mind; and external, related to the text and the extralinguistic context. As an internal brain activity, the Theory of Mental Spaces proposes the study of cognitive processes that interrelate language and cognition. In this sense, the knowledge acquired in the school environment is recorded, stored and consolidated in long-term memory; With the emergence of new data throughout the educational process, the information that is already stored and the new data are reorganized and integrated with the existing ones, thus originating new systematizations of knowledge.

In order to deepen the discussion and in order to better characterize the study proposal presented here, we resort to the concepts of textual genre, textual type, discursive domain and, subsequently, the definition of comic strip. The variety of genres is considered immense, but not infinite. Textual genre is understood as the texts found in everyday life and that have the function of fulfilling certain social needs: letter, phone call, report, horoscope, public notice, restaurant menu and so on. The *textual type* is considered a theoretical construction with defined properties that are established within the genres; the categories of the types are determined by lexical, syntactic, logical and verbal aspects; the types are known as narration, argumentation, exposition, description, injunction. Discursive domain *is understood as the existence of different spheres of discursive production or human activities (MARCUSCHI, 2008).*

According to the concepts of genre, type and discursive domain exposed here, which are based on theorists of textual linguistics (MARCUSCHI, 2008), it is inferred that any and all verbal manifestations that fulfill a social function and lend themselves to communication are considered a textual genre; the textual type, on the other hand, is a kind of sequence defined by its nature and its linguistic composition; as for the *discursive domain*, it is not a question of texts or discourses, as the term supposes, but from social spheres that provide the emergence of specific discourses. As an example, the religious discursive domain is cited, in which several textual genres circulate. In this work, the *Minimal Network* will have as *Generic Space* the *educational discursive domain*. It is noteworthy that the educational sphere is a didactic space, and therefore, in addition to the genres of education, any and all genres that have a didactic function fit.

In view of the concepts of *genre, type and discursive domain*, mentioned above, the need to define the *comic strip* and situate it in relation to the definitions addressed emerges. Considered as a textual genre of the subgroup of comic books (comics), and preferred among readers of the children's audience, the strips are shorter, written between 3 and 6 comics. Some characteristics are pointed out by Ramos (2011), in order to structure this genre: fixed and horizontal format; drawn images; characters can be fixed or not; use of dialogues; theme approached in a humorous way; tendency to an unexpected outcome, such as a joke; It may have thematic continuity in other strips.

The comic strips are predominantly narrative typological compositions, but due to their heterogeneous character they also present themselves as expository, injunctive or argumentative types. The discursive environment of the comic strip is journalistic, so that the "producer" uses this genre to criticize, satirize, or even emphasize his opinion in a persuasive way on some subject that is in vogue in society. Sérgio Roberto Costa, in his Dictionary of Textual Genres, defines the comic strip as:

> COMIC STRIP (e.g. COMICS, *COMICS*, CARTOONS, COMIC BOOKS, COMIC STRIPS, MANGA): A SEGMENT OR FRAGMENT OF COMICS, USUALLY WITH THREE OR FOUR FRAMES, PRESENTS A SYNCRETIC TEXT THAT COMBINES THE VERBAL AND THE VISUAL IN THE SAME UTTERANCE AND UNDER THE SAME UTTERANCE. It circulates in newspapers or magazines, in a single horizontal strip of about 14 cm x 4 cm, in general, in the "Comics" section of the amusements, amenities or also known as recreational [...]. (COSTA, 2014, p.219)

The production of the humorous sense, which also defines the comic strip, is formed by the visual and verbal character. The humorous position of this genre provides students, in the educational discursive environment, with a different posture to the readings, which most of the time are made with uninteresting texts that do not arouse the student's curiosity.

The comic strips that will be the stage for this analysis were chosen from the proposal of Alexandre Beck, from Santa Catarina, who since 2009 has been creating comic strips and is the "father" of the character Armandinho, who in his stories usually talks to adults and leaves readers an invitation to reflection. The communicative potential of "Armandinho" has led to the comic strips being

published in several newspapers around the country and on pages on social networks where he has a large number of followers, Beck said in an interview with the electronic magazine Wide.

4 CONCEPTUAL BLENDING: TIRINHA

In line with the concepts presented here, it risks illustrating the Theory of Mental Spaces from the knowledge derived from the textual genre comic strip, which necessarily mobilizes knowledge present in long-term memory. The verbal-visual constitution of the comic strip provides an articulation between the linear dimension of the word and the non-linear dimension of the image, requiring more efforts from the reader to produce meaning. To understand the communication contained in these comic strips, the reader needs to recognize the characteristics and functioning of a school. Below are two comic strips of the character *Armandinho* that will be analyzed, for such activity, here they will be named Comic Strip *01 and Comic Strip 02* . In both examples, there are visual and verbal resources, which enable the interaction of information. It can be seen that Armandinho, when he arrives home from school, is questioned by the figure of an adult, his father, about how his day as a student was.

Comic strip 01:



Source: Available at: https://www.facebook.com/tirasarmandinho/?fref=ts Accessed on: June 20, 2016

Generic Space: Educational environment.

Input 01 (mental space 01): behavior, activities performed, grades, attendance, participation, teachers, students, coordination, recreations, schedules.

Input 02 (mental space 02): bathrooms, doors, chairs, walls.

Conceptual Blending (conceptual mix): the junction of the two spaces results in the merging of information, which while Armandinho's father questions him about the activities resulting from student life or any event foreign to this daily life, in which he uses the question: *How was the school today, son?* Armandinho replies: It was fine! *Bathrooms, doors, chairs, walls... All right!* In a disinterested way, Armandinho refers to the physical space of the school, as if any "wrong" or "strange" fact were related to the school itself, and not to the student, in this case Armandinho. The cartoon addresses a typical behavior of students, who, when questioned by their parents about how they are performing in school activities, divert the conversation so as not to give the requested information.

Comic strip 02:



Source: Available at: https://www.facebook.com/tirasarmandinho/?fref=ts Accessed on: June 20, 2016

Generic Space: Educational Environment

Input 01 (mental space 01): learning, doubts, tasks performed, performance, class, participation, subjects, contents, teachers.

Input 02 (mental space 02): Your Excellency, Your Magnificence, Your Majesty, pronouns, address pronouns, Portuguese class.

Conceptual Blending: The conceptual blending of this cartoon emerges from the integration of mental spaces 01 and 02. In the first mental space there is information that has already been acquired and remains in the memory, it is the information that refers to the two questions of Armandinho's father: *How was the class, son? And what's the matter?* The questions asked by Armandinho's father assume that the answers would be related to his son's learning process, and to the contents that were taught at school. In turn, Armandinho, in a positive way, responds to his father using forms of address that direct the reader's understanding to the content of the lesson: *Excellent, Your Excellency! Indeed, it was magnificent, Your Magnificence! Imagine, Your Majesty!* Loaded with humor, the cartoon brings to reflection the contents that are addressed in Portuguese language classes and that, in a way, are decontextualized from the student's daily life.

5 FINAL THOUGHTS

By way of conclusion, the considerations launched by this study intended, through the concepts worked, to exemplify the cognitive processing of reading. The expositions made throughout this work point to a perspective of mental processing based on Fauconnier's theoretical framework of cognitive linguistics. In the conceptual blending, the textual genre comic *strip* stood out in which, from the reading of the character *Armandinho,* it became possible to illustrate the steps in which the process of interpretation occurs according to the Mental Spaces. The importance of the *comic strip* as a potential genre for the consolidation of reading practices in the classroom is emphasized, in view of the verbal and visual characteristics that need to be incorporated into the comprehension process.

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The global water crisis: Be the change you want to see in the world

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ABSTRACT
The work is based on narrative description carried out through materials that have been pub-lished on the theme of water on a global and regional scale. The context presented is guided by the Declaration endorsed by the United Nations General Assembly establishing the dec-ade from 2018 to 2028 as the International Decade of Action "Water for Sustainable Devel-opment" in order to accelerate efforts to address water-related challenges. The theme "Ac-celerating Change – Be the change you want to see in the World" was also instituted as a Commemoration of World Water Day for the year 2023, with the aim of discussing ways to accelerate change to solve the global water and sanitation crisis. This narrative was prepared with the purpose of promoting knowledge of problems related to the global water crisis and, at the same time, seeks to sensitize the reader about their role in mobilizing and acting to face this crisis. Actions such as encouraging the participation of young people in Science, the popularization of Science through qualified information, and the awareness and support of the entire society in the face of the needs of conservation, preservation, restoration, and recovery of nature are some of the attitudes to minimize the effects of the global water cri-sis.

Keywords: Environment, Climate change, Pollution, Environmental impact.

1 INTRODUCTION

Why do we depend on nature to live? As living beings, we do not live without air, water, and food. Among the main elements that sustain life on Earth are oxygen and water. Our planet's atmosphere is the gaseous layer that surrounds the Earth and is composed of gases such as oxygen, hydrogen, and carbon dioxide. But how is oxygen present in the atmosphere? Forests and oceans are key to producing this chemical element composed of 2 oxygen atoms, which form a molecule. The vegetation that makes up forests is important for the maintenance of the oxygen cycle in the atmosphere, but its great relevance is the regulatory role of the hydrological cycle. This is because, through the processes of evaporation and precipitation, forests maintain a large part of the volume of water in the oceans as well as groundwater that is responsible for the formation of surface waters (rivers and lakes). The fundamental role of the oceans in the hydrological cycle is to generate oxygen for the atmosphere, which is capable of producing more than half of this element through the photosynthesis processes carried out by the primary producers that inhabit these waters. The oceans make up more

than 97% of all the water that exists on the globe, surface fresh waters (rivers and lakes) represent 0.03% of the 3% of fresh water because much of it (77%) is frozen.

The importance of the oceans to global climate change cannot be underestimated. The oceans regulate our climate and capture almost a third of our carbon emissions. Oceans, marine ecosystems, and coastal regions are undergoing major changes due to rising greenhouse gases, coastal pollution, overfishing, and population growth, among other factors (United Nations Educational, Scientific, and Cultural Organization, UNESCO).

Although surface freshwater represents a small part of the planet's water, it is of fundamental importance to all living beings that inhabit the Earth. A large part of the human population is dependent on surface water and many do not have access to water of quality or quantity. With the urbanization process, due to the reduction of green areas, the increase in waterproofing, channeling of water bodies, among other interventions in the environment, there have been changes in the hydrological cycle, such as increased surface runoff and reduced water infiltration into the soil. The changes in this cycle come from anthropic actions on nature. The burning of fossil fuels and deforestation cause the release of greenhouse gases. Both activities skyrocketed after the nineteenth century (Industrial Revolution), leading to the accumulation of these gases in the atmosphere, notably carbon dioxide. Climatic phenomena such as the greenhouse effect, acid rain, thermal inversion and heat islands are some of the consequences of the ecological imbalance caused by human actions. Changes in global rainfall patterns are causing lower-than-expected food production (crop failure) and, consequently, an increase in food prices, which means food insecurity and nutritional deprivation of the population living in poverty or extreme poverty. In addition, they also have the potential to destroy livelihoods, drive migration and conflict, and undermine opportunities for children, adolescents and young people (United Nations Children's Fund, UNICEF). Considering the intervention of humanity on nature bringing often unpredictable consequences on life on the Planet, the present work aims, from a narrative description, to present different aspects that are related not only to the global water crisis and its consequences, but also to highlight actions and attitudes that can minimize the negative effects of climate change. mainly, about the hydrological cycle.

2 THEORETICAL BACKGROUND

The Intergovernmental Panel on Climate Change (IPCC), created in 1988 by the United Nations Environment Programme (UN) and the World Meteorological Organization (WMO), aims to provide policymakers with regular scientific assessments of climate change, its implications and possible future risks, as well as to propose adaptation and mitigation options. Currently, the IPCC has 195 member countries, including Brazil (Ministry of Science, Technology and Innovations, MCTI). Climate change mitigation is achievable by limiting or preventing greenhouse gas emissions and strengthening

activities that remove these gases from the atmosphere. Greenhouse gases can come from a variety of sources, and climate mitigation can be applied across all sectors and activities, including energy, transport, buildings, industry, waste management, agriculture, forestry, and other forms of land management (IPCC). In this sense, international organizations are mobilizing to form frontlines to expand the dissemination of information generated by the scientific community and carry out campaigns to mobilize the entire society to face the consequences caused by the destruction of nature.

The first actions aimed at enlightening society about the consequences of the destruction of the environment began with the end of World War II (1945) due to the emergence of concerns about radiation pollution resulting from the nuclear age. In 1962, the environmental movement was again boosted with the publication of Rachel Carson's book, *"The Silent Spring,"* which warns against the agricultural use of synthetic chemical pesticides. Carson, a scientist and writer, pointed out that the protection of human health and the environment depends on respect for the ecosystem in which we live (Environmental Company of the State of São Paulo, CETESB, 2020). In 1969, the first photo of the earth seen from space (National Aeronautics and Space Administration, NASA) drew the attention of many to the fact that we live in a fragile and interdependent ecosystem. This has caused the need to protect the health and well-being of this ecosystem to emerge in the collective consciousness of the world. Environmental movements have been gaining ground in order to sensitize the entire society about the importance of preserving the environment. Reflecting the environmental movements and aware of the need for a global mobilization with the participation of as many signatory countries as possible, World Water Day was created by the UN on March 22, 1992, where the "Universal Declaration of Water Rights" was disseminated. And each year, this day is dedicated to the discussion of the various topics related to this important natural asset. For the year 2023, the UN has defined, for World Water Day 2023, the theme "Accelerating Change – Be the change you want to see in the World", with the aim of discussing ways to accelerate change to solve the global water and sanitation crisis.

3 METHODOLOGY

The present work is based on a narrative description made through materials that have been published on the theme of water on a global and regional scale. Extensive publications that focus on the description and discussion of the state of the art of the water crisis stand out. The context presented is guided by the Declaration endorsed by the UN General Assembly establishing the decade from 2018 to 2028 as the International Decade of Action "Water for Sustainable Development" in order to accelerate efforts to address water-related challenges. Also with the purpose of strengthening the Popularization of Science, the work highlights the Commemoration of World Water Day for the year 2023, where the theme "Accelerating Change – Be the change you want to see in the World" is

instituted, with the aim of discussing ways to accelerate changes to solve the global water and sanitation crisis.

4 RESULTS

Water is our most precious resource, a 'blue gold', to which more than 2 billion people do not have direct access. Not only is it essential for survival, but it also plays a sanitary, social and cultural role in human societies (Audrey Azoulay – Director-General of UNESCO). Water is a unique and irreplaceable resource of limited quantity. It sustains life, societies and the economy, carries multiple values and benefits. But unlike most other valuable resources, it has proven to be extremely difficult to determine its true 'value'. The ecological footprint is the balance between human demand for natural resources and the planet's regenerative capacity. It corresponds to the size of the productive areas of land and sea needed to generate products, goods and services that we use in our daily lives - and whether this consumption is within the ecological capacity of the planet. According to calculations by the Global Footprint Network (GFN), 1.7 planets would be needed to produce the ecological resources needed to support the current global ecological footprint. This is the consequence of the fact that humanity requires 70% more than the Earth's ecosystems are capable of regenerating (GFN).

The latest UN projections indicate that the world's population is expected to reach 8.5 billion in 2030 and 9.7 billion in 2050. In all, there are thousands of languages, ethnicities, traditions, cultures, religions, which denotes the remarkable diversity of societies around the globe. In 2023, we reached more than 8 billion people in the world. Among the various issues that involve the global water crisis, we can highlight the issue of sanitation, where it is known that around 70% of diseases come from water transmission. In the current world scenario, 40% of the world's population (3 billion people) does not have a washbasin with soap and water at home. And 47% of schools lack a washbasin with soap and water, affecting 900 million school-age children. Washing your hands with soap is one of the cheapest and most effective things you can do to protect yourself and others against the coronavirus, as well as many other infectious diseases. However, for billions of people, even the most basic measures are simply out of reach (UNICEF). UNICEF works around the world to ensure that children and their parents have access to appropriate handwashing facilities. In addition, it promotes handwashing in more than 90 countries, working with governments to develop policies, strategies, and action plans (Figure 1).

Figure 1. Access to appropriate handwashing facilities (Only for bona fide national/international media for specified use relating to UNICEF-supported issues, programmes, or campaigns. One Love album artwork. Unique identifier: UNI348647 and In-house Identifier: 202003101238_Jordan_JMC_7237).



Faced with alarming scenarios involving the global water crisis in relation to the environment, health and social well-being, and enhanced by the effects of climate change bringing water and food insecurity to billions of people, global campaigns seek to sensitize the different sectors of society to build together actions and attitudes that can minimize the consequences of this crisis.

The World Water Day 2023 Campaign uses as an awareness strategy the fable of a hummingbird that strives to put out a forest fire by carrying water through its beak. It is a story about dealing with crises presented in Figures 2 and 3.

Figure 2. The Fable of the Hummingbird (UN Campaign 2023) https://www.worldwaterday.org/share-2023.

A fábula do Beija-flor

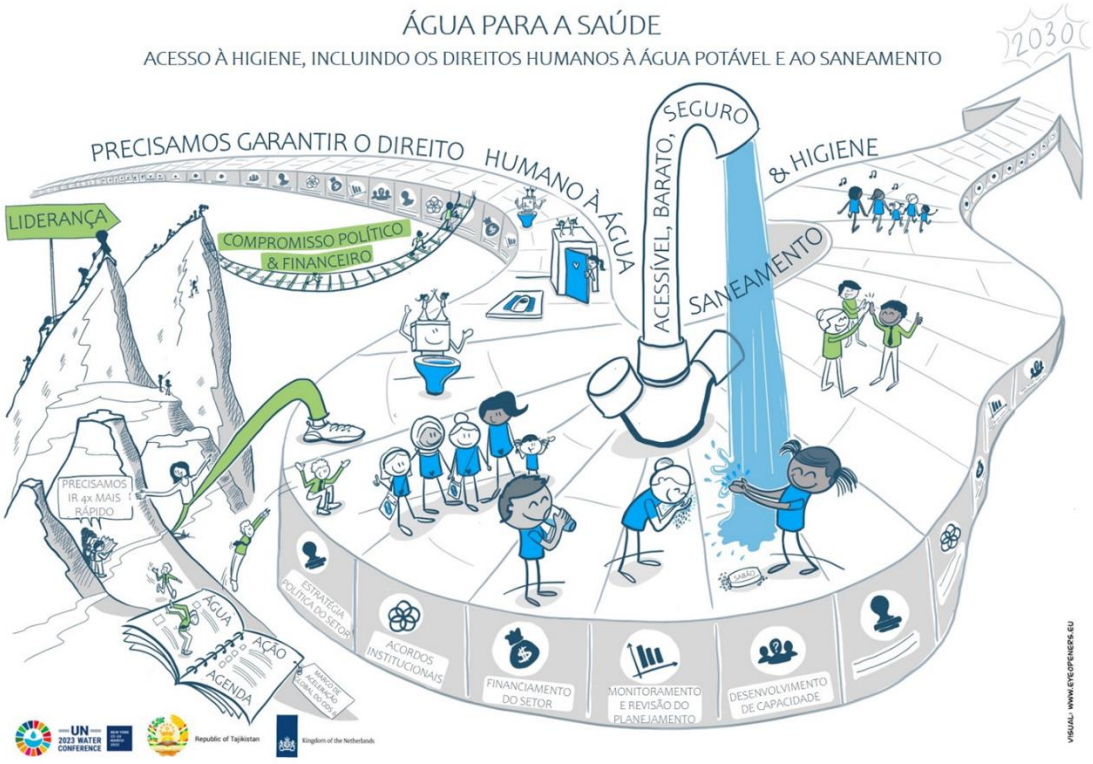
Era uma vez uma floresta, onde um incêndio teve início. Todos os animais fugiram para salvar suas vidas. Eles ficaram à beira do fogo, olhando para as chamas com terror e tristeza.
Acima de suas cabeças, um beija-flor voava de um lado para outro em direção ao incêndio, repetidamente. Os animais maiores perguntaram a ele o que estava fazendo:
– Estou voando até o lago para pegar água e usá-la no combate ao fogo.
Os animais riram dele e disseram:
– Você é louco! Você não vai conseguir apagar o incêndio!
E o beija-flor replicou:
– Estou fazendo aquilo que posso.
O Beija-flor está ajudando a solucionar o problema, gota a gota. Ele está sendo a mudança que deseja ver no mundo.
Você também pode ser um Beija-flor. Cada atitude sua, não importa quão pequena seja, ajudará a solucionar a crise global da água.

Figure 3. Symbol of the UN 2023 Campaign "Be the change you want to see in the world" https://www.worldwaterday.org/share-2023.



In order to achieve the goals contemplated in the 2030 Agenda, guidelines to accelerate changes to guarantee the human right to water were established (Figure 4).

Figure 4. Global campaign to achieve the Sustainable Development Goals (SDG 6) - translated (https://www.flickr.com/photos/undesa/52675742678/in/album-72177720305856698/).



In line with campaigns to involve society in the global water crisis, the popularization of science is fundamental for the dissemination of knowledge. In this sense, CAPES (Coordination for the Improvement of Higher Education Personnel) makes available on its website the Children's Science Today Magazine (https://cienciahoje.periodicos.capes.gov.br/revista-chc) Collection, facilitating access to qualified information on the different fields of Science, and opening space for the dissemination of the production of Brazilian researchers, as exemplified in Figure 5.

Figure 5. Example of Editions available on the Capes portal (https://cienciahoje.periodicos.capes.gov.br/revista-chc) supporting the popularization of Science by Brazilian researchers.



5 CONCLUSIONS

The global water crisis affects the environment and puts the planet's biodiversity at risk, as well as water and food security, as well as sanitary issues, which involve access to water in quantity and quality. When it comes to environmental issues, one must necessarily consider climate change caused by human actions, a fact that is contemplated in Article 4 of the "Universal Declaration of Water Rights" which establishes that the balance and future of our planet depend on the preservation of water and its cycles. These must remain intact and functioning normally to ensure the continuity of life on Earth. This balance depends, in particular, on the preservation of the seas and oceans, where the cycles begin. The global water crisis is exacerbated by the climate crisis, affecting thousands of people around the world. Actions and attitudes can help in coping with climate and health, and such actions include education, strengthening Science, generating more knowledge and technologies in the search for solutions for future scenarios, encouraging the participation of young people in science to train scientists, combating disinformation and false, manipulated or distorted information, which are harmful to society, and encouraging the popularization of Science through different dissemination mechanisms.

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Actions carried out during the health crisis in higher education cycles. Challenges shaping leadership

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ABSTRACT
At the end of the 20th century, reflection was made on the emerging challenges of the third millennium based on social, economic and political conditions. In the educational field, UNESCO published recommendations aimed at the operation of the global world; However, the arrival of Covid19 postponed the plans, testing all societies and their ability to respond to the health crisis. In this article we share some of the actions carried out in the Faculty of Medicine and the Department of Pharmacology of the National Autonomous University of Mexico, these were activities carried out during the crisis, which were aimed at the prevention of infections, the continuity of activities essential, the reinforcement of communication channels and support for students, teachers and administrators. Methodology: the actions carried out between March 2020 and May 2023 were compiled, identifying the measures, actions and activities within the Faculty of Medicine and the activities of the Pharmacology department. The efforts were not limited to the community, there was also external support and collaboration. Conclusions: with the health crisis, institutional weaknesses and strengths were detected, the decisions made by the Management of the Faculty of Medicine and the Head of the Department of Pharmacology were aimed at reducing the impact of the pandemic, simultaneously support was provided to the students, academic and administrative to meet the established goals, this favored resilient, supportive and creative behaviors. Knowledge was reaffirmed in decision-making positions, demonstrating that challenges such as the health crisis shape leadership.

Keywords: Educational leadership, Pandemic, Resilience.

1 INTRODUCTION

Since the last century and taking into account technological, political and economic advances, experts met and subsequently published recommendations for the educational system and the changes that would be necessary to favor the globalized world; An aspect of great interest was the incorporation and use of technology in the educational area (Feijoó, S. R., 1998), so activities were planned around education assisted by emerging technologies. The arrival of Covid19 forced the postponement of plans, and face-to-face educational activities turned to technological means to continue their activities remotely, demonstrating their usefulness in times of great uncertainty, and proving that virtuality saved reality (Saavedra, G. F., 2021).

The first impact of COVID was on the economic sector and derived from this, its effect on all social organizations, including the education sector. Several Mexican educational entities have made evaluations of the effects of the pandemic in the educational area of higher cycles, concluding that a good part of this educational crisis is linked to the needs of students, the methodologies used during the process, the curricular plans, the incorporation and optimized use of technology, the pandemic changed the panorama and now it is proposed *to educate for uncertainty* (ECLAC, U.N., 2020; Román, J., 2020).

Focusing on individuals, the experiences from isolation to the return to face-to-face activities have left affections and sensations, which some researchers have collected and organized, to explore the benefits and challenges implied by forced virtualization, in a process of continuous adaptation, detecting varied affects during isolation and then when returning to face-to-face classes. students in higher education cycles had to reflect on specific aspects from the available resources and the real possibilities to achieve it, (Contreras-Vizcaino, J. J., & Zamora-Echegollen, M. A., 2023).

In addition to specific aspects such as educational financing, there are population-based studies that explored the importance of students' resilience and its relationship with eating habits, sleep quality and physical activities, all of which have an impact on their learning process, showing the importance of these and emphasizing the importance of individual resilience, which in turn defines quality of life and mental health of each individual, (Reyes, K. M. G., 2023).

This leads us to a complex scenario, where students, academics and administrators experienced the health crisis in a heterogeneous way; In such circumstances, changes of all kinds were made to continue essential activities. It is in these circumstances that it is possible to identify the actions carried out by the heads and directors of an institution and analyze what worked and what needs to be modified, which sectors require more support and which are adapted to scenarios of both normality and uncertainty.

In this article we compile the actions carried out in the Faculty of Medicine and the Department of Pharmacology of the National Autonomous University of Mexico, knowing that initially they were emergency measures, these gave rise to many learnings, of course there are pending challenges such as reducing desertion, professionalizing the staff and many other observations made in the period from isolation to the gradual return to activities Face.

2 METHODOLOGY

The actions described in the 2020 Yearbook were resumed and other actions carried out in the period from March 2020 to May 2023 in the Faculty of Medicine and the Department of Pharmacology were added.

3 RESULTS

Table 1. Actions carried out during the pandemic and post-pandemic, summarises some of the actions and activities that emerged during the health crisis from the beginning of social isolation in March 2020 until 2023.

No.	Action	Guy		
		General	Faculty of Medicine	Department of Pharmacology
1	Isolation of members of the university community	X		
2	Dissemination of basic measures to prevent contagion	X		
3	Migration from face-to-face to virtual activities	X		
4	On-call groups to attend to specific teaching, administrative and school activities.		X	
5	Opening of various means of contact and communication between students and teachers.		X	
6	Technical support and guidance in the proper use of devices, networks, and applications available to continue with essential activities		X	
7	Formation of the University Commission for the Attention of the Coronavirus Emergency		X	
8	Development of Covid diagnostic and detection tools, biosensors and platforms for the production of vaccines.		X	
9	Molecular diagnostic service for the SARS-CoV-2 virus for the university community		X	
10	Meditic meditic.facmed.unam.mx Page		X	
11	"Donate a kit. Protect a resident."		X	
12	COVID-19 Call & Chat Center		X	
13	Theoretical-practical course-workshop "Proper use of Personal Protective Equipment (PPE)"		X	
14	Theoretical-practical course-workshop on "Endotracheal intubation in patients with COVID-19"		X	
15	COVID-19 training, supervision, advisory and communication program.		X	
16	Survey "Health monitoring for SARS-CoV-2 in Households"		X	
17	COVID-19 Diagnostic Center for the General Public		X	
18	Mental Health Program Clinic and Sleep Disorders Clinic Online Care		X	
19	"Together for Health" Initiative		X	
20	Iniciativa Costal, the Faculty of Medicine and Pienza Sostenible, with the support of Rappi, delivered sacks of food aid.		X	
21	Telegram for the community		X	
22	COVID-19 Temporary Unit at Citibanamex Center		X	
23	Mexico Pharmacology Foundation			X
24	Book: A Practical Guide to the Use of Drugs During Teratogenesis			X
25	Diploma in Cannabinoid Pharmacology			X
26	Journal of Pharmacology			X
27	First Congress of Pharmacology			X

Table 1. Actions carried out during the pandemic and post-pandemic

4 DISCUSSION

The National Autonomous University of Mexico, as well as other educational instances, adopted the general indications in terms of drastically reducing face-to-face activities and promoting

the virtual modality, this would correspond to paragraphs 1 to 3. Paragraph 4 addresses the need to structure guards throughout the university to give access to users and continue with activities that cannot be postponed, such as experimentation, maintenance of animal farms and administrative activities related to staff and the student community.

From sections 5 to 22 there are activities such as the optimization of communication channels, support for the use of technological devices, available tools and breviaries for their educational management, workshops for diverse learning, actions to protect residents both with donations of disposable equipment and basic instructions on its use, highlight the opening of Mental Health and Sleep Disorders Programs to serve all members of the university community in a online modality. In addition, spaces and projects were opened to contribute in aspects such as the delivery of sacks with food, courses and diagnosis of Covid 19 aimed at the general population, paragraphs 20, 22 and 17 respectively.

The Student Congress of Pharmacology stands out, which includes the students of the bachelor's degrees of the Faculty of Medicine, in addition to being open to the humanities, promoting the socialization of all attendees, the congress was free, and undergraduate and graduate students were summoned to participate with a research, which could be clinical, bibliographic or preclinical. This congress brought together students from various educational instances as it simultaneously hosted the XXVIII Student Congress of Pharmacology organized by the National Polytechnic Institute, that is, two public educational instances of Higher Education cycles joined forces in a moment of recovery, this was when the return to face-to-face activities was already underway, in April 2023.

The activities of section 23 onwards were specific to the Department of Pharmacology, led by Dr. Omar Carrasco, who promoted activities in which all staff participated, unifying tasks and favoring the post-pandemic resilient process.

What we can see is that crises promote the transformation and renewal of social structures, although they leave many difficult experiences that mark individuals, the process of resilience allows them to recover and look for alternatives to move forward, (Reyes, K. M. G., 2023). In this scenario, we can see that being an educational leader is a challenge (Serrano, G., 2020). It is not only about finishing all the programs, but also about selecting the essentials, not only about using technology to move from face-to-face to virtual, it is about self-evaluation and verifying that teacher professionalization and knowledge of technologies are required, it is a very large and coordinated effort in which tolerance, Patience and resilience must be present in order to achieve goals in times of uncertainty.

According to Serrano (2020), educational leadership must be carried out through very specific actions, among which he points out "*prioritizing what should be taught, analyzing teaching methods, and proposing ideal spaces for learning*". This is an intense and constant task because it forces us to

evaluate ourselves. One way to improve teaching is to listen to students, as there are many concerns about it, a frequent problem in undergraduate students is the overload of tasks both in the face-to-face sessions and in the virtual classrooms, apparently once the return to the face-to-face modality has not been reviewed the content and workload of the activities in virtual classrooms, It is true that it is important to continue learning technologies, but the times must also be adjusted, if students have 8 hours a week of a subject, they should not exceed 25% of that time in additional tasks, because it should be thought that by taking more than four subjects per year, it leaves them a very limited margin of time to do the activities, For this reason, it is prudent to make a refinement and focus on the essentials, additionally it is necessary to reflect on the competencies and skills that students are learning and their correlation with the competencies that will be necessary tomorrow during their professional practice, therefore any activity that represents an overload without having the justification that they are necessary competencies for future professional practice must be eliminated.

5 CONCLUSIONS

The pandemic left many learnings inside and outside the educational field, technology became a formidable tool in an uncertain scenario; There are still many actions pending regarding teaching in higher education cycles, which must be attended to in order to be prepared for any eventuality. New educational challenges are emerging, such as the incorporation of artificial intelligence, so it will be necessary to design strategies that allow us to rely on technology, professionalize teaching and promote the development of critical thinking, daily reflection and the socialization of knowledge. Finally, it is proven that the crisis shapes the leadership of individuals.

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SEVEN
publicações acadêmicas

Reinforcement design using geosynthetics for foundations with probability of dolinamento: Analytical calculation and numerical stress-strain model

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ABSTRACT
Karst zones are defined by their high solubility, porosity and consequence of subsidence occurrences. Considering that about 20% of of ice-free land is made up of karst regions, the present work aimed to reinforce by geosynthetics a hypothetical foundation subject to windings through the analytical methodology of Briançon and Villard (2007) and by modeling numerical stress-strain in RS2 software (Rocscience). Initially, a hypothetical foundation to be strengthened was defined, in which there is the presence of circular dolines of a maximum of 3 meters in diameter. For the determination of the mechanical properties of the reinforcement, the methodology proposed by Briançon and Villard (2007) was applied, having as a premise a surface deformation of, at most, 5%, whose results generated dimensioning abacuses to define the length parameters anchoring and traction effort of the geogrid. Numerical analyzes of the stress-strain type were performed to verify the level of strain related to the resistance of the foundation materials, considering the values obtained by the analytical method. The reinforcement by a geogrid set, for reinforcement and a woven geotextile, for physical separation, in elastoplastic regime, obtained resistance reduction factors (SRF) corresponding to the maximum surface deformations of 5%. The SRF obtained was consistent with good practices. It was observed that the deformations caused in the geosynthetics did not lead to their rupture.

Keywords: Karst Zone, Geosynthetics Reinforcement, Stress-Strain Analysis, Analytical Method.

1 INTRODUCTION

All voids in the ground constitute elements of weakness within a rock mass, and a karst zone is distinguished by having the largest natural voids, where the fault in the ceiling can create a significant geographical hazard. The natural consequence of progressive top failure is the upward migration of the voids, which can reach the surface where it causes instantaneous subsidence due to a cavity collapse (WALTHAM; BELL; CULSHAW, 2005).

According to Ford and Williams (2007), karst zones arise from the combination of high solubility in rock and well-developed secondary porosity. Also according to For and Williams (2007), approximately 20% of the Earth's continental surface, with the exception of the polar zones, is occupied by karst zones, and 20 to 25% of the world's population depends on the aquifers contained in these regions.

In view of the probability of doline formation in structural foundations, the methodology proposed by Briançon and Villard (2007) is used, which boils down to three steps: determination of the load applied to the geosynthetic, determination of the displacement of the geosynthetic, and determination of soil settlement. In addition to this analytical dimensioning, numerical modeling has been a useful tool to incorporate the differential behavior of elements subject to stresses and strains.

The present work aims to design the reinforcement of a hypothetical foundation in which there is a probability of dolinations, using geosynthetics, through the analytical methodology proposed by Briançon and Villard (2007), followed by its verification by stress-strain analysis made by a numerical model in the RS2 software (Rocscience).

2 ANALYTICAL METHODOLOGY

The structural design calculations of a hypothetical foundation, considering the occurrence of subsidence, were carried out based on the analytical methodology described by Briançon and Villard (2007). The general design procedure required to determine the mechanical properties of geosynthetic reinforcement includes (BRIANÇON; VILLARD, 2007):

1. determination of the load applied to geosynthetics, depending on the overload and the characteristics of the cover soil;
2. determination of the displacement of the geosynthetics, considering its membrane effect and its elongation in the anchorage areas;
3. determination of soil settlement, depending on its physical properties.

It should be noted that, at the junctions between the geosynthetic meshes, a minimum overlapping length is required. In this area, when a collapse occurs, the free ends of the geosynthetics and the weak friction of the interface lead to large deformations of the soil surface and reduction of the tensile forces acting on the geosynthetic compared to those obtained in the continuous section. In this way, the displacement of the soil surface is calculated in the overlapping sections and the maximum stresses are determined in continuous sections. The following sub-items describe the methodology proposed by Briançon and Villard (2007).

2.1 DETERMINATION OF APPLIED LOAD IN GEOSYNTHETICS

The load applied to the geosynthetic is calculated considering the cylindrical collapse of the soil over the cavity using the method proposed by Terzaghi (1943). Thus, through the geotechnical parameters for the foundation soils and the geometry of the subsidence, the applied load is calculated. The geotechnical parameters adopted for the reinforcement embankment, used for the calculation of the load on the subsidence and on the anchored areas are presented in the Table 1.

Table 1. Input data from the methodology of Briançon and Villard (2007).

Subsidence geometry	Circular	Subsidence geometry	Circular
L [m]	3	φ [°]	35
D [m]	3	C_e	1,1
p [kN/m]	20	k_a	0,27
γ [kN/m³]	20	Q [kPa]	47,68

2.2 BEHAVIOUR OF GEOSYNTHETICS ON SUBSIDENCE

The vertical displacements of the geosynthetic over the subsidence, linked to the membrane effect, result both from the application of load and from the horizontal displacement of the geosynthetic in the anchor zones, generating an increase in the length of the geosynthetic. Thus, in a continuous section where the highest stress is found, a relationship is established between the membrane effect of the geosynthetic, applied loads, geometry of the problem, soil characteristics and the geosynthetic. To do this, it is assumed that the reinforcement is unidirectional and the applied load is uniform. The required tensile stress of the geosynthetic is then calculated using Equation 1.

$$T_M = \frac{qL}{2\beta}\sqrt{1+\left(\frac{2\beta x}{L}\right)^2} \quad (1)$$

Let T_M the tensile force be at a point M, in N/m; q the vertical load above the subsidence, in kPa; L the length of the subsidence, in m; $\beta$the characteristic parameter of the change in orientation of the geosynthetic, at its starting point, and x the horizontal starting position of a point M, at m.

2.3 INFLUENCE OF THE CHANGE IN THE ORIENTATION OF THE GEOSYNTHETICS

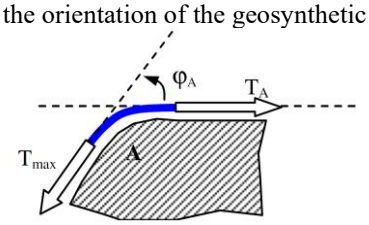
The change in the orientation of the geosynthetic, at the end of the subsidence, generates a reduction of the tensile stress in the geosynthetic, as illustrated in

Figure 1. This mechanism, represented by the characteristic parameter β, is calculated by interaction based on Equation 2 taking into account the

Figure 1.

$$\beta = tan\varphi_A \quad (2)$$

Figure 1. Influence of the change in the orientation of the geosynthetic (BRIANÇON; VILLARD, 2007).



2.4 GEOSYNTHETICS BEHAVIOR

In the anchorage area, three possible situations in a segment are verified (**Erro! Fonte de referência não encontrada.**) considering the horizontal displacement of the geosynthetic at the end of the subsidence, at the end of the geosynthetic, and corresponding to the maximum frictional stress.

On the other hand, in the overlapping sections, in addition to the friction between the soil and the geosynthetics, the friction between the geosynthetic meshes is considered. For this case, it is necessary to take into account the equations obtained to the left and right of the subsidence. Considering the limit equilibrium of a section and that the reinforcement is unidirectional and the applied load is uniform, we have the vertical deformation of the geosynthetic through Equation 5.

$$z_M = \beta \frac{x^2 - (L^2/4)}{L} \tag{3}$$

Being the z_M vertical displacement of the geosynthetics at a point M; L the length of the subsidence, in m; β the characteristic parameter of the change in orientation of the geosynthetic, at its starting point, and x the horizontal starting position of a point M, at m.

2.5 SURFACE DEFORMATION ASSESSMENT

The displacement of the surface is considered to be less than the vertical displacement of geosynthetics, due to the expansion of the soil during collapse or possible arching of stresses. Considering that the highest soil settlement above the subsidence is observed in the superposition condition of the geosynthetic, if the deformation of the soil and the geosynthetic are assumed to be parabolic, it is possible to find a relationship between the maximum displacement of the surface (s), geosynthetic maximum vertical displacement (s), expansion coefficient (C_e), and the height of the ground cover (H). This relationship is expressed by Equation 4 for a circular subsidence.

$$s = f - 2H(C| \quad |e - 1) \tag{4}$$

2.6 DETERMINATION OF ANCHORAGE LENGTH

The optimal anchoring length of geosynthetics (L_R) is defined as the length between the middle and the end of the geosynthetic plus the length required to sustain the tensile and deformation stress of the geosynthetic.

2.7 SIZING

The design of the reinforcement by geogrid type was carried out following the procedure proposed by Briançon and Villard (2007) for circular subsidence of 3 meters. Varying values were set

for the following parameters: geogrid stiffness, geogrid deformation and protective embankment height, according to acceptable design values. Thus, corresponding values of surface deformation, anchorage length and tensile stress of the geosynthetic were calculated. It is noteworthy that the same procedure previously detailed was performed for circular subsidence of 2 meters and 4 meters, as a sensitivity assessment regarding the geosynthetic parameters.

The results are illustrated by the Figure 2 the Figure 6, which were used as abacuses for the design, with each curve representing a protective layer height.

As a premise, it was defined that the surface deformations should be minimal, so that a maximum surface deformation of 5 centimeters was established as the starting point of design. Thus, in the Figure 2 An economically viable stiffness of the geosynthetic was determined from the defined surface deformation of 5cm. A protective embankment of 2.5 meters was then found for a rigidity required for the geosynthetic of approximately 3,000 kN/m.

In Figure 3 The anchorage length of 5.5 meters was determined from the height of the embankment and the stiffness of the geosynthetics defined in the previous stage. In Figure 4 A tensile stress to the geosynthetic of 130 kN/m was established, based on the height of the embankment and the stiffness of the geosynthetic according to the first stage. Finally, in the Figure 5 It was found that the expected deformation in the geosynthetic is close to 5%.

Figure 2. Determination of geosynthetic stiffness and embankment height from 5% surface deformation.

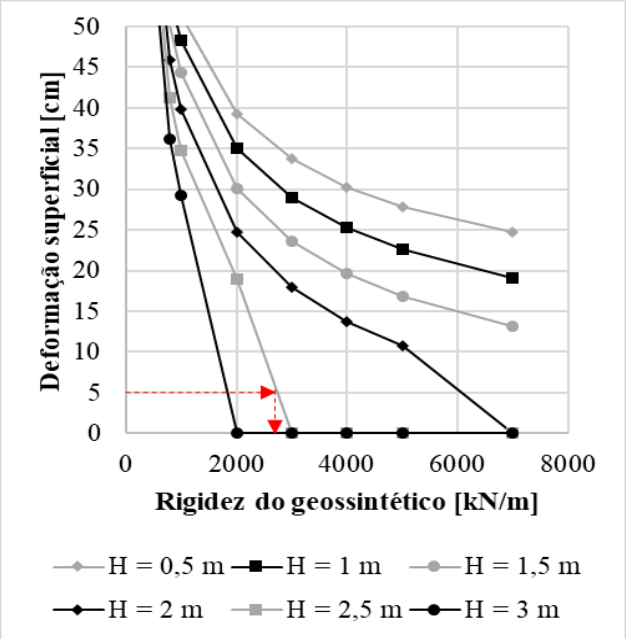


Figure 3. Determination of anchor length from the stiffness of the geosynthetic and the height of the embankment.

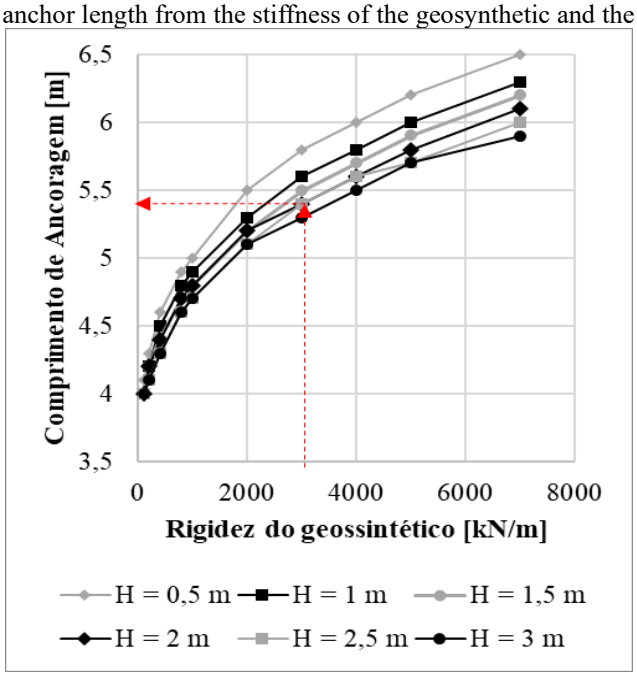


Figure 4. Determination of the tensile force of the geosynthetic from the stiffness of the geosynthetic and the height of the embankment.

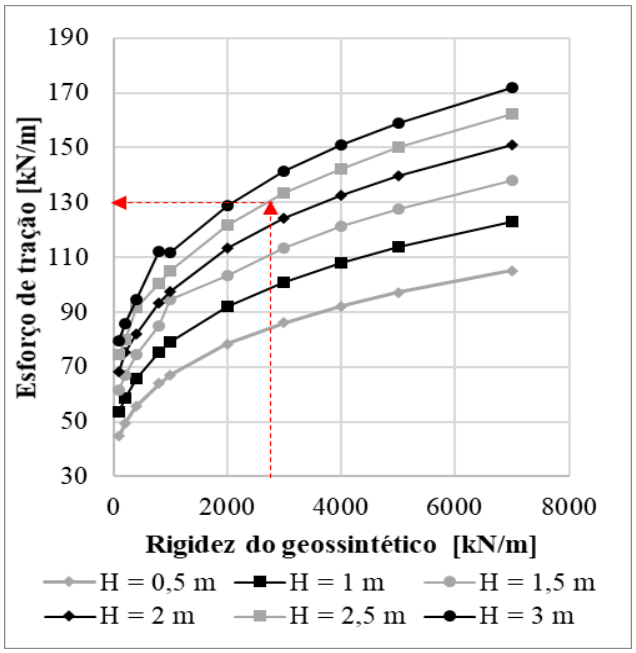
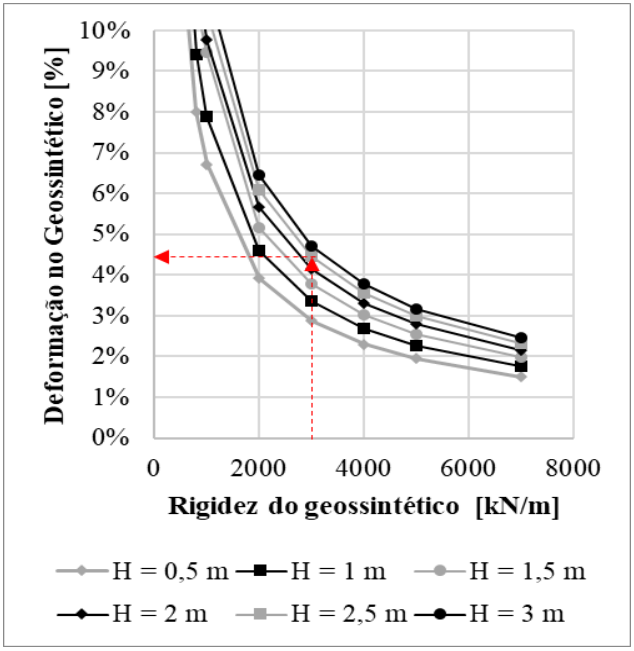


Figure 5. Determination of the deformation in the geosynthetic from the stiffness of the geosynthetic and the height of the embankment.



3 NUMERICAL MODELING

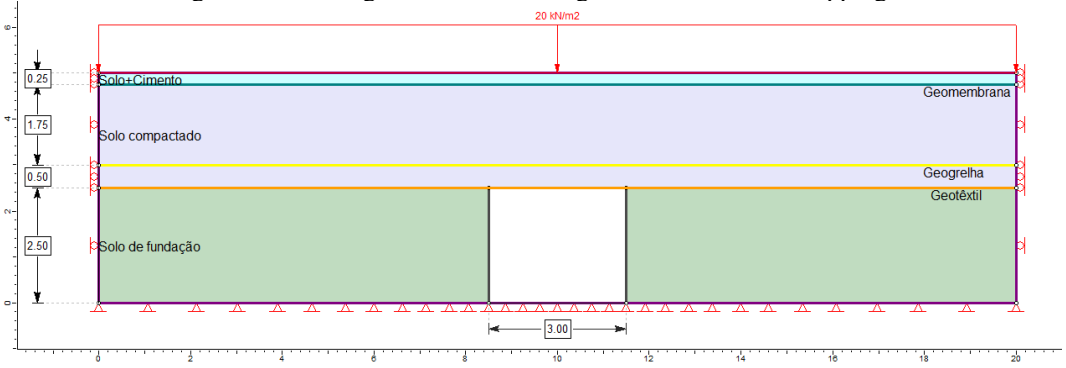
To verify the deformations and stress states in the foundation caused by the dolinations and resisted by the geosynthetics as dimensioned in item 2.4 by the methodology of Briançon e Villard (2007), two-dimensional stress-strain modeling was performed using the RS2 software version 2019 10.002 authored by ROCSCIENCE (2018).

3.1 ASSUMPTIONS OF THE ANALYSIS

As an initial premise of the modeling, the probability of natural occurrence of dolinamento is presented. The representative section, illustrated in the Figure 6, presents the geosynthetic reinforcement arrangement for stabilization of a hypothetical foundation with a circular subsidence of 3 m.

The formation of subsidence leads to the modeling of two representative instants of the case. A first instant in which the in situ condition is prior to the dissolution of the rock, in which the observed stratigraphy develops its confining stresses and vertical loads. In the second instant (Figure 6) The dissolution of the rock allows the insertion of the subsidence in this medium established by the conditioning loads of the first instant. It is noteworthy that for the representative model, the water table level was disregarded.

Figure 2. Modeling section considering the subsidence outcropping.



As a result of the safety assessment, the Shear Strength Reduction option was performed in RS2, which performs analyses of the stress-strain interaction by finite elements, in order to calculate a critical resistance reduction factor for each section. Therefore, the model does not seek to access the stability conditions, but to verify the level of deformation related to the strength of the foundation materials as opposed to the existence of subsidence.

3.2 MATERIAL PARAMETERS

The constitutive parameters and models adopted for the materials were based on those adopted for the development of the methodology by Briançon and Villard (2007). Like so The resistance parameters and elastoplastic behavior of the resistive materials in relation to dolinations were defined.

For the representative section, a foundation soil where the dolinamento is located was considered. The compacted soil represents the protective layer and the cement soil serves as protection for the geomembrane, as observed in the Table 2.

Table 2. Parameters adopted for soils.

Soil	Model	Parameters Category	Ei(MPa)	υ	C (KPA)	F (°)	□□ □°□	Y (kN/m³)
Compacted only	Plastic	Effective Voltages	7	0,30	10,0	35	35	20,00
Foundation soil	Elastic		20	0,30	10,5	35	-	20,00
Soil cement	Plastic		50	0,30	20,0	35	35	20,00

Geosynthetics were treated as structural lines in stress and strain modeling. It is noteworthy that the contact interface between geosynthetics and soil is considered a zone of fragility. Thus, a 70% reduction in resistance in these regions was considered in relation to the resistance of the soil in question. In this way, the Table 3 Presents the parameters associated with geosynthetics.

Table 3. Parameters adopted for geosynthetics.

Solo	Model	Tensile Modulus (kN/m)	Characteristic resistance (kN/m)	Residual resistance (kN/m)
Geogrid	Plastic	3000	130	100
Geomembrane	Elastic	100	-	-
Geotextile	Plastic	400	100	100

3.3 RESULTS OF NUMERICAL MODELING

According to Waltham, Bell and Culshaw (2005), when it comes to subsidence, values corresponding to safety factors are around 5, by analogy, the value found as SRF is consistent with what is indicated by good practices as observed in the Figure 8. For the SRF close to 5, there are deformations of 6 to 7 cm (Figure 7), close to 5 cm of the analytical design (item).

It is also possible to observe the displacements of the geosynthetics, represented by lower and upper bars along their length, caused due to the tensile loads due to the presence of subsidence. The Figure 8 illustrates the sliding of the geomembrane, geotextile and geogrid in relation to the contact soils. It was verified that the tensile stress did not lead to the rupture of these elements, with displacements in the order of 10 cm close to the subsidence and millimeters at the extremities.

Figure 7. Convergence for SRF variation at shear for 3m subsidence.

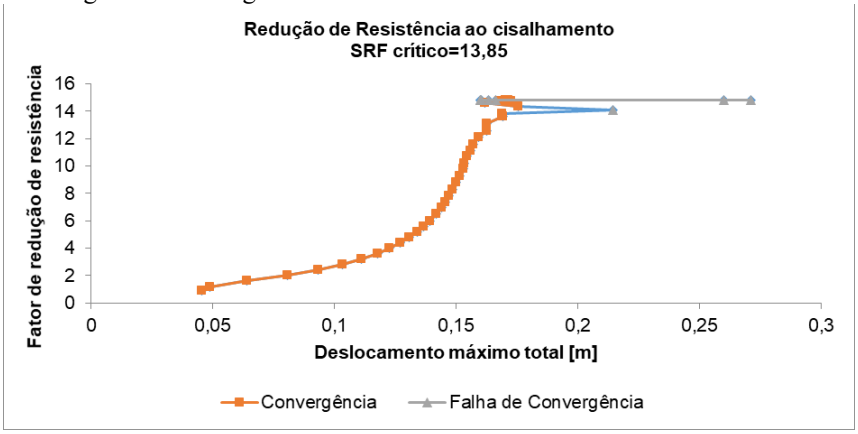
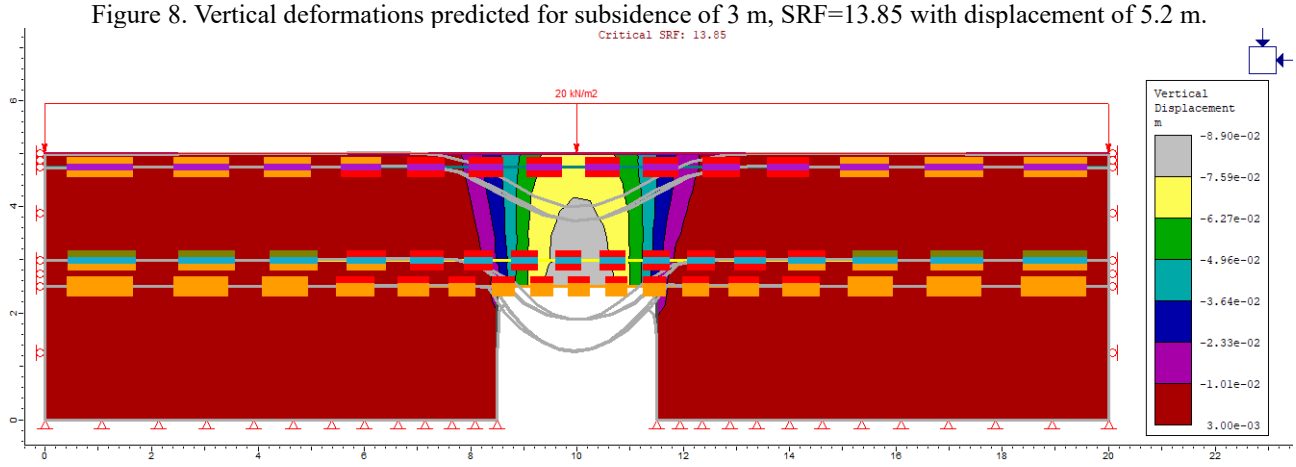


Figure 8. Vertical deformations predicted for subsidence of 3 m, SRF=13.85 with displacement of 5.2 m.



NOTE: The bars along the geosynthetics represent their slippage relative to the contact soils.

4 CONCLUSION

The reinforcement design of a hypothetical foundation with probability of dolinations was presented, using geosynthetics, through the analytical methodology proposed by Briançon and Villard (2007). Verification is made by stress-strain analysis made by numerical model in RS2 software (Rocscience).

The analytical and numerical methodologies showed levels that meet the reinforcement of a foundation conducive to dolinations of up to 3 meters in diameter, in relation to a surface deformation of 5%. However, such dimensioning does not prevent the outcropping of larger sinkholes. Therefore, a risk analysis is recommended to map the cavities and validate the expected diameter of subsidence in non-hypothetical cases.

Therefore, the methodologies described present good adherence to the behavior of the proposed system for the emergence of subsidence of up to 3 m in diameter on the surface.

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SEVEN publicações acadêmicas

The influence of playfulness on the teaching of chemistry to young people: An adaptation of the game "The Wall"

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ABSTRACT
The game can be considered an educational and teaching tool. It is a very favorable resource to alleviate the problems faced by teachers and students in the discipline of chemistry. Therefore, this work is an adaptation of a television game, developed in the 1st, 2nd and 3rd years of High School, aiming to analyze the development of students during gamification. In a first moment, a theoretical class with experimental practice was adopted, and in a second moment, the application of the game. Questionnaires were applied to the students before and after the execution of the game, aiming to analyze the learning of the discipline and the content proposed by the teacher. Following this context, distinguish as propositional the use of contextualization and interdisciplinarity as a teaching methodology, placing the game as a resource that contemplates these points, but in an instigating way. From the results obtained, we can conclude that the use of the game contributed to the students' learning about general chemistry and through a differentiated and contextualized teaching.

Keywords: Gamification, Chemistry Teaching, The Wall.

1 INTRODUCTION

To seek improvements for classes and work on games in the classroom, the study and construction of a playful game has a significant relevance for students and teachers who seek to understand the contents with a touch of fun (KIYA, 2014). The intention of this work goes beyond fun and play, it seeks to contribute to knowledge, the awakening of skills and socialization. There is an increasing search for knowledge among students and teachers, during changes in methodologies of the National Common Curricular Base (BNCC).

In Brazil, the teaching of science disciplines is still developed in an abstract way and this type of teaching does not promote scientific or critical learning. Before starting science teaching, it is necessary to invest in the training of teachers, as well as to have equipment in schools, curricular reforms, incentive awards, or exchange programs between schools and research centers. (LOPES, 2019).

The use of games has been shown to be a relevant way to stimulate the participation of students in Chemistry classes. Didactic games are one of these resources. According to Soares (2016, p.7) since

the year 2000 there has been a significant increase in the use of games and playful activities applied to the teaching of Chemistry. They can instigate the student's interest and demystify the conception of Chemistry, usually as an area responsible for the different damages caused to the environment and human beings (AFONSO et al, 2019 apud SOARES, 2016).

It is essential to apply various options of methodologies in order to streamline classes and stimulate interaction between educators and students, allowing their broad participation, especially listening to their opinions, in order to improve the teaching and learning process.

A didactic game can encourage a broad knowledge of the representations that are in the curricular component, especially when it aims to develop in the student the ability to recognize chemical definitions, such as: nomenclatures of chemical elements, periodic table, atom, homogeneous and heterogeneous mixtures, formulas, among other contents. This is fundamental for your understanding of the importance and impact of Chemistry in your life (SANTOS et al, 2021).

2 GENERAL OBJECTIVE

The purpose of this work was to apply gamification in the classroom in order to assist in the teaching and learning of general chemistry content for students of the three stages of high school.

3 SPECIFIC OBJECTIVES

- Observe how gamification aids student learning.
- Describe the relevance of playfulness as a teaching-learning resource for the classroom;
- Evaluate, through questionnaires, the students' understanding of the concepts covered before the application of the game.
- Analyze, after the use of the didactic resource, through questionnaires, how the students understood the theme and the contents addressed.

4 THEORETICAL FRAMEWORK

4.1 THE PLAYFUL: HISTORICAL ASPECTS

According to Sant'Anna and Nascimento (2011), in ancient history there are reports that the act of playing was developed by the whole family, even when parents taught the crafts to their children. In each era and society, the conception of education has always had a different understanding, therefore, the use of play followed this conception.

Primitive peoples gave great importance to physical education, giving total freedom to children to enjoy the exercise of natural games, thus enabling them to have a positive influence (COSTA; RÊGO; ROCHA, 2019).

The game is one of the tools that makes students have a deeper development in relation to the contents, the games will help them in the teaching and learning process. The use of this method allows the development of students' creativity and imagination, and leads students to seek more prior knowledge of the contents used in classes (KIYA, 2014).

With this understanding, it is possible to observe that although games are not a guaranteed way for students to have pleasure in their socialization, it is a way in which they know the rules, where they will build a social experience and will have the possibility of developing and inserting themselves in the world of adults (MARQUES, 2017).

Every cultural and educational heritage must be used for the universal learning of students, given that we deal with various ethnicities, races and peoples and, therefore, we must rescue and develop what is most important of each one for the teaching of students today. The use of play in education also has, in addition to the objective of developing learning in a more attractive way for the student, the objective of the historical-cultural rescue of these activities. It is a great time to recognize your family history and your regional culture (SANT'ANNA, 2011).

4.2 THE RELATIONSHIP OF GAMES IN THE SCHOOL ENVIRONMENT.

The incidence of problems involving school, learning and teaching leads us to think about how to rescue the school as a space for pleasure, knowledge and production. The difficulties faced by students and teachers are possibly clues that school has lost the pleasure element and has become a boring obligation (CARDOSO, BATISTA, 2021).

The definition of a space of "fun and recreation" or, in its Greek version, of rest, rest, free time, hour of study, occupation of a man with idleness, free from servile work was replaced by demanding, results and mechanical and solitary processes (CUNHA, 2018).

Within the scope of the construction of learning, some games have the purpose of assisting the student in the learning and development of mathematical reasoning and linguistic knowledge. At other times, they help in affective, physical-motor and social development (LAMBLEM, JESUS, 2018).

However, the teacher needs to respect each one's process, but in practice this is unfortunately not the case. The teacher doesn't have much time and many students don't look for the teacher, they don't show a desire to learn, and when they have new activities they don't want to participate, turning the moment of learning and fun into stressful and discouraging practices for the teacher.

In this way, the student seeks to be interested in research, in the development of group work, in answers through play, he will be learning in a pleasurable way with these proposed activities and, consequently, by assimilating these new concepts he will have a significant learning (COTONHOTO; ROSSET; MISSAWA, 2019).

The didactic game can help the teaching and learning process in chemistry contents, serving as a guide for teachers to visualize that there are several possibilities to work on a content, not only in an expository way, but combining and relating with mechanisms and resources that enhance the learning of the content and the construction of knowledge (OLIVEIRA et al, 2019).

4.3 THE IMPORTANCE OF THE TEACHER FOR PLAYFUL EDUCATION

The teacher has an important role within education, especially in this format of the use of playfulness, which uses games as a way to fix knowledge and develop motivation in the classroom. For these professionals to direct the contribution of this learning, they need to be well-prepared for the activity, always seeking knowledge and easy-to-understand methods (FREITAS, BECKER, 2020).

The educator, through his knowledge and sensibility, must dose theory and practice gradually, combining the appropriate stimuli for the type of student to whom he intends to teach, it is not only teaching to read, to solve a problem, to give shape to a thought. It is, mainly, to meet the needs of the development of the students in order to provide for the full realization of their personality. To this end, it is necessary for the school to satisfy the interests through playful games, learning and teaching (MENDONÇA, 2018).

It is noteworthy that addressing the theme of playfulness can contribute to the development of a more productive and comprehensive teaching-learning process. The teacher, responsible for the systematization of this process, can provide students with a dynamic and pleasurable way of learning, because education through playfulness proposes learning through play, inspiring a conception of education beyond instruction, that is, for the learner's autonomy (ALVES; FAN; SOARES, 2015).

The teacher needs to make use of new methodologies, as well as research alternative strategies so that teaching happens in a more comprehensive, contextualized way, understanding that through play, it is possible to establish a bridge between the real and the imaginary (BANDEIRA, 2015).

That is why it is important to have a well-planned pedagogical strategy, in which the educator knows how to stimulate his students through dynamic and pleasurable activities. Therefore, the educator needs training that values games in the school environment and believes in the strength that games have for the teaching and learning process (SILVA, 2019).

Through playful activities, we form concepts, select ideas, establish logical relationships and integrate perceptions that contribute emphatically to the socialization of the subjects. Pedagogical practice through playfulness can provide the development of activities that stimulate logical reasoning, creativity, and pedagogical growth in a more significant way (ALVES, et al, 2019).

4.4 GAMIFICATION IN CHEMISTRY TEACHING

By using a gamification resource with students in the classroom, we can expect greater interactivity between them in the face of what will be presented to them (PAULA, 2016).

The Atomic Deck was developed in the classroom from the perspective of a didactic game within the concept of a formalized educational game, as pointed out by the authors Gama and Alves (2021). The game was developed to enhance a concept previously introduced through a paradidactic text, which was used as a basis for the playful activity.

It is very important that games are used in the classroom as elements to support the educational process, constituting useful elements in the improvement of previously learned content (CLEOPHAS; CAVALCANTI; SOARES, 2018).

The use of the game Dama Química was a very interesting pedagogical strategy to make the application of the content dynamic, facilitating the student's learning and considered as an excellent auxiliary/complementary alternative in the teaching of chemistry. The playful activity provided a more favorable and stimulating environment for the intellectual and creative development of the students, making the content more accessible and meaningful. Thus, it was characterized as a viable proposal to streamline the Science class, as it is low-cost and easy to make (SANTOS et al, 2021).

The games are an attempt to make chemical knowledge more pleasurable for this audience. We understand from the article that adult play is not fundamentally different from children's play or adolescent play. The characteristics of cooperation, competition, pleasure and fun are very similar. (MIRANDA; SOARES, 2020).

The main aspect that differentiates the types of games is the characteristic in relation to the importance and seriousness of an activity in the classroom, when we consider that adult play has a direct relationship with leisure, which in the initial moments leads students to a small resistance. For them, class is not leisure. This resistance is broken down as the game evolves. Students come to understand that there is conceptual discussion at the same time that they are free to move around the classroom. (CARNEIRO, 2015).

As all students are workers, the class has not ceased to be an environment of leisure and relaxation after work, which is a feature of the adult game. However, this aspect can be used in favor of teaching, especially in this type of education. Even though the activity was premised on the discussion of concepts at a more superficial level, students were able to differentiate what is scientific from what is everyday, understanding their proper applications in their proper places, whether in the classroom or in everyday life (LEITE, SOARES, 2019).

5 QUALITATIVE APPROACH

According to Oliveira (2011), qualitative research presupposes the direct and prolonged contact of the researcher with the environment and the situation that is being investigated, usually through intensive fieldwork. The data collected is predominantly descriptive. The material obtained in these researches is rich in descriptions of people, situations, events, photographs, drawings, documents, etc. All the data of reality is important. The concern with the process is much greater than with the product.

The researcher's interest in studying a given problem is to verify how it manifests itself in daily activities, procedures and interactions. The "meaning" that people give to things and to their lives is the focus of special attention by the researcher. In these studies, there is always an attempt to capture the "perspective of the participants", that is, they examine how the informants face the issues that are being focused on (SILVA et al, 2018).

In this case, the students are the objects of research and the classroom is the environment in which they will be observed in their daily activities. For the development of the research with a qualitative method, the case study was used, in which the researcher tries to understand the multiple data obtained, collected at different times and situations, and can also count on numerous informants (LÜDKE, ANDRÉ, 2013).

6 METHODOLOGY

6.1 SITE DEFINITION

The present work was developed during the first semester of 2022, based on the contents taught by the regent professor. The study was carried out at the Sister Teodora State High School, located in the municipality of Marabá, Pará. Classes and number of students participating in the research are described in chart 1 below. The activity was developed only in the evening (hours/class) and in the time of Chemistry classes, from 7:30 pm to 8:20 pm (in the first class) and from 8:20 pm to 9:30 pm (in the second class) on another day (in the first class) it was from 8:20 pm (in the second class) and from 9:30 pm to 10:30 pm. The game was the same for all classes.

Table 1. Number of classes that were worked in high school

Number of Classes	Series	Students
1	1st year	30
1	2nd year	29
2	3rd year	20
		79

Source: Author (2023)

The students participated in the activity in groups and the chemistry contents contemplated in the game were: atomic models, periodic table, colligative properties and oxygenated functions

according to the contents taught in the bimester, according to a previous conversation with the teacher of the school subject.

6.2 DATA COLLECTION INSTRUMENTS

Also called *a survey* , the questionnaire is one of the most widely used procedures to obtain information. It is a reasonably expensive technique, presents the same questions to everyone, ensures anonymity, and may contain questions to meet specific purposes of a research (CHAER; DAVID; RIBEIRO, 2011).

Carefully applied, this technique has high reliability. They can be developed to measure attitudes, opinions, behavior, circumstances of the citizen's life, and other issues. As for the application, the questionnaires make use of simple materials such as pencil, paper, forms, etc. They can be applied individually or in groups, by phone, or even by mail. They may include open-ended, closed-ended, multiple-choice, numerical answers, or yes-or-no questions (BARBOSA, 2008).

Observation is also one of the steps in data collection, when other forms of communication are impossible. In addition to the observation that was used, a questionnaire was applied by the author responsible for the theoretical and experimental classes to the classes selected for the application of the game, in which they could report if the class with experiments contributed to their teaching and learning. Another questionnaire was also applied to the students of the classes that had the experience of playing the game "The Wall", to obtain the results about the effectiveness of the game as a didactic tool.

6.3 KIT BUILDING MATERIAL

The game "The Wall" is a readaptation of a television game, applied in a playful and also low-cost way. To make the game, the following low-cost and easily accessible materials were used:

1. Half sheet of plywood.
2. Clear plastic.
3. Sheet of eva gum paper.
4. Cola de silicone.
5. Adhesive tape.
6. Ping pong ball.

6.4 GAME APPLICATION ROADMAP

1- First, the first questionnaire was applied, about the students' self-knowledge.

2- Classes were given on the contents. During the classes, experimentation and drawings were used for better exposition, in addition to all these resources, a mind map was used;

3- After the explanation of the content, another questionnaire was applied about the discipline and, soon after, the game was applied;
4- For the applicability of the game, the classes were divided into groups with an equal number, without exception, as it was important that everyone participated in the dynamics;
5- Each team was assigned a leader. This leader would be responsible for organizing the group and being the one who would both throw the ping-pong ball at the wall, and answer the questions, with the help of his team, just in case;
6- The questions were selected from the subjects studied by each class. In total, there were 4 questions for each team to answer.

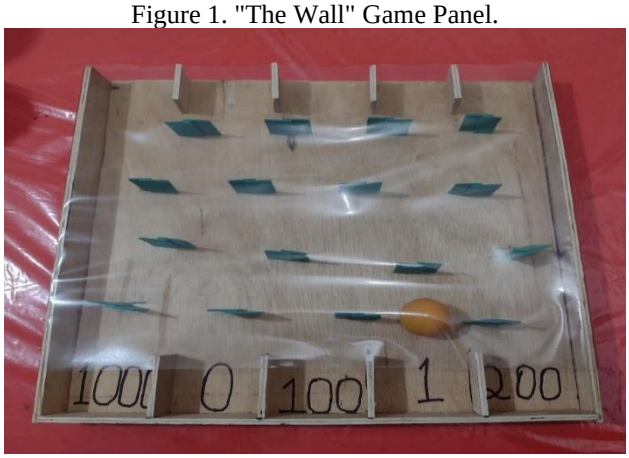
At the end of all the questions answered, each team had two rounds that were called 'losing play', where that team could lose points, which can be decisive for the result. At the end, the points are added up and the team that scores the most points wins the game. At the end of the game, the students received a questionnaire to evaluate it.

7 RESULTS AND DISCUSSION

7.1 CONSTRUCTION OF THE GAME "THE WALL".

The game "The Wall" is a readaptation of a television game in a playful and low-cost way. The game was built in a handcrafted manner. Due to the time required to carry out the entire research, it was decided not to carry out this stage in the classroom with the students. In the assembly of the game, from the EVA gum sheet, "obstacles" were elaborated imitating small steps, which aimed to deflect the ping-pong ball, which was positioned by the players, the markings in numerals as can be seen in the Figure below, aimed to instigate the competitive spirit.

Figure 1. "The Wall" Game Panel.



Source: Author (2022)

The way in which the didactic game was applied had a very satisfactory and special result, since it was taken from a television program, which was only intended to be a recreational activity.

The low cost of the game caught the attention of the students, as they showed willingness and interest in setting up their own panel to play more than once, having a very satisfactory performance with the subjects covered.

The contents of the second semester were worked on, first, in a theoretical way and then with the help of experiments. According to Silva (2016), experimentation in the Teaching of Chemistry becomes indispensable for the teaching and learning process of scientific content, in the sense that it favors the construction of relationships between theory and practice, as well as the relationships between students' conceptions and new ideas to be worked on.

7.2 APPLICATION OF THE GAME "THE WALL": THE WALL.

The game was applied in four classes of 1st, 2nd and 3rd years of high school. On the day of the application, the rules of the game were made available and explained in a way for better understanding for the students. With the explanation passed on, a test match was carried out so that they understood the functionality of the game in a more objective way.

In fact, as Soares (2013) does, the rules really create order and determine the game, because it was seen with the application of the game that a good understanding of the rules guarantees success in the application of the game. Regarding the rules, no problems were presented during the application of the game. The choice of a well-known style of play also helped a lot for the understanding of the rules, as the basic rules the students already knew and mastered very well.

The space used for the application of the dynamics was the classroom, because, as it is a question and answer game, a large space is not necessarily needed. Before we started the game, there was a conversation with them, so that they didn't make too much noise, because in addition to disturbing themselves when thinking about the answers, they could harm the other classes.

In a very dynamic way, the game really caused a lot of joy for the students or most of them, because there were many games and interaction between the groups of players, at times some students said that they would not play, but with a tone of fun because they were losing. There was no resignation or resistance from them at any time.

After the end of the activity, the students asked to play again at another time and even asked that the game could be used in other subjects, as they observed that it provided a better understanding of the content, making it possible to study and read.

With the application of the game it was possible to observe that a playful activity in the classroom can improve the interaction of students, as it was possible to observe that at all times they sought to interact and talk to make decisions and reach consensus with only one answer, it was also possible to observe that they did not leave any student out of the game. In two of the classes where the

game was applied there were students with disabilities, the students always sought the inclusion of all, asking and instigating all students to participate.

It was possible to observe that playful games bring students closer together, regardless of their physical or mental conditions. It was observed that in a public school without many structures they always try to help each other in a better way, it was observed that some classes even though the team was only a winner they sought to share the prize with everyone in the class, in fact we had classes that the teams that lost were upset because they did not like to lose the game, But in the end the application of it was observed many positive points. Such as their interaction, their group work, their willingness to seek answers to questions.

In various spaces, games and games enable students to construct their own knowledge, as they offer conditions to experience problem-situations, based on the development of planned and free games that allow the student to experience experiences with logic and reasoning and allowing physical and mental activities that favor sociability and stimulate affective reactions. cognitive, social, moral, cultural and linguistic (COTONHOTO; ROSSET; MISSAWA, 2019).

7.3 RESULTS OF DATA COLLECTION

7.3.1 From observation in a traditional classroom

In this way, the themes, colligative properties, atomistics and oxygenated functions of the second bimester of chemistry teaching and their daily practices were addressed. At the end of the cycle, the didactic activity was applied with the classes. Classes took place on Mondays and Tuesdays. The beginning of the two-month period was on May 16, 2022 and the end on June 14, 2022.

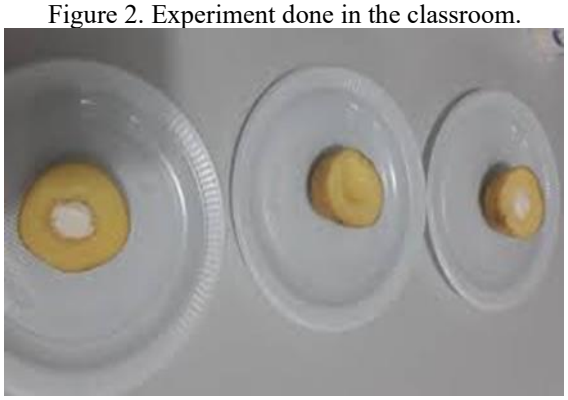
Table 2. Classes start and end time.

Classes	Start of classes	End of classes
Year 1	8:30 p.m.	9:30 p.m.
2nd year	7:30 p.m.	8:30 p.m.
3rd year A	8:30 p.m.	9:30 p.m.
3rd year B	9:30 p.m.	10:30 p.m.

Source: author (2022)

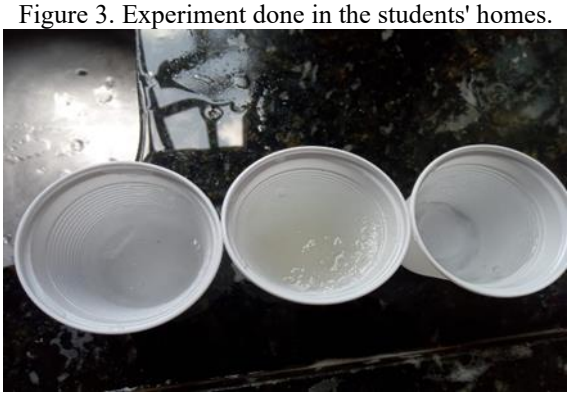
With different schedules, the regency of the second two months began. The 1-year high school class had "atomistics" as its content. The 2nd grade class content was "colligative properties". For the 3rd year high school class, it was "oxygenated functions". The conducting took place with the exposition of all the contents in the painting. Throughout the classes, activities were applied with exercises related to the content, experiments were carried out in the classroom and at home. The experiment in Figure 2 shown below was carried out with students of the 2nd year of high school where they observed one of the colligative properties, osmoscopy. Under the regency of the teacher in training Marcos Francisco Ozorio dos Santos.

Figure 2. Experiment done in the classroom.



Source: Author (2022) Source: Author (2022)

Figure 3. Experiment done in the students' homes.



Source: Author (2022) Source: Author (2022)

7.3.2 From the application of the game

The game was applied in the classes with the aim of expanding their knowledge. It was possible to observe that the didactic game had a great acceptance by the students involved and, as a result, a complementation in their knowledge.

The use of didactic games is an important tool in the teaching-learning process, in view of its collaborative and motivating aspect, which drives the student to have an active role, fostering critical thinking and the ability to (re)construct knowledge (BARROS; MIRANDA; COSTA, 2019).

After the contents taught in the classes, two questionnaires were applied, one to evaluate the knowledge and commitment of the students, and the other of the chemistry discipline, containing questions regarding their knowledge and the discipline, in order to predict how the students' knowledge was before the application of the didactic activity. With the result of the questionnaires, the game was applied and at the end of the stages of application of the game, a questionnaire was given to the students to evaluate the didactic game containing questions related to the activity developed. There were a total of 60 students in the classroom, adding up to the 4 classes that participated in the activity.

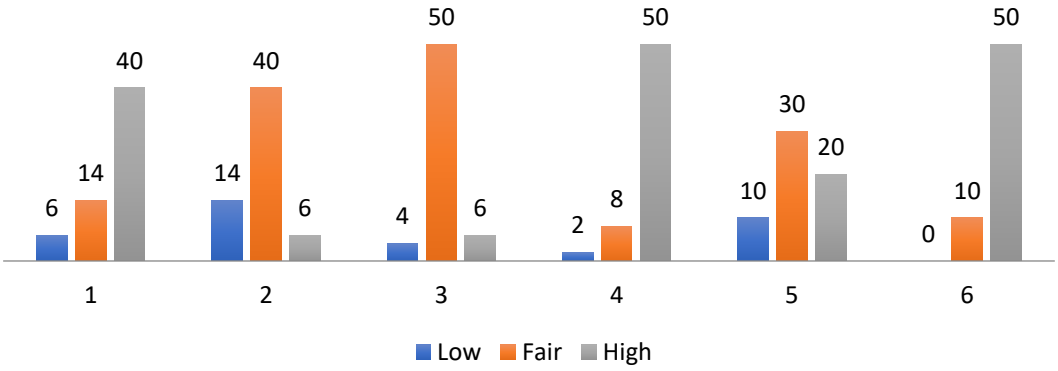
The purpose of the analysis is to dialogue with the data obtained through the questionnaires and bibliographic research, that is, the agreement or discrepancy of the data obtained with the result.

Table 3. Questionnaire to assess students' self-knowledge.

Questions
1 - How is your attendance in classes of the discipline?
2 - How often do you look for the teacher to ask questions?
3 - Your degree of understanding in the discipline?
4 - During the discipline was your effort?
5 - After taking the course, did your interest in the subject increase how much?
6 - How important is discipline to your daily life?

Source: Author, (2022)

Graph 1. Assessment of students' self-knowledge



Source: Author, (2022)

With the answers obtained, it was possible to observe that the students show an interest in the discipline, but end up having doubts and do not have the initiative to seek help from the teacher, making the discipline boring and difficult for themselves.

According to Lima and Gomes (2014), it should be understood that seeking new methodologies for the teaching-learning process should be present and part of the daily life of teachers in search of a better education. Often in the classroom, the teacher, fatigued and discouraged due to lack of resources, exposes the subject in a very theoretical way without relating it to the daily life of the students, and in addition, in a very simplistic way, they ask if they understood the content, the students at most make a gesture stating that they did.

Chart 4: Questionnaire of the Theoretical and Experimental discipline.

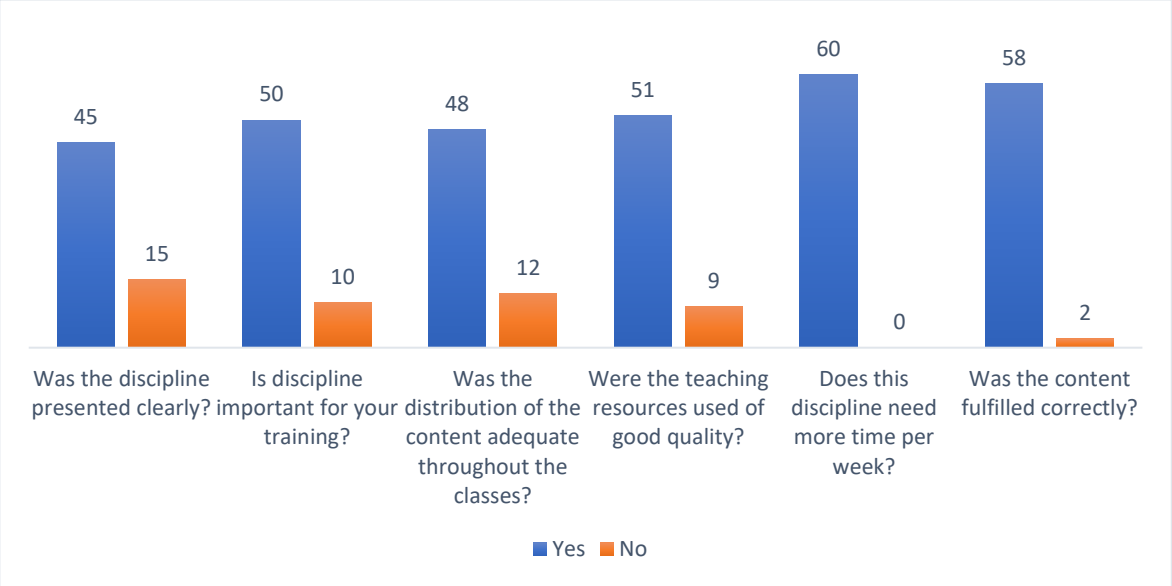
Questions
1 - Was the discipline clearly presented?
2 - Is discipline important for your training?
3 - Was the distribution of the content adequate throughout the classes?
4 - Were the didactic resources used of good quality?
5 - Does this discipline need more time in the week?
6 - Was the content fulfilled correctly?

. Source: Author (2022)

With the analysis obtained through the questionnaires, it was possible to observe that more than 50% of the students understood the subject, also answered the importance of the discipline for their training and if the content was appropriate for the activity developed. 100% of the students answered

that the discipline should have more class time, because the contents thus passed would be better understood and would have more moments with experimental classes.

Graph 2. Questionnaire of the discipline Theoretical and experimental.



Source: Author (2022)

Chemistry present in everyday life is of paramount importance to bridge the gap between the student's previous knowledge and scientific knowledge, remembering that the latter must be built collectively, through discussions, observations, among other means, also enabling greater interaction among students, motivating them to seek reasons and explanations for the phenomena that happen around them (SILVA, 2016).

The practical activities make the classes more enjoyable and fascinating, making the students feel motivated to participate in the activity, learn in a group, not be afraid to make mistakes and seek self-learning. For students, it is important to include games that are popularly known, that they can make inferences from the environment outside the classroom and that the application of what was studied in class is noticeable in extra activities (ALENCAR et al, 2019).

The difficulties of inserting experimentation in the teaching of chemistry may be associated with something more complex, that is, the workload of the discipline and the lack of laboratories in public schools, even the teacher trying to include experiments with more accessible materials, end up investing their own resources in the acquisition of them, because many institutions do not have the materials and do not even provide them.

Table 5. Game quiz.

Questions
1. About the game we used today, did you have a good experience?
2. Was the game easy to play?
3. What did you think of the game's visuals, was it looking good?
4. How much did the activity help in understanding the content?
5. Did you learn anything new from this activity?
6. Does the use of different activities in Chemistry classes increase your interest in studying more of this subject?
7. Would you like to use more activities like this during your lessons?
8. Would you like this activity to be carried out in another subject?

Source: Author (2022)

It was observed that 92% of the students had a good experience with the game, also showing that many of them did not come into contact with another game or playful activity at school. It was also possible to observe that 8% of the students did not find it a good experience, because for them the dynamics could disturb other classes.

Graph 3. Students' response to question 1.

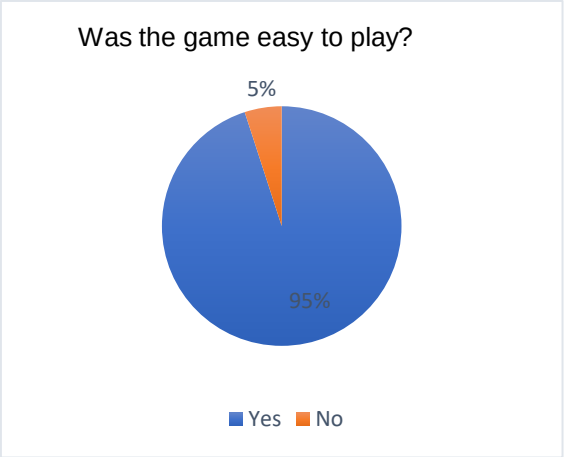


Source: Author (2022)

From this point of view, it is possible to highlight that education and fun are completely linked, as education can be easily acquired through pleasurable activities. Playing and playing are pleasurable exercises of reality and through them it is possible to acquire and establish basic rules of coexistence, improving educators, students and society. The teacher must enrich any playful activity developed, making new characters and situations, where the interest increases in the child and adolescents thus being able to create the possibility of an interesting learning (SHMEREGA, 2014).

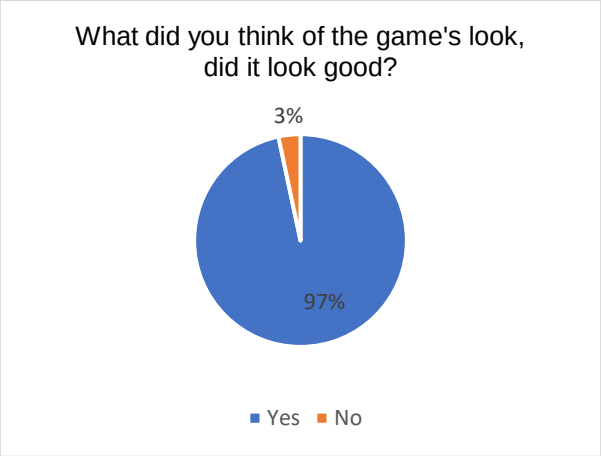
Analyzing graphs 4 and 5, it was possible to observe the importance of an easy-to-understand game and a pleasant look, as more than 90% liked the game's visuals and found the game easy to understand.

Graph 4. Students' response to question 2



Source: Author (2022) Source: Author (2022)

Graph 5. Students' response to question 3

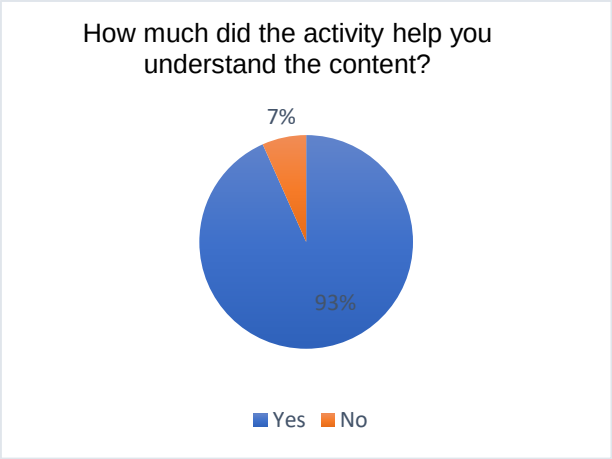


Source: Author (2022) Source: Author (2022)

When well applied and understood, playful education can contribute to the improvement of teaching, both in the qualification or critical training of the learner, and to redefine values and improve the relationship of people in society (ZANATA, 2016).

The use of playful activity shows that it is of great relevance in teaching, since it helps the student to better understand the content. It is possible to observe that 93% of the students said that the activity used helped them to better understand the content applied in the classroom and 97% highlighted having learned something new.

Graph 6. Students' response to question 4



Source: Author (2022) Source: Author (2022)

Graph 7. Students' Response to Question 5

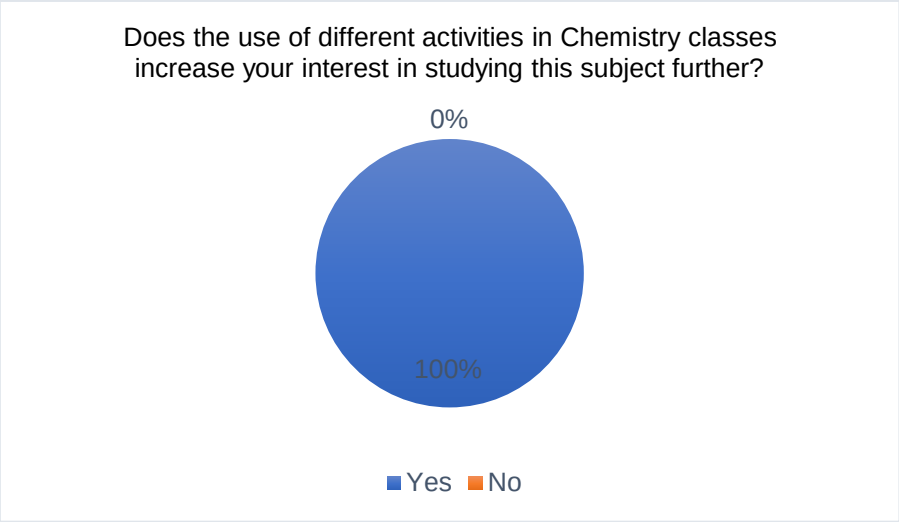


Source: Author (2022) Source: Author (2022)

In this aspect, the development of educational games can enable a greater approximation between teacher and students, necessary for the conceptual discussion of a series of chemical/scientific concepts in the classroom, which can have therefore an increase in interest in this type of content. (Miranda, 2020).

The observations denote that teaching shows us that there is a great need for diversified introductions of modalities of playful activities in classrooms, so that there is a motivation and socialization among students, where it will also have a great contribution to their learning. When asked about the use of playful activities in chemistry classes, the result obtained shows that 100% of the students say that their interest in chemistry classes increases with the use of playful activities.

Graph 8. Students' response to question 6.



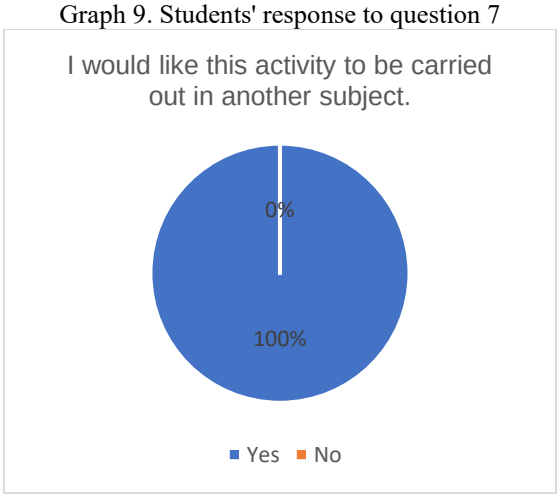
Source: Author (2022)

Based on the results obtained, it is evident that the use of didactic games, after theoretical classes, improves students' motivation and involvement in the educational process, since it acts as a moment of relaxation, reinforcement of content and synthesis of knowledge (ALENCAR et al, 2019).

Gamification allows the student to form concepts, relationships and logical constructions, expressing themselves with the body and mind. By playing, he develops curiosity, initiative, self-confidence, in order to experience and use language, concentration, thought and attention. The school environment can favor the spontaneous character, as the act of playing and learning at school goes hand in hand with the elaboration of new concepts and the integral development of the student (THUROW et al, 2021).

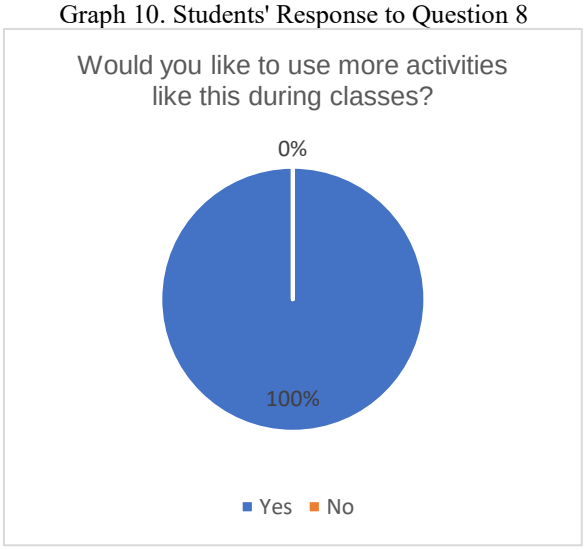
Analyzing the results, it was observed that 100% of the students would like to have playful activities carried out more often in the classroom, so it is also possible to observe that they would like to have them in other subjects, where it shows the importance of the game in the school routine.

Graph 9. Students' response to question 7



Source: Author (2022) Source: Author (2022)

Graph 10. Students' Response to Question 8



Source: Author (2022) Source: Author (2022)

Play is about learning. To play is to learn; In gamification, lies the basis of what will later allow the student to learn more elaborately. Thus, the ludic becomes an educational proposal to cope with the difficulties in the teaching-learning process (CARLOS, 2010).

The game can be applied in education, not as a single means of learning, but as a strategy to facilitate learning, develop in the student the desire to learn, making learning pleasurable, especially in topics that are difficult to understand (BREDA, PICANÇO, 2011).

8 CONCLUSION

The objective of this work was to observe and reflect on how the use of gamification can help in the process of teaching and learning general chemistry in high school chemistry contents. The students' opinion regarding the activity was obtained and analyzed. Thus, it was observed that gamification can present important contributions to the teaching and learning process, from the realization of the activity, significant results were obtained, such as better student participation and a better understanding of the content.

Gamification, in addition to reinforcing the content, helps to strengthen the relationship between teacher and student, from the application of the didactic game, it was possible to observe that there was a contribution to achieving quality education. Through the playful moment, it was possible to associate learning with the satisfaction of playing, taking with it the desire to learn. Thus, it was possible to show the students who participated in the activity that it is possible to learn in a more dynamic way.

The readaptation of the television game was built to address the general chemistry content, however, the same game can be adapted to several other subjects, changing only the questions and the

content covered in the chosen subject. This game is easy to understand, with simple construction and rules, the choice for this game is due to the affinity with the way it is developed and played.

Finally, bringing the content in a fun way can be effective in some moments of daily life at school, but we know the difficulty that the teacher has in preparing certain playful activities, in addition to expenses, the uncertainty that it will be really beneficial for the students and if they will be interested in participating, because we know how frustrating it is to prepare something different and not have feedback from the students.

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ABSTRACT
As the same written and visual expression of the critical humor of cartoons, fabulous animations emerged, which added movement and audio to film productions, and, due to the universal reach of cinema, has the potential to influence millions of people around the world, generating greater social impact. The animations that opted for the language of critical humor formatted a new style of the fable genre, which, unlike the conventional one, does not lead the essence of their narratives to a beautiful and fair world, in which the princess or the hero predominate. However, it directs the viewer to a reality in which the narrative is based on irony or mockery, and which does not necessarily present a resolution to all the conflicts in the story, however it guarantees reflection on the topic.

Keywords: Critical humor, Animation, Cartoons, Movie, Fabulous genre.

1 INTRODUCTION

It is difficult not to smile in front of the cartoons and cartoons of Ziraldo Alves Pinto (1932), Laerte Coutinho (1951), Arnaldo Angeli Filho (1956), Maurício de Sousa (1935) and Chico Caruso (1949). As the greatest Brazilian cartoonists and cartoonists, they created narratives of everyday life and timeless circumstances, as well as unforgettable characters.

Before film productions, the publication of cartoons and cartoons, in newspapers, magazines and pamphlets, was the only channel of immediate social impact, in the approach to critical humor. This language was not repressed, but amplified by the movement acquired in film productions, especially fables.

The first perception that remains latent in the analysis of the critical content of animations is their similarity with the language, written and imagery, of cartoons and, especially, of cartoons, genres in which the aspects of critical humor are often related to the sociopolitical context, detached from standards of perfection and morals.

In animations, the predominant genre is fabular, but unconventional, while fables lead us to a beautiful and just world, in which we easily see ourselves in the role of the princess or the hero, critical humor directs us, simultaneously, to a reality in which irony or mockery predominates, that is, there is an action of valuing a situation that is intended to be devalued. As Brait (2014, p.64) explains, the production of irony is acquired by antiphrase, as there is a semantic inversion in the demonstration of illocutionary value.

1.1 COMMUNICATIONAL LANGUAGE IN CARTOONS AND CARTOONS

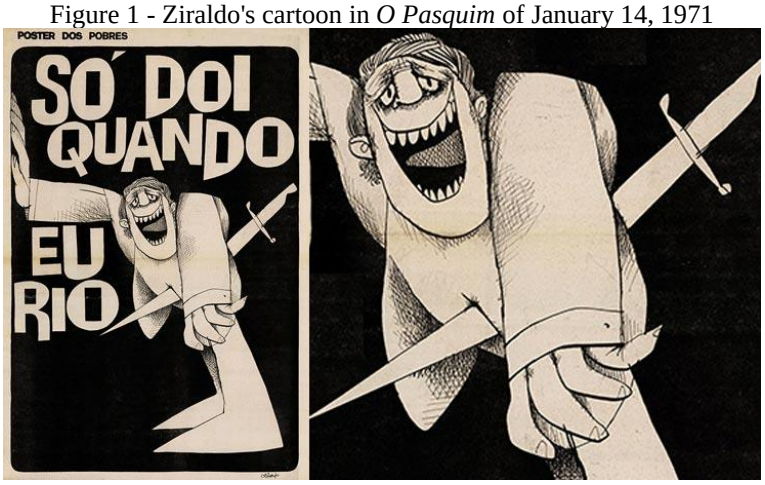
The aesthetic characteristics of the illustrations, by themselves, already produce a great dose of humor, as we can also identify in the cartoon, caricature of one or more characters is used to satirize an event, producing humor, in large part, because of the burlesque aspect of the image. And, it is this exaggeration in the strokes that portrays the very meaning of the French word charge, charge or cavalry.

Similarly, another artistic resource of a critical nature is the cartoon, from the English word *cartoon,* but which, unlike the cartoon, establishes a critique of events linked to temporality, that is, more ordinary situations in society. In this way, while the cartoon is the graphic expression of an artist's critical political-social vision of certain everyday situations, demonstrated through humor and satire, the cartoon mainly involves cases of a political nature that are known to the public.

We can say that both the cartoon and the cartoon are communicational languages of construction of meanings that use mainly the imagistic aspect, and that for the understanding of the language they illustrate it does not require the receiver to have a vast cultured knowledge, a notion of everyday events is enough. However, even a lay public in the social context will not be deprived of humour, since the images of cartoons and cartoons are already attractive enough to reach a large audience, which receives a package full of humour and with a high critical content.

As irony is provoked by matters of collective understanding, cartoonists and cartoonists tend to inspire their characters in the people who exert greater social influence, and as such, cause greater discomfort among those who occupy positions of power, which is why, in moments of censorship, publications become the first target in restrictions, as happened with the Brazilian newsletter Pasquim, in the 1970s. Founded in 1969 by Jaguar, Sérgio Cabral, Tarso de Castro and Ziraldo, the weekly became known for its strong opposition to the military regime, and became more politicized over the years. The print run of 20,000 copies a week reached 200,000 in the mid-1970s, always featuring texts, cartoons and political cartoons. Among the collaborators, the weekly had journalists, writers, cartoonists and artists from other areas, such as Millôr Fernandes, Prósperi, Claudius, Fortuna, Henfil, Paulo Francis, Ivan Lessa, Carlos Leonam, Sérgio Augusto, Ruy Castro, Fausto Wolf, Chico Buarque, Rubem Fonseca, Odete Lara, Gláuber Rocha and others. The newsroom was subject to prior censorship and several members were arrested during the 1970s.

Figure 1 - Ziraldo's cartoon in *O Pasquim* of January 14, 1971



Source: Resisting is Necessary Collection/IVH. Available at: <http://memorialdademocracia.com.br/card/Enough-the-Quibbler-to-Make-Laugh-and-Think>. Accessed November 10. 2023.

Pasquim persisted into the 1970s as one of the most popular alternative newspapers in the country. Conceived by the cartoonist Jaguar to be a newspaper from the Rio de Janeiro neighborhood of Ipanema, more focused on behavioral humor, it progressively entered into more political themes, but always keeping the characteristics of a newspaper of satire and humor, as we can see in the cartoon by Ziraldo (1971), presented in Figure 1. The *Quibbler* ended in 1991, six years after the end of the dictatorship, in issue number 1072. The journal was then relaunched in 2002 and lasted until 2004 (Naliato, 2014).

Like the cartoons, the fabular animations of the critical humor style with socio-historical ties, also resort to the various imagistic strategies in the discourse to produce the comic and reflexive effects to which they are proposed, but to this are added resources of sound and movement. Numerous techniques can be employed in just one production, in which certain elements are more frequent or even more essential than others, but all contribute to the composition of the message.

The visual encodings provide greater comprehension than the verbal ones and aligned with the elaborated discourses, enhance the perception of the messages of the narratives, and, in the same way that with exaggeration the cartoonist manages to give greater emphasis to the striking aspects of the work he proposes to portray, it happens with the animations, because, at the same time that the distortions provoke humor and distance the drawing from reality, It is as if the endorphin breaks all rational limitations and grants greater transparency in the reflective field. But unlike fables, satisfaction does not occur through involvement in fairy stories or projections of heroic events. Irony ends up being a door for those who seek to escape the conventional, and thus, the grace of ridicule, to the detriment of more serious themes, causes a sense of relief and/or compensation.

1.2 FABULAR ANIMATIONS

Analogously, the cartoons, the narratives of the fabular animations of the critical humor style, to keep the viewer's attention and provoke greater comedy, also save the unusual for the end. The strategy is to surprise the spectator with the breaking of logic, causing a rupture in the expected. Surprise is an essential factor in this case, and subtlety is a great virtue.

The strategies of the use of the language of cartoons, cartoons and fabular animations of critical humor make constant use of polyphony, that is, of a multiplicity of voices between the characters or in the contextualization of the situation. It is an association of different images, discourses and a network of events, which sometimes dialogue with news, other films and even information. As Louis Marin states, "the texts change the image that crosses them in discourse" and "the transformation takes place in two senses: the image crosses the texts and changes them; crossed by it, the texts transform them" (MARIN, 1993, p.9).

The animation appears at the beginning of the history of cinema with a duration of only 3 minutes. It begins under the hands of cartoonist James Stuart Blackton, author and producer of the animated drawn film, entitled *Humorous Phases of Funny Faces*. It is a silent drawing, released in 1906, in the United States, whose narrative presents the funny faces of a couple that ages in the cutouts drawn from the animation and gain movement with the *stop motion* technique. In the sequence, other characters are traced, such as a clown, who, along with the image of a dog and other objects, produce funny scenes in the generation of movements, as we can see nos frames do filme, apresentados na Figure 2.

Figure 2 - Frames of Humorous Phases of Funny Faces, 1906 - 1st Drawn Animation - J. Stuart Blackton.



Source: Available at: <https://www.youtube.com/watch?v=LHXzVufTX_8>. Access in: 02 nov.. 2023.

However, it was Paris, in August 1908, that received the first cinematographic presentation, *Fantasmagorie*, performed by cartoonist Émile Cohl, at the Théatre du Gymnase Marie-Bell, which held 800 people, and was transformed into a cinema during the holidays. Unlike the current criteria for the minimum length of cinematographic titles, *Fantasmagorie* is a production that was only one minute and forty seconds long (Lucena Jr, 2002, p.20).

Figure 3 - *Frames* of *Fantasmagorie*, Émile Cohl, 1908.



Source: Available at: <https://www.youtube.com/watch?v=o1d28X0lkJ4> Accessed: 02 nov. 2023.

As we can see in the frames of the animation itself, presented in Figure 3, the narrative presented a fictitious story, in which the protagonist, a clown with few features, who is drawn by the hands of the cartoonist in the narrative itself, co-stars with several other morphic objects arranged in the painting: caricatures of people, a hook, a flower, a box, a bottle, an elephant and a horse, among others.

Like cartoons, which extract humor from any situation, the first film productions greatly exploited this characteristic. When you see them, you feel as if the cartoons come to life with the movements on the screen. There is no requirement for factual mooring in the cartoons, which is why the humor in the *Fantasmagorie* scenes perpetuate to this day, as well as the critical aspect of the narrative. Let's see in the frames of the animation, shown in Figure 4, in which an executive can be fished by a clown and a woman with a voluminous hairstyle full of feathers sits calmly in the first pew of an auditorium, hindering the visibility of the espectador do banco de trás, que com toda tranquilidade começa a mexer nos cabelos da mulher.

Figure 4 - *Frames* of *Phantasmagoria*, Émile Cohl, 1908



Source: Available at: <https://www.youtube.com/watch?v=o1d28X0lkJ4> Accessed: 02 nov. 2017

Like cartoons, animation uses critical humor and casual situations to win over the viewer, however, animations, unlike cartoons, do not focus only on specific circumstances of a time, culture and place, and therefore, their understanding has a longer shelf life.

Another impactful presentation, early in film history, was Winsor McCay*'s short film, The Famous Cartoonist of the N.Y. Herald and his Moving Comics,* which is usually referred to simply as *Little Nemo*. It was directed by James Stuart Blackton and Winsor McCay and was released in 1911. McCay used his strips, which were published in New York newspapers, for animation.

Unlike the previous titles, before starting the minutes intended for the animation of the drawings, the film begins with the filming of the cartoonist and other characters, who interact in the first eight minutes of the film. Although they are small silent paintings, from the texts that are presented in the scenes and expressions, the narrative presents McCay announcing to his friends that he would create 4000 drawings that would move in a month. Then the cartoonist shows up with papers and barrels of ink. Next, he begins a metalinguistic demonstration of film production. In other words, the cartoonist begins to realize the artistic traits and elucidates the strategies used to produce the animation of images in the cinema, as we can see in the *frames* of *Little Nemo*, shown in Figure 5.

In the second image we see the cartoonist tracing and in the third the drawings take the form of characters.

Figure 5 - *Frames* from the beginning of the animation *Little Nemo* (1911), Winsor McCay, The Famous Cartoonist of the N.Y. Herald and His Moving Comics.



Source: Available at:<https://www.youtube.com/results?search_query=little+nemo+1911>Accessed on: 02 nov. 2023.

After presenting the technique of elaboration of the drawing, McCay demonstrates how the animation process occurs, as shown in the frames shown in Figure 6. In the first image, the number 1 is presented, pointing out that the first image is being arranged on a stand by the cartoonist, which is then replaced by another image with the phrase "watch me move".

Figure 6 - *Frames* the animation of *Little Nemo* (1911), Winsor McCay, The Famous Cartoonist of the N.Y. Herald and His Moving Comics.



Source: Available at: <https://www.youtube.com/results?search_query=little+nemo+1911>. Accessed on: 02 nov. 2023.

At the end of the animation, we see the third image shown in Figure 6, which shows the number 4000. Thus, if we divide 4000 images by the total animation time of 148 seconds, we can conclude

that in the *stop motion* technique, approximately 27 images per second were used to produce the movements.

Sociocultural aspects were also incorporated in the construction of the *ethos of the* characters and in the ambience of the narrative, which provokes humor with the grotesque features of the caricature of the African Imp, as well as with his appearance in the middle of the smoke of the Irishman's pipe. This effect caused by the smoke allegorically alludes to the steam of the slave ships that brought the slaves at that time.

Figure 7- *Frames* the animation of *Little Nemo* (1911), Winsor McCay, The Famous Cartoonist of the N.Y. Herald and His Moving Comics.



Source: Available at: <https://www.youtube.com/results?search_query=little+nemo+1911>. Accessed on: 02 Nov. 2023.

In Figure 7, we can see color frames from the *Little Nemo animation*, although the original edition was black and white. These frames feature the three main characters: the first is the African Imp, the second is the Anglo-Saxon Nemo, drawn as a nobleman, and the third is the image of the Irishman Flip, caricatured as a minstrel. It is noted that the continuity of the humor continues with a fight, when Imp smiles from Flip's robes and is answered with a punch. However, the conflict is placed as a casual circumstance, because throughout the narrative it is possible to observe that the characters remain close, even in the face of unfriendly situations. In a similar situation, there were a large number of Irish and Africans, sent as slaves to the New World between the seventeenth and nineteenth centuries, as well as a large number of them, who after the industrial revolution were absorbed and began to act as workers and helpers in local industries and trades.

Also, observing the frames of the *animation Little Nemo, arranged in Figure 7,* we identify that Nemo appears in the middle of Imp and Flip, showing disagreement with the conflict between them, and then assumes a position of dominance over the forms of the two characters, occupying half of the duration of the animation. The figures are distorted while Nemo controls their forms, with the lifting and lowering movements of his arms, stretching or crushing the figures, as if he were responsible

for mediating a position of control and balance between the two characters, or perhaps between the representation of the two peoples.

Next, Nemo – which is Latin for nobody – draws a princess for him and settles on a throne inside the mouth of a dragon. Once again the notion of dominion becomes latent, as neither the princess nor the dragon has a choice, they simply serve Nemo's will. The dominance exercised by young Nemo may represent the power of the Americans in the new lands, the United States of America, also known at the time as the land of dreams, such as Nemo's Slumberland (LUCENA JR, 2002, p.30). In fact, what we see is the manifestation of the social and political power relations of the time being taken up by animation.

McCay also achieved prominence among the most famous animators of his time and received the representation of one of his most famous strips, the episodes of *Night of the Living Houses* in the documentary representation of images from the Louvre Museum, called in the narrative as *Sleepy Town*. The image of Little Nemo, shown in Figure 8, was the first comic book image to be incorporated into the Louvre's collection.

Figure 8- *Frames from the animation of Little Nemo* (1911), Winsor McCay, The Famous Cartoonist of the N.Y. Herald and His Moving Comics.

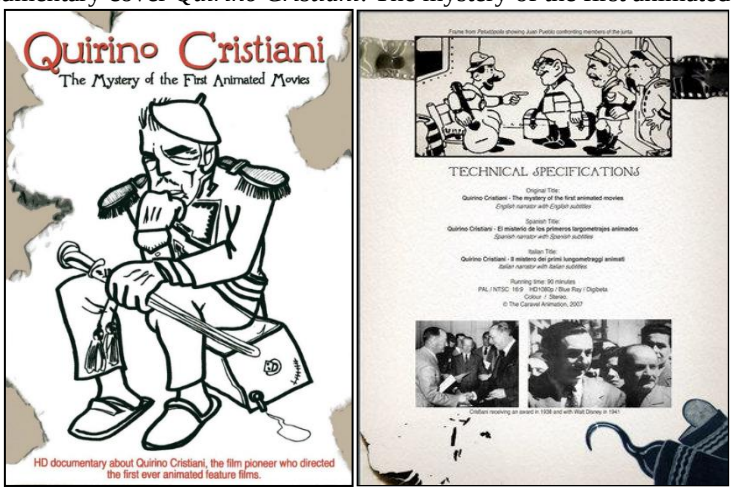


Source: - Winsor McCay, *Little Nemo*, 6 de fevereiro de 1910 - 140x87px, Louvre. Available in: <https://archive.org/details/winsormccaythefamouscartoonistofthenyheraldandhismovingcomics>.Acesso em 14 nov. 2023.

Maintaining the critical style of the first short films, the first animated feature film in the world was *El Apóstol*, released in 1917, as a silent film, produced and directed in black and white in Argentina, by Quirino Cristiani, cartoonist, director and animator nationalized Italian Argentine, precursor of animation in that country, is recognized among the great world animators.

The copies of the films were lost in an unexplained fire at the production company, so animator Gabriele Zucchelli directed the documentary entitled *Quirino Cristiani: The mystery of the first animated movies,* 2007, and as a result of the research she carried out on the history of the studio, she managed to recreate the look and the technique used, whose front and back copy of the cover of the documentary is presented in Figure 9.

Figure 9 - Documentary cover *Quirino Cristiani*: The mystery of the first animated movies, 2007.



Source: Available at:<https://www.stoptrik.eu/quirino-cristiani-eng/>. Accessed on: January 13, 2018.

However, in the midst of the political and social representatives of the time, while European countries faced conflicts in economic competition, disagreements in the colonial dispute and challenges in arms competition, Charlotte Reiniger (Figure 10), se tornou a primeira mulher a dirigir um filme de animação, *As Aventuras do Príncipe Achmed* (The Adventures of Prince Achmed, 1926).

Figure 10 - Charlotte Reiniger and her illustrations from *The Adventures of Prince Achmed*, 1926.



Source: Available in: <http://www.animamundi.com.br/pt/blog/grandes-mulheres-da-animacao/>. Accessed on 10 jan. 2018.

The production was carried out with the technique of silhouette animation (LUCENA JR, 2002, p.117), and she was responsible for introducing the conventional fabular style in cinematographic animations, which is also considered the oldest animated film based on several stories from One *Thousand and One Nights*. After that, the German director was also responsible for more than forty silhouette animations.

Figure 11 - Frames *from* The Legend of Miragaia *(1931, António Cunhal and Raul F. Fonseca)*

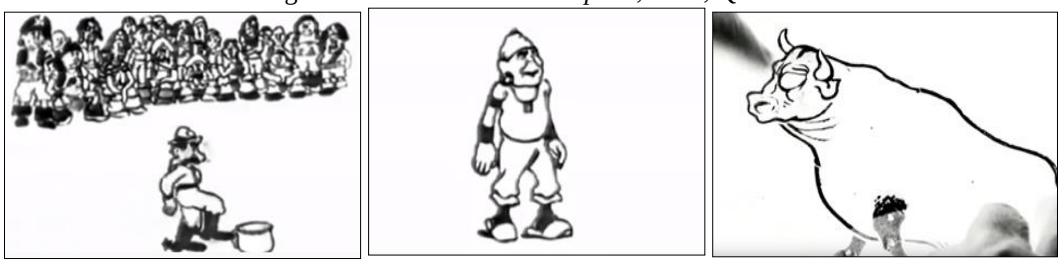


Source: Available at: < https://www.youtube.com/watch?v=sh4A0-NFDrM>. Accessed on 10 jul. 2023.

Reiniger had a peculiar art style in his animations, unlike other artists of the period from 1920 to 1930, the emotions of the characters did not occur through facial expressions, but through gestures. Inspired by her animation techniques, António Cunhal and Raul Faria da Fonseca released the first animated film made in Portugal, *The Legend of Miragaia* (1931), as we can see in the frames of Figure 11.

In 1931, Quirino brought to theaters his second Argentine animated film, *Peludópolis*, released with a soundtrack from the Vitaphone disc-based sound synchronization system, making the film generally regarded as the first animated feature film with sound. Currently the full movie is lost. Let's look at *frames* in Figure 12.

Figure 12 – *Frames* of *Peludópolis*, 1931, Quirino



Source: Available at; < https://www.youtube.com/watch?v=PAS7uenh3nc>. Accessed on 11 jul. 2023.

The resumption of the first two animated film titles, which had a great deal of critical humor: *El Apóstol (1917) and* Peludópolis *(1931), as well as the first animated shorts that preceded them:* Humorous Phases of Funny Faces (1906), *Fantasmagorie* (1908) and *Little Nemo* (1911), are of special importance for the focus of this work, since, like the fabular contemporary cinematographic animations of the critical humor style, these productions also contemplate characteristics of irony, often related to the socio-political and economic context of the time, which, as we have seen, are also pertinent to the cartoon and cartoon genres.

The profile of critical humor in narratives remained on the cinema screens of the twentieth century, mainly due to the long collection of film productions by the British Charles Spencer Chaplin, actor, director, producer, comedian, dancer, screenwriter, businessman, writer, comedian and musician. Chaplin gained worldwide prospection with silent and talkie films, notable for the use of critical humor

(CHAVES, 2001, p.02), among other films we highlight: *The Boy (1921),* In Search of Gold *(1925), The Circus* (1928), Modern Times *(1936), The Great Dictator (* 1940) and *Limelight* (1952). As well as for animated shorts, however, feature films followed other paths.

The beginning of the industrialization of animation did not receive the same encouragement from the press in relation to live-action cinema, but also faced the great challenge of having artists as pioneers, as they had to have solid knowledge in drawing and painting, and they also needed to make available quickly and cheaply a production, which, in addition to aesthetic beauty, could add the artistic expressiveness of the narrative and the characteristics necessary for a profitable business (Lucena Jr, 2002, p.61).

In 1928, Disney enters the market with the premiere of Mickey Mouse, which brings the synchronization between the images of the film and the sound, however, Disney's greatest impact on cinematographic productions was the consolidation of the fabular style in the narratives, with a certain dose of humor, but unrelated to socio-historical events, which was convenient for a time when the world mourned the losses of the first world war and was still experiencing conflicts which would later trigger a new period of war.

The dominance of the conventional fabular genre in the animation market in the last century can be explained by the fact that this model does not contest political and social issues, and does not bother the ruling class, thus even adding it to its list of admirers. The former leader of Germany, Adolf Hitler, for example, was a loyal spectator of Walt Disney animations, passionate about drawings of Snow White and Pinocchio, going so far as to copy the characters in comic books as a hobby. This statement is made by Norwegian historian William Hakvaag, director of the Lofoten War Museum: Norway[1].

Fables have a great power of distraction, as they lead us to the projection of a world where we can imagine ourselves as princesses, heroes, or any other character. With fantastic narratives, he projects us into an environment that we would like to be ours, because it awakens, both in the moment we watch and in what we remember the scenes, a feeling of perpetual enjoyment, much more attractive than reality, without rules and limits, although non-existent. It is a feeling of self-conviction that manifests itself in the mind of the spectator, who, unconsciously or consciously, tries to convince himself of being someone he is not, as Dostoevsky portrays in his work *Memories of the Underground* (2009).

> But these are all golden dreams. Oh, tell me, who was the first to declare, to proclaim that man commits ignominy only because he is ignorant of his real interests, and that it would be enough to instruct him, to open his eyes to his true and normal interests, so that he would immediately cease to commit these ignominy, and become, at the same moment, kind and noble, because, Being instructed and understanding its real advantages, he would see in the good his own

[1] (Available at <http://g1.globo.com/Noticias/PopArte/Hitler>. Posted on 23 Feb 2019 2008)

> interest, and it is known that no one is capable of acting consciously against him, and therefore, as it were, out of necessity, he would start to do good. (Dostoevsky, 2009, p. 7)

In moments of great social tension, self-deception is an internal facet of behavior that is very opportune so that life does not become unbearable and devoid of greater achievements. Self-deception is a typical feeling of human nature, with a view to one's own survival, even some of the simplest organisms seek to "deceive" the environment and other beings in order to survive. People sometimes even accept to live with undesirable circumstances, aiming at a greater goal, even if the conditions are not satisfactory.

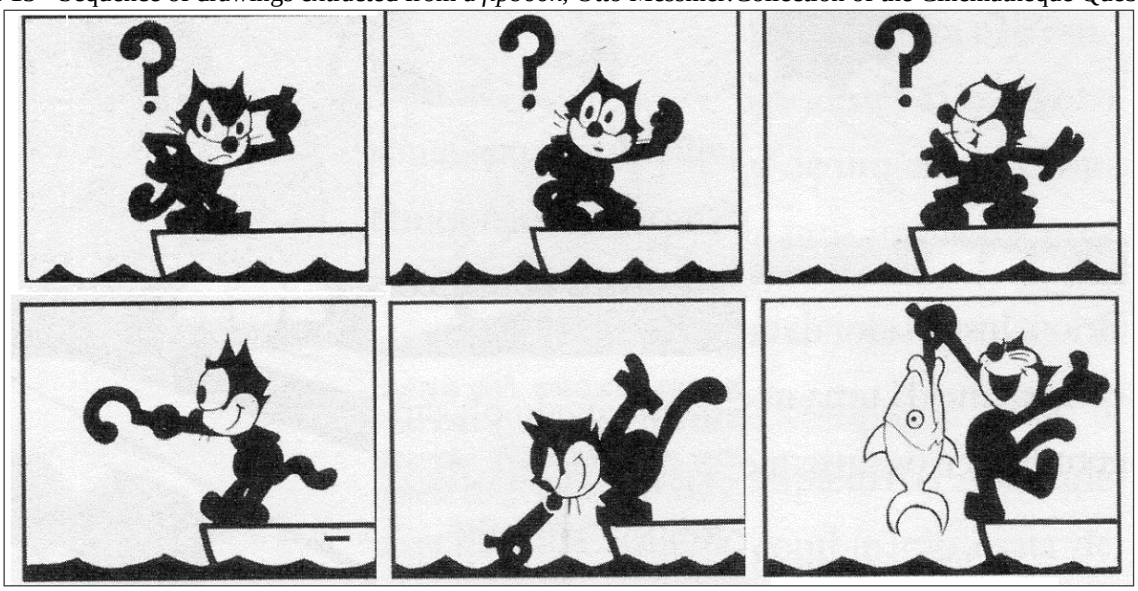
This diversity of personalities is well worked out in cinematic narratives, especially in fables in which animals or objects are incorporated as characters. According to Bakhtin (2010, p.12), Dostoevsky worked with excellence on the nature of the human soul, exploring the most striking characteristics of the diversity of personalities, highlighting ideological, religious, nobility or villainy positions, tastes, quirks, kinks, weaknesses, eccentricities, mildness, violence, shyness and exhibitionism.

It is from the diversity of human characters that multiple voices arise, sometimes from the past, but which intersect with voices of the present and make their echoes propagate towards the future, generating from there the polyphonic and always open discourse. This, then, is the essence of polyphony, it consists in the multiplicity of voices that intersect without losing their individuality or merging, in which they remain in a continuous process of combination.

It is important to point out that for Bakhtin (2010, p.77), one of the great innovations of Dostoyevsky's literature was to affirm that the character's dialogue can also happen with his own consciousness, a resource that we can highlight was used in the animation, *Inside Out* (2015).

Other shorts occupied the screens during the early years of cinema, they were largely of *Felix the Cat* (Figure 13), which in comparison to the animations brought by Disney, seemed less expressive, in addition to being aesthetically simpler, did not have a continuity in the story.

Figure 13 - Sequence of drawings extracted from a *fipbook*, Otto Messmer.Collection of the Cinémathèque Québécoise



Source: (LUCENA, 2002, p.79)

Even the most famous character of that period, Felix the cat, would tend to exhaust his communication strategies – his personality, although elaborate, was structured around visual jokes in general, the movement was poor.

The animations of the 1920s, compared to those made by Winsor McCay, were of a much lower quality. The titles had few graphic resources, lacked a visual language with more elaborate resources of representation, in addition, they were made in precarious working conditions and in a hurry to meet the quantity needed by the market.

And it was in this context of animation that Disney arrived (LUCENA JR, 2002, p.99), a situation in which the issues of segmentation of narratives had little aesthetic expressiveness. Something unusual was also missing for the conquest of the spectator, ordinary circumstances only attract attention for restricted moments, very different from the fanciful proposals of the fabular world or the spicy attacks of satire. It was the lack of something different in the world of animation that opened the doors for Wall Disney.

> [...] in an expression that became famous, Disney aimed to achieve, with animation, the 'illusion of life'. For him, the animated character had to act, to act convincingly; seem to think, breathe; to convince us that he is the bearer of a spirit. And in order to fully engage the audience, this character had to ultimately be inserted into a story. (Lucena, 2004, p.99).

His childhood as a farm boy, then his study at art school, in which he learned to know the technical and artistic rudiments of animation, contributed to Disney putting into practice his proposal of putting the illusion of life into animation.

Figure 14 - *Frames* from the movie *Steamboat Willie* (1928).



Source: Available at: <http://videos.disney.com.br/ver/steamboat-willie-mickey-mouse-507955f4329269a7cf8364e0>. Accessed: 20 dez. 2018.

Maintaining the humor, which was already characteristic of the first animated productions, Walt Disney's narratives conquered the market with several icons, among them Mickey Mouse (Figure 14), official mascot of The Walt Disney Company, which in 1928 introduced its first sound design with the release of *Steamboat Willie*.

But the search for overcoming was another differential of the company, as Walt Disney also released an animated short in the three-color process called Technicolor, *Flowers and Trees*, in 1932.

In 1937, Walt Disney released the first animated feature film in the United States*, Snow White and the* Seven Dwarfs, which grossed $8 million at the worldwide box office. Figure 15 shows some frames of the animation that was the first classic of Disney productions.

Figure 15 - *Frames* from the animation *Snow White and the Seven Dwarfs*, 1937.



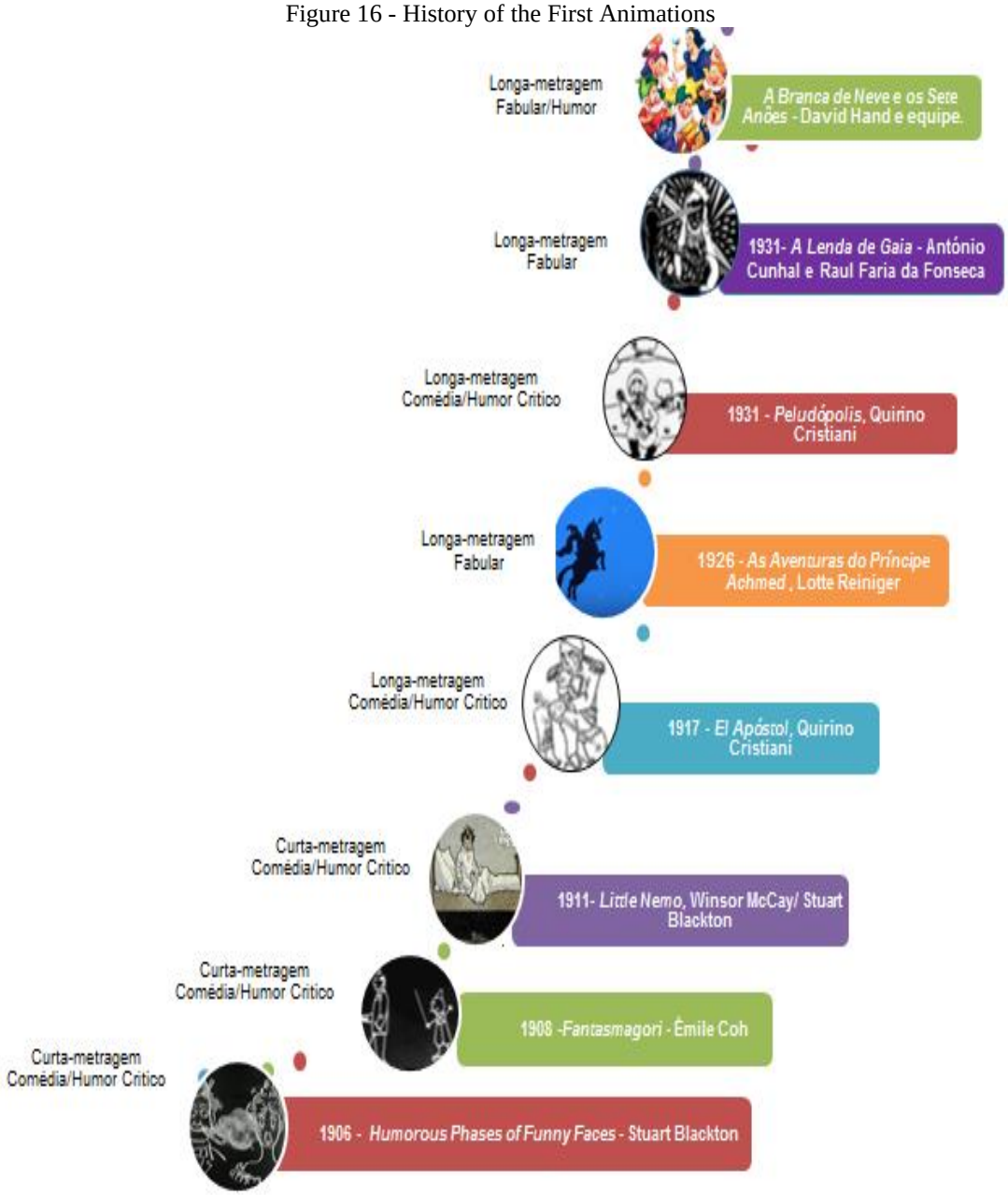
Available on the website: <https://www.youtube.com/watch?v=w_lIfw-YaRI>. Accessed on November 12. 2023.

In the aftermath, Disney proceeded with the release of 39 more cinematic animation titles and 12 *live-action titles* in the twentieth century, thus consolidating the style of the animation market at the time. These achievements, in addition to the achievement of more than one hundred animated titles in the same century, gave him supremacy in the production and distribution of animated titles, as well as the solidification of the conventional fabular style of cinematic animations, many of them as versions of stories by the Brothers Grimm. Before the Second World War, while European countries faced conflicts in economic competition, disagreements in the colonial dispute and challenges in arms competition, the USA launched itself as the largest producer of animation and conquered the European consumer market, establishing a hegemony in audiovisual production throughout the West.

This prominence remains to this day, but in the 80s, they were favored by the conquest of a greater share of the market, since the Americans were pioneers in the discovery and large-scale distribution of personal computers and computer graphics software, contributing to the spectators knowing new paths to the fantastic world of magic.

In addition to the charm and humor offered to children, animations conquer adults with productions that break with the tradition that has enchanted generations of children since 1930, as it dialogues with contemporary uses and customs, and can even, due to the lack of absolute truths, present anti-heroes that captivate the public and become a reference, as we see in *Shrek* (2007, Dorling Kindersley).

Figure 16 - History of the First Animations



Source: Prepared by the author.

The release of *Snow White and the Seven Dwarfs* marked the beginning of Disney's golden age, which dominated the twentieth century with the audiovisual production of American animated titles.

The effects of the war also affected the European film market and gave way to American productions conceived by Hollywood, which achieved the predominance of the American film market and the distribution of the titles to the European consumer market and to the West.

During and after the war periods, in the twentieth century, critical humor was maintained in cinema filming, especially by the productions of Charles S. Chaplin and short films released, but cinematographic animation took another direction, driven mainly by Disney productions.

In this scenario, where the emphasis was on the feature films of the conventional fabular genre, a fable of a different nature appeared in theaters. Taking advantage of the constant use of animals in the fabled narratives of the twentieth century, which marked the field of cinematographic productions, the Englishman George Orwell (1903-1950), pseudonym of Eric Arthur Blair, writer, journalist and political essayist, launched, in the format of a fable, *the book Animal Farm* (1945), which, under the direction of Batchelor and Halas, gave rise to the first British animated feature film. released in 1954, with the same title.

George Orwell was the author of several critical works, including the book *Down out In Paris and London* (1933) and *1984* (1949), one of the best-selling publications of the twentieth century . Two new *live-action versions* were released in cinemas: in 1984, directed by Michael Radford and in 1999, directed by Josh Stephenson.

As we can see, from the *frames of the* animation, presented in Figure 17, the fabular production had a very different character from the conventional standards of the genre, because in the ambiguous discourse of the narrative, alongside the innocent laughter, there also flows, for those who discern about the political context, the perception of the evident satire of the communist Soviet Union.

Figure 17 - *Frames* from the animation *Animal Farm*, 1954.



Source: Available on the website: <https://www.youtube.com/watch?v=o3EDynwWPZs>. Accessed on November 10. 2017.

As Minois (2003) points out, humour is alternately sarcastic, taking the forms of irony and humour.

> Studied with a magnifying glass for centuries, by all disciplines, laughter hides its mystery. Alternately aggressive, sarcastic, mocking, friendly, sardonic, angelic, taking the forms of irony, humor, burlesque, grotesque, he is multiform, ambivalent, ambiguous. It can express pure joy as well as vicious triumph, pride or sympathy." *(MINOIS, 2003, p.14).*

The film gained great worldwide projection at the time (Shaw, 2001, p.114), and at odds with the simplicity of the conventional fabular style narrative prevalent at the time, it stood out mainly for the characteristics of critical humor and the socio-political aspects added to the film's language.

Instead of the human representation occurring by the sweet Snow White, (Figure 15), who played with the animals, and in whose narrative the righteous always conquered evil, in *Animal Farm the* relationship between man and animals occurred under the violence of the whip and the relations of exploitation always remained under the weakest. as can be seen by looking at the illustration of the frames in Figure 17, the oppressor, who was initially the man, then becomes the pig who took power.

The construction of meanings developed in the narrative *of Animal Farm* shows that the film uses the characteristics of an animation, which we characterize as fabular cinematographic of the critical humor style, different from contemporary productions only by the specificities of the language.

The presentation of animations was encouraged in most countries of this historical period, as they took the focus off the intolerance of governments, at the time marked by the predominance of authoritarian and populist lines. According to the book *The Eclipse of Progressivism* (Siqueira; Milk; Uemura, 2010), which analyzes Latin countries in the 1960s, 1970s, and 1980s, shows that Latin

America suffered a new political setback in these decades, mainly due to the suspension of the democratic order through military regimes.

> [...] such as Bolivia with Evo Morales; Ecuador with Rafael Correa; Nicaragua with Daniel Ortega; Paraguay with Fernando Lugo and Venezuela with Hugo Chávez elected rulers with populist and authoritarian tendencies, against critics of freedom of markets and freedom of the press (Siqueira; Milk; Uemura, 2010).

On the other hand, the 1960s and 1970s were also the scene of many social and student protest movements, largely contesting the distribution of income, claiming the right of all to share in the wealth produced (Silva, 2005, p.1). It was a period in which doors were opened for new artistic manifestations.

Certainly, the growth of animations has also been favored by technological resources. In 1964 Hanna-Barbera started working with celluloid and then came Pixar, revolutionizing contemporary animation with computer graphics. New uses of *stop motions have* emerged and the production of 3D animation has elevated animations to places of increasing prominence. The new resources brought the improvement and harmonization of techniques that made possible new paths for all film production. The inspiration of directors and animators has been continuously expanded, as well as the list of animated film productions to reach the imagination of the public. (Fossatti, 2010, p. 11). The classic tales, for example, gained another visuality, and, from creations and reinterpretations of previously disclosed narratives, the playful, dreamlike, and fanciful aspects were enriched, taking the viewer to an infinity of magical and enchanted worlds.

According to the socio-political and cultural moment, productions can be influenced by communication styles that modify and/or diversify new productions, a significant milestone in the market happened with the emergence of digital resources. Digital animation, which predominates in today's productions, appeared in 1962, with Ivan Sutherland's optical pen, which allowed designers to use computers to create designs for automobiles, cities, and industrial products.

Figure 18 – *Frames* from the animated short *André and Wally B, 1984, Lucas Filmes.*



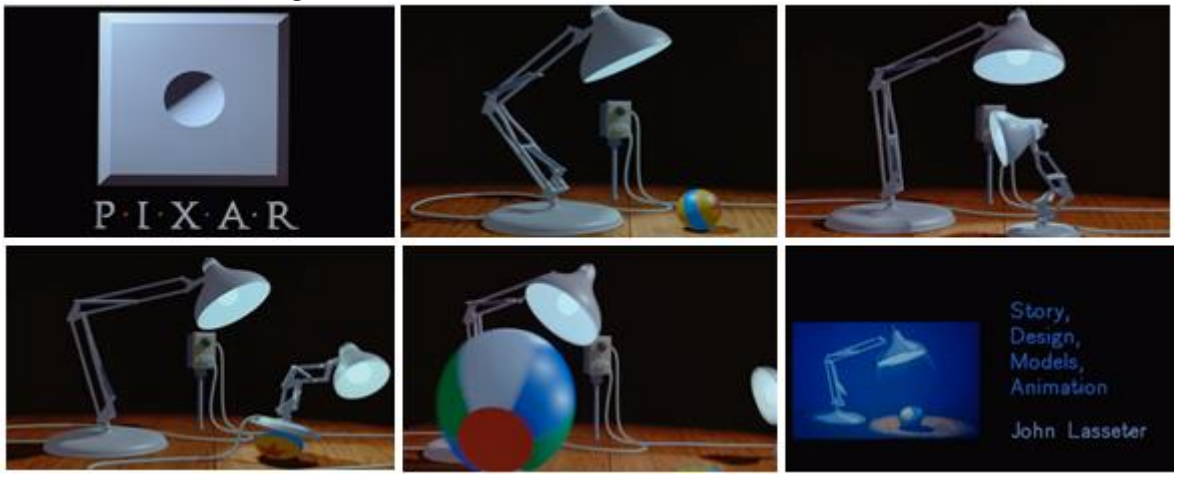
Source Available on website:< https://www.youtube.com/watch?v=9qha0kEeVl0>. Accessed on 22 Aug. 2019.

In February 1986, Animation Studios was born as a division of Lucas Films and was bought by Steve Jobs, who further boosted the company's development. In the same year, the company, which would later become Pixar, released the short film *Lux Jr* (Figure 18), which received an Oscar

nomination for Best Animated Short and first place at the Golden Gate Awards for Computer Generated Imagery (CGI). This was the beginning of a story of awards and public success.

Pixar has established itself as a solid animation company: it has won 28 Academy Awards, the famous Oscars, six Golden Globes and three Grammys, as well as many, many millions.

Figure 19 - *Frames* from the animation *Lux Jr*, 1986, Pixar.



Source: Available on the website: <https://www.youtube.com/watch?v=D4NPQ8mfKU0>. Accessed on August 20, 2019.

In 1995, after years of losing money, Pixar released its first big box office hit, *Toy Story*, received nominations for Best Original Song and Best Screenplay, and a special award, the *Special Achievement Award*, given to John Lasseter for the development and inspiration applied to techniques that made the first animated feature possible. In 2006, Pixar is bought by Disney, with this, Steve Jobs becomes the largest shareholder of this company (REGO, 2016).

While films such as *Star Wars* (1977), Terminator *(1984), Independence Day* (1996), Titanic *(1997), Armageddon* (1998), Godzilla *(1998) and The Matrix* (1999), among others, used the resource of digital animation to create special effects, which brought fantasy closer and closer to the reality proposed by the narrative, other animators introduced real filming of landscapes in the composition of scenarios and real penguins, in order to establish more veracity to the scenes, such as the animation *Happy Feet* (Warner, 2000). And, the animation *Final Fantasy* (2001) by Hironobu Sakaguchi, which with the aim of achieving realism, through the photo-realistic animation technique, presents a setting and characters with an impressive veracity.

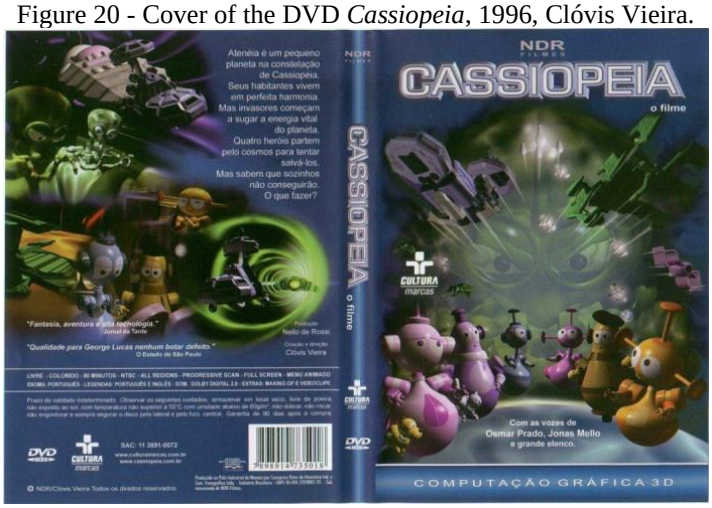
However, digital animation gained more traction after *Toy Story*, released in December 1995. The applied technology awarded a Special *Achievement Award* for animation, for the development and expressive application of the technique that, after all, made it possible to make films like this, which would come to be hailed as the first feature film made entirely by means of computer animation (LUCENA JR, 2002, p.429). Although the award mentions that the production was carried out entirely

by computer animation, in fact images of clay molds made to characterize the heads of the characters were used, to then be digitized and assigned movement.

And in April 1996, the animation Cassiopeia*, by Clóvis Vieira, which had been in production since 1992,* was released by NDR Filmes. For the development of this feature film there was no process of digitization of molds, the development was entirely in digital computing. Under the general direction of animator Clóvis Vieira, three animation directors and eleven other animators, in January 1992 the production of "Cassiopeia" began. The characters and scenarios were defined with the use of basic geometric figures, developed in 17 486 DX2-66 microcomputers, and the first character model was made on a 386 SX of 20mhz.

For the elaboration of the characters and composition of the scenery of *Cassiopeia*, spheres, cubes and cylinders were used, which in addition to facilitating the rendering, also offered a unique art style for the feature film. The production was also marked by the fit of the colors, because even without textures they give an air of exclusivity to the film. (JR. CANDIDO, 2016). [...] Officially released on April 1, 1996, the film took four years to complete and cost R$ 1.5 million. *(*FURTADO, 2013).

Figure 20 - Cover of the DVD *Cassiopeia*, 1996, Clóvis Vieira.



Source: Available on the website: <http://www.arkade.com.br/retroarkade-cassiopeia-primeiro-longa-animacao-historia/>. Accessed 24 out. 2023.

The path to other digital animations was open to other studios, in addition to Pixar, which was already producing the first shorts. The first to quickly join this new proposal were Dreamworks, Universal Pictures, Warner Bros. and Century Fox.

Before we get into the concepts of digital animation, it is worth mentioning that the first critical humor animation with a significant box office return in theaters was *Animal Farm*, 1954. Adapted from the literary work of the same name, which arose at a time of much political controversy, but also without globalization and with the high cost of production. After this, world cinema had to wait until the end of the twentieth century, 1998, to enjoy again an animation that explored critical humor in a feature-length narrative*, Antz,* released by Dreamworks Animation, under the direction of Eric Darnell

and Tim Johnson, in which the behaviors attributed to insects and the construction of the environment, With high doses of irony, they satirize political and social relations.

The approach of the new narratives contemplates a critical humor linked to historical events, opening the doors to a new style of cinematographic productions, now influenced by contemporary aspects, the multiplicity of voices and the aesthetic diversity of a globalized world updated by new technological resources.

With the impact caused by the advancement of technology and communication, the end of the twentieth century dawned with a new life expectancy, which began to gain strength in the face of a potential for transformation, quickly perceived and incorporated into the productions of cinematographic animations. And, the cinema released a feature film, *Animal Farm* (1954), which had a questioning narrative, seeking humor in the satire of circumstances that presented similarities with socio-historical events. But, due to the political context itself, it was a unique manifestation, rescued many years later by the animation *Formiguinhaz* (1998, Dreamworks). This film gave voice to reflections that denoted a new social profile, which, favored by the plurality and diversity of artistic expressions, built an ambience that distanced itself from the format maintained by the productions of Wall Disney, the flagship of the world market of the most watched animations in the twentieth century.

This innovative proposal, brought by Dreamworks in *Formiguinhaz (1998), in* addition to portraying the return of critical humor in feature films of cinematographic animations, linked to historical contexts, also signaled the end of the restraint in the expression of art and in the discourse of cinema, which had already been broken by some films, but which until then was far from the magic of animation in cinemas. From then on, feature-length animation would cease to be an icon of humor and leisure detached from reality, formatted to an illusory standard of society, and would begin to express political, social, and even documentary questions of history.

Thus, we perceive a rupture of the patterns of humor that predominated in the fabular animations of the twentieth century, a moment in which the voice of animations were dampened by the periods of war, post-war and repression. However, in order for us to see this relationship, it is necessary to distance ourselves a little, because, as Agamben (2009, p.59) states, we cannot let the lights of our century obscure our vision. "Only those who do not allow themselves to be blinded by the lights of the century and who are capable of distinguishing in them the part of the shadow, its intimate obscurity, can be called contemporary" (Agamben, 2009, p.63-64).

Contemporaneity is, therefore, a singular relationship with time itself, which adheres to it and, at the same time, distances itself from it. More precisely, it is this relationship with time that adheres to it, by means of a lag and an anachronism. [...] Those who coincide in an excessively absolute way with the epoch, who agree perfectly with it, are not contemporaries, because precisely for this reason they cannot see it, cannot keep their gaze fixed on it. (Agamben, 2009, p.59).

Some information can help to distance the look from analysis, among which the returns that animations are achieving at the box office, as well as why the *Despicable Me franchise,* which works with narratives of critical humor, is the greatest among animations.

The film rescues the past, transforming what was once old into new. Respecting the original meaning, new versions of titles that have achieved great box office are brought to the present day, what has already passed returns to everyday life.

As Linda Hutcheon writes, "the past really existed, but today we can only 'know' this past through its texts, and therein lies its link with the literary" (Hutcheon, 1991, p. 168). It is not directly concerned with demonstrating time and space, because the concern is focused on showing what is being represented and its meaning. It is a vision focused on heterogeneity, differences, and lack of concern with the general view of the world. The valorization of the unusual, the unpermitted, or even what is excluded and considered impure.

2 FINAL THOUGHTS

Current narratives privilege heterogeneity and difference, acting as liberating forces in the redefinition of cultural discourse. A scenario in which cinematographic animations seek to construct meanings in the proposals of a globalized world, which contemplates more complex themes and with a great dose of critical humor.

These productions provide a new form of expression of the cultivation of the imaginary, which, leveraged by digital resources, even impact our vision of reality. We identified a language that points to critical humor, but continues to preserve the magic of the fantastic world, the main attraction for children. On the other hand, by investing in more complex and intertextual themes, in the specificities of critical humor, they reflect similarities with socio-political and cultural themes and also dialogue with young people and adults. In these productions, concomitant with the revolution of the digitalization of animation, the questions about the notions of absolute truths, spaciousness, temporality and even references for analysis, gain space.

Conventional fabular animations progressively give way to narratives that bet on the production of critical humor linked to the representation of contexts that portray socio-historical circumstances. Unlike the twentieth century, in which the predominance of box office was Wall Disney Studios productions, in the last twenty-five years other studios have shared this market (Dreamworks Pictures, Illumination Entertainment/Universal Pictures, 20th Century Fox Animation/Blue Sky Studios and Pixar), producing titles whose specificities guarantee narratives that contemplate a new profile in the construction of meanings. in which the articulation of gestures and ambience introduce constant intertextual circumstances, which intentionally contribute to the construction of the message

According to the evidence made throughout the text, we verified how critical humor is present in the history of animations, influencing the production of narratives, whose comedy stimulates a critical look, which reflects the reality of a society that seeks greater speed, clarity and quality of information.

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System crash: A redesign in the way of teaching

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ABSTRACT
This article presents reflections and two practical examples of how significant and collaborative work contributes to the teaching-learning process. Starting from the question: can we still have a colorful school, recognizing that throughout the school trajectory we have lost the enchantment for the school because we have lost playfulness and creativity in the classes, we report collaborative and creative proposals for work in Portuguese Language and Literature classes that recover affections and protagonisms in the classroom.

Keywords: Education, Assessment, Creative, Playful, Pedagogical approaches, Collaborative work.

1 INTRODUCTION

When do schools stop being colourful, stop seducing pupils? When did we lose our enchantment with school?

We know that the transitions from Kindergarten to Elementary School, and from this to High School, are abrupt, as we exchange flexible schedules between pedagogical and recreational activities for closed schedules and oppressive calendars. We exchanged a single teacher who was present at all our activities for several teachers who came in and out of the room. We no longer sit in a circle, on the floor, to tell news or carry affective objects. We take cell phones and headphones and isolate ourselves socially. We even try to lighten the heavy load of tests and various mock exams to pass the ENEM with cultural fairs or group work to justify better grades and averages.

The school needs to be colorful again in all segments and in various aspects. Redesigning the way of teaching and the way of teaching is imperative. But when, how?

Understanding that meaningful work is collaborative and that it takes time and breaks down content barriers is already known. Why don't we put it into practice? These are works that reach the affection and dedication of teachers and students, both protagonists of the classroom. It is not only the student who must be the protagonist of the teaching-learning process. This protagonism needs to be shared, exchanged and, generously, shared. Creativity and critical thinking when worked on in the classroom result in this type of colorful school.

We often mistakenly think that a playful class outside the Early Childhood Education classroom is synonymous with an elementary and high school teacher specializing in parodies and famous TikTok dances to get the student's attention or being skilled in reductionist but funny phrases to stimulate the memorization of formulas, rules or tables. However, playfulness is not and cannot be understood in this way. That's not what playfulness is all about. Playfulness is serious business.

Playfulness is a form of learning that uses the creative. Playfulness provides time for the construction of thoughts and interactions and awakens the student's critical sense, enabling in this process a greater confidence in what is learned and in the relationships established. According to MAIA and VIEIRA (2020, p. 68), "both assessment and play are natural factors in the process of socialization and child learning and, for this reason, inseparable from the teaching and learning process in any age group. If they are inseparable, why do we perceive this dichotomy between playtime and evaluation time? Why does one end up "swallowing" the other?"

Promoting playfulness or playtime to pre-teens or adolescents as a means of developing the teaching and learning process is not unfounded or useless. On the contrary, the experience of 20 years working with this age group has proven that any playful and creative proposal in the classroom environment, in parallel with any formal evaluation instrument or even as part of the evaluation instrument, has always been very well received, accepted and desired by the students.

Breaking the monotony of traditional classes full of handouts or books, charts or slides or memorization techniques with something surprising, such as a phrase, an image, a song or a provocative debate, that stimulate reflection and criticism, that help generate emotions that are essential for learning is increasingly necessary. We don't need to reinforce education that prioritizes the conditioned way or the defensive practical way of thinking. For Hooks (2020, p. 48), "when we see the classroom as a place where teachers and students can share their 'inner light', we have the path to glimpse who we are and how we can learn together".

This article is part of the ongoing master's dissertation *"Didactic resources under the focus of Design in Partnership: a transgression in Portuguese Language Teaching-Learning",*[1] which aims to point out the need to think and experiment with new strategies to develop skills and share knowledge, ideas and work on critical thinking in the classroom. We present the report of two works: the first, entitled "**Som alencareano**", which was developed by one of the authors in 2017, with 2nd year high school students from a private school in Rio de Janeiro, having as a guiding thread the study of the works of José de Alencar, since this author would contemplate the content and the literary period of Romanticism worked in the series. The second work, entitled "**Playlist of "Torto Arado**", was carried out five years later, in 2022, for a new class of 2nd year of High School, from the same school, in Rio

[1] Dissertation in development at the Graduate Program in Design of the University of Design – PUC-Rio, under the supervision of Prof. Dr. Rita Maria de Souza Couto and co-supervision of Prof. Dr. Roberta Portas.

de Janeiro, for the subjects Portuguese Language, Literature and Arts. In this class, a new paradidactic book was chosen as mandatory reading, "*Crooked Plough*", written by Itamar Vieira Junior.

1.1 SOM ALENCAREANO

An extracurricular reading book had to be chosen to dialogue with the content, a requirement stipulated by the school, at least one book per quarter. I challenged myself and the class, choosing four: *"Senhora", "Lucíola*" and "O Guarani*" and "Iracema",* in comics, all written by José de Alencar. A great strangeness for the class of 2001, because each one of them could make the choice of which book to read, something they were not used to doing. It would not be a concern or a determination the number of students for each book, but it was asked that the students organize themselves in such a way as to have at least all the books in the work.

The first questions arise: how to make twentieth-century students understand the literature of the eighteenth and nineteenth centuries? How to soften the impact of cultural differences and make the characteristics of Romanticism be apprehended? What means to use so that students would realize that by studying texts and contexts so far away they could better understand current texts and contexts?

It is true that when choosing a comic version, a strategy was already being stipulated to start answering such questions, but it was still not enough. It would take an enchantment, a motivation and an invitation for the involvement of all participants in the process.

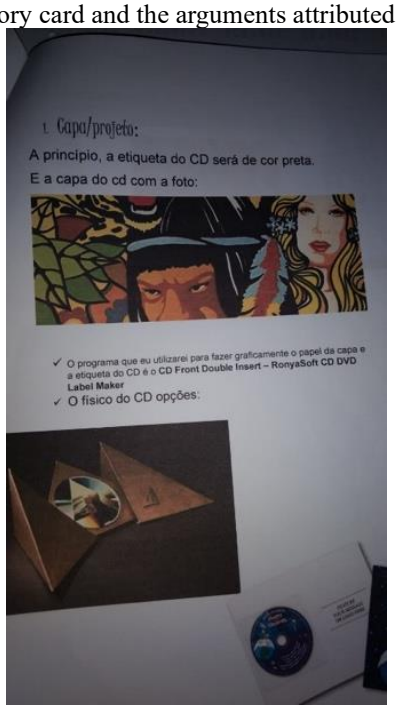
The step then was to stimulate reading, initially with the presentation of each book and the historical and life contextualization of the author.

Bearing in mind that from the relationship between all our knowledges explodes a creation, including the new texts produced by the students through reading, the agreement was that each one would choose from the entire presentation, a book to read and exchange the stories in a debate circle. Thus, each one would be given the autonomy and responsibility of the choice for the execution of the work.

The proposal was a request for the students to imagine a song or a soundtrack that represented a scene or a chapter of each story read. The number of songs selected and the parts of the books were not stipulated, because once again it would be up to each student to make their choices. They would reproduce these musical selections on a CD, discuss each choice in the class, and make a written report explaining the CD, the choice of the book, and the relationship between the musical selection and the Alencarean plot. It was going to be and was a lesson in listening and debate.

The following images in the article illustrate the execution of some of the students through the process to the final work. The photos reveal the defenses of the ideas, some CDs produced, as well as the exhibition room of the work in one of the school's events.

Image 1 - Example of a report, with the explanation of the execution and planning of the work: material used for the cover and box of the CD, as well as the explanatory card and the arguments attributed to the choices of songs.



Initially, like any good student, there were complaints about how much work the activity would be for each one, the difficulties of working in a group and the cry of "why do we have to read something so old". At the same time, the students showed curiosity about how to carry out a different experience, leaving the commonplace of posters and seminars, and even a certain pride in producing a free-form insert on their own to personalize the work.

Deadline established and, in each class, doubts were clarified: a new computer program, a specific type of paper, a different shape for the delivery box and even a participant who decided to make a CD/disc to be different from the others, etc. But little by little the ideas were emerging.

There were many classes that followed around Romanticism and throughout this process and no more complaints were heard. On the contrary, I started to hear things like: "I cried at the end of Lucíola"; "I've seen something like the story of the Lady"; "This book by Iracema is the biggest lie, but it's cool"; "Reminds me of Pocahontas"; "I thought of such a song for Iracema, what do you think?" There were also phrases like, "I don't understand what this guy writes"; "That reading is slow or difficult."

My answers were always stimulating, stoking curiosity even more, giving some *spoilers* or my personal impressions about the reading or even teaching that the most important thing was not to worry *ipsis litteris* with the meaning of each word read, but, mainly, with the plot read, with the author's purpose, with the context of production and with the reading public of the time. I appealed to the novelistic character of the serialized novels and to the comparisons with the current 6 p.m. soap operas, and, above all, I did not leave any student unheard or unanswered.

On the agreed day, plastic boxes, colored CD envelopes and even wooden boxes with some objects inside, such as feathers and counterfeit money, among other references to Alencareano stories, appeared on my desk and in the hands of students proud of their results.

Image 2 - Example of a CD, produced by a student who chose to reproduce it in LP format.

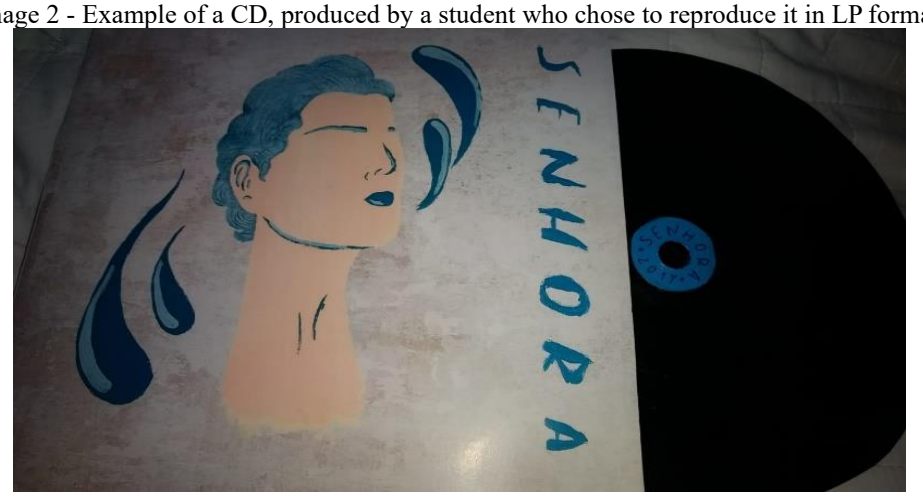


Image 3 - Example of a CD for the book "Senhora" produced with the gift of counterfeit money, representing an issue brought up by the book: marriage for interest.



Image 4 - Another CD produced for the book "Senhora", with an insert with poems and drawings produced by the student about the most significant parts for her.

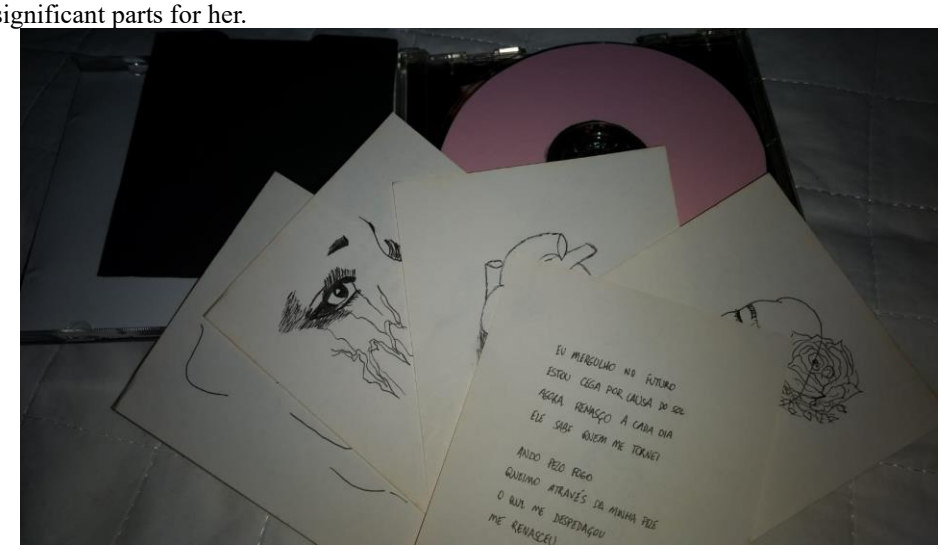


Image 5 - CD for the "Guarani", made with the help of foliage and delivered in a wooden box.



Image 6 – Booklet of the CD *"Lacrima on sonata - A rereading of Iracema".* Box insert made, elaborated and pasted by the student.

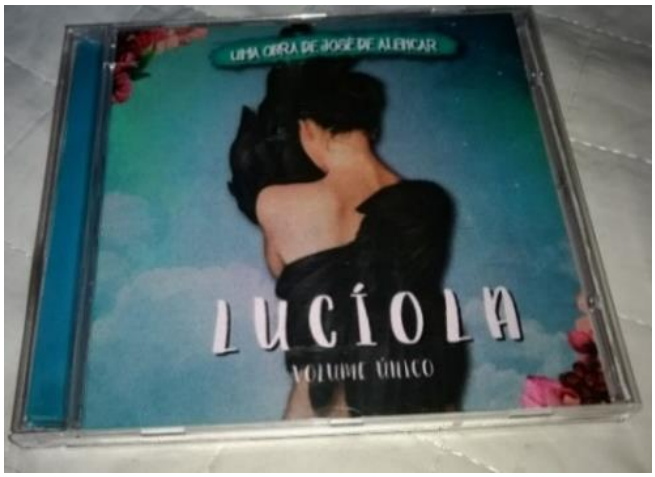




Image 7 - CD for the book "Iracema", with the richness of the details for the booklet and the chosen material. The student chose samba plots for the presentation of the story.



Image 8 - CD produced for the book Lucíola, cover designed and produced by the student to highlight the sensuality of the protagonist of the story.



From the delivery of the works, we sat in a circle on the floor of the room, and with the help of a stereo, we listened, at least, to the introduction of each song chosen for the CDs that were presented randomly by the students.

Next, I asked each student to present the story of the book, show their musical selection, and justify their choice by indicating the chapters or parts of the stories. At this moment, the agents: author, audience and context, of Alencar would be linked to the new agents established through the interpretation of the story read. The understanding, involvement and study done by each of the students would be perceptible and how much they were able to make inferences between what was read in the books, the intertextualities between what was read with the lyrics of the songs and the repertoire. Apart from the notion of organization, commitment and basic notions of technology.

For each international song chosen, something that was not a reason for impediment or determination, as well as the possible languages, there was also room for a quick translation and justification.

Surprised by the richness of the debate, the beauty of the objects and the good taste and musical diversity, I launched another challenge to the class: how we would exhibit all this material, giving it the value and prominence it deserves, in the event known as Open Space Week. This is one of the most awaited events for the entire school, as it promotes the exposure to the entire school community of work from all classes, covering as many subjects as possible, the week when the school is more colorful and attractive, the moment when students and teachers become partners and work more collaboratively.

With the title "Perceptions", the space chosen by me for the exhibition of all the works proposed throughout the year, for the three years of High School, Portuguese Language and Literature was a passage corridor, called Portaria Branca. It is a place not very dear to the students, but gladly for the teacher, as it is a passage space on the ground floor of the school and of ideal size not to leave any work loose or lost on a wall. In fact, the wall is always the least of it, because the *non-room* allows

you to exhibit works hanging from the ceiling, exposed on the floor, on top of furniture, on the entrance staircase of the balcony or even on the two doors that compose it.

Complaints not heeded, the location was already established. That was the beginning of another work proposed to the class: a poster to advertise the CDs, in the image and likeness of the ones they were, when sold and advertised in a physical store in 2017.

The class would have to produce a semi-standard poster to present their equivalent CD at the exhibition. And it would be our responsibility, the teacher and each student in the class, to tidy up the space. The first idea was already launched, the second was to come. We needed a device to keep the music playing, in an ambient way, throughout the exhibition and we needed to arrange chairs, sofas or armchairs for visitors to sit and handle the CDs, being able to exchange them, enjoying each song and getting involved with each story.

To attract a lot of attention from visitors, we hung fan housings, provided by the school itself, on the ceiling so that the posters would hang from them and not spoil or pile up on the walls. We used the sofas in a service room and a magazine rack to arrange the CDs in a cozy way for enjoyment.

Image 9 – Magazine rack with the storage of CDs for the exhibition at school.

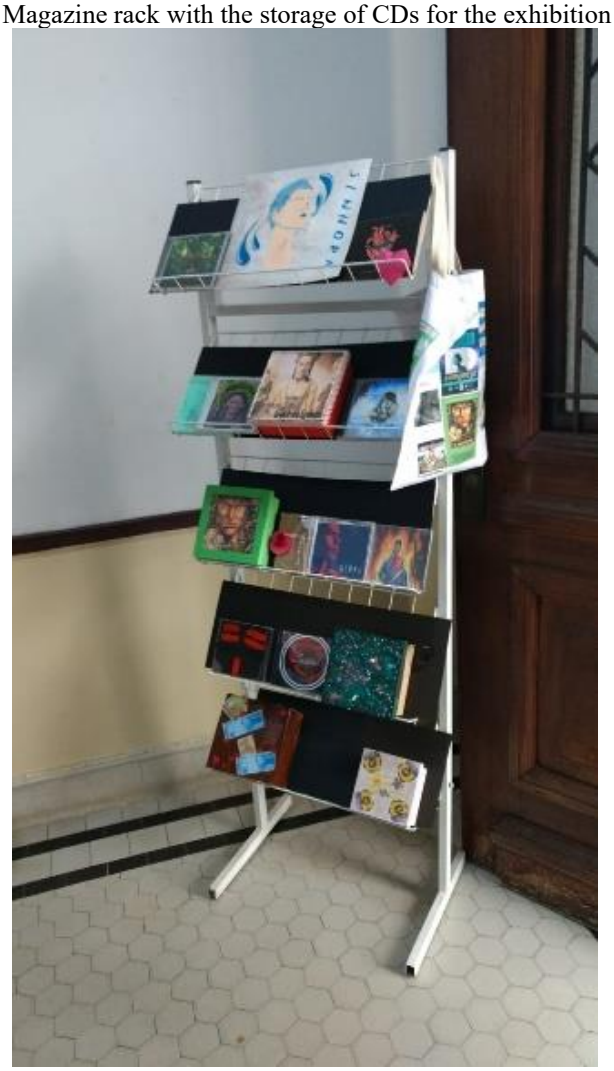
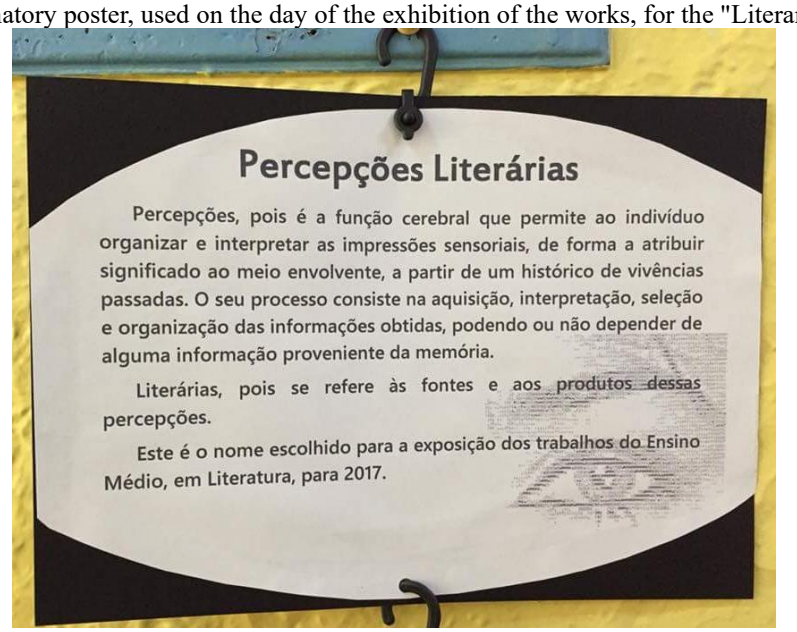


Image 10- Posters hung by nylon on the carcasses of old school fans.



Image 11- Title/explanatory poster, used on the day of the exhibition of the works, for the "Literary Perceptions" room.



As can be seen in the photos, the room, in addition to being cozy, aroused a lot of curiosity. It was one of the most sought-after rooms at the event and the students remained there, even without a pre-established schedule for presentations. Everyone felt proud and wanted to show each visitor to the fair the work on display.

1.2 PLAYLIST DE "TORTO ARADO"

The theme of the ***Fraternity Campaign was*** **"Fraternity and Education",** inspiration for the school's Political Pedagogical Project and, consequently, a good reason to inspire my choices and classes.

"*Torto Arado*", the book proposed for the work, is a narrative that takes place in the hinterland of Bahia, bringing in its plot the story of two sisters, Bibiana and Belonísia. The two live in extreme poverty alongside their parents in a region marked by drought and manual labor in the fields.

The book deals with themes such as backcountry culture, racism, faith, education and the human relationship with the land. It is a faithful and touching portrayal of the reality experienced by many people in the interior of Brazil, especially in the Northeast. A contemporary book, released in 2019, but dense in plot and fantasy, not very common for 15 or 16-year-old students. A single book, a redesigned challenge: how to encourage students to read? How to propose connections between the contents worked on in the classroom, the school project and the repertoires of each one? What activity would such a reading and learning process contemplate?

For the answers, an old proposal with some changes: for a single book: the students had to imagine what soundtrack would fit for a striking scene or a chapter of the story read. The number of songs selected or the parts of the books would not be stipulated, as it would be up to one group, because now the work would be in groups of 4 to 5 components, which would provide choices, including those of the group mates.

They would reproduce these musical selections on a CD, discuss each choice in class, and make a written report explaining the CD and the relationship between the musical selection and the work. Another novelty, in addition to the groups, is that there would be a partnership with the discipline of Arts. It would be up to the teacher in question to work with the groups on the booklet of the CDs: possible materials, images, color palettes and shapes.

The first impact was presented in the question: "Teacher, what is a CD?". Five years later, the students did not complain about the language, the century, the laborious activity, however, they questioned how they were going to do something that they did not master and did not know how to perform since there was no longer the CD compartment in the computers or in programs available and within their reach. The solution came: "Can it be on *Spotify*?". Initial answer, no. Negotiated and discussed in a group, you can as long as you have the object and the box to be displayed in the school exhibition.

Some of the CDs produced in 2017 were taken to the classroom so that they could get to know this object and understand what a CD is, to then exemplify the booklet, perhaps the most difficult part for understanding the proposal in 2022.

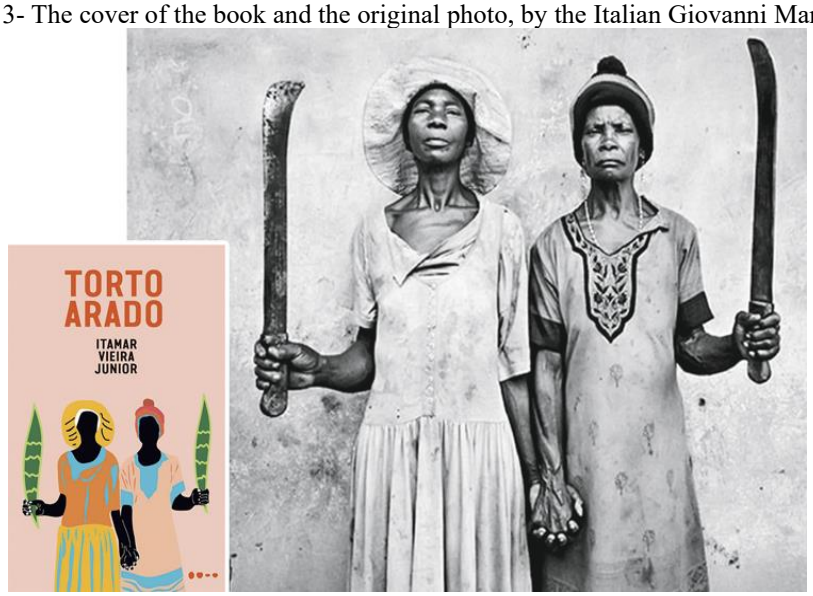
Like the 2017 project, the story was presented in order to encourage reading, studying the author's life and the historical context of the production. A Sway, a Microsoft Office application that facilitates the creation and sharing of interactive reports, personal stories, presentations and much more, produced for the Literature class, now on the then platform used by the post-pandemic school, was released to facilitate communication. A poster was also made to stay on the wall of the room reminding the deadline, the commitment and the proposal of the work, as illustrated below.

Image 12- Poster pinned to the class wall to guide and stimulate the class. Names of the groups, dates, rules of excusion, proposal for the rereading of the book cover.



In both the Arts and Literature classes, the groups discussed the story of the two sisters, the drama experienced by one of them who loses her speech after an accident and the importance of the father who encourages the girls to study and have a school in the region where they lived. The art teacher also worked on the cover of the book, which has as a reference an iconic image inspired by the photo of the Italian Giovanni Marrozini, encouraging a rereading of the image in the composition of the CDs.

Image 13- The cover of the book and the original photo, by the Italian Giovanni Marrozzini.



In each class, a comment, excerpts from the book and the verification if everything was moving towards the execution and delivery of the work. And the expectation of another resolution on how to exhibit in the good old "non-room", the White Ordinance, each year no longer refused, due to the intimacy established between it and the works of Portuguese Language and Literature of High School.

On July 15, 2022, the students presented the reports and *playlists*, delivered virtually and through qr *code.* This time, sitting in groups at their individual desks or standing by the computer near the speaker.

Image 14- Use of the *qr code* occupying the place of the CDs, next to the booklet produced by the group.

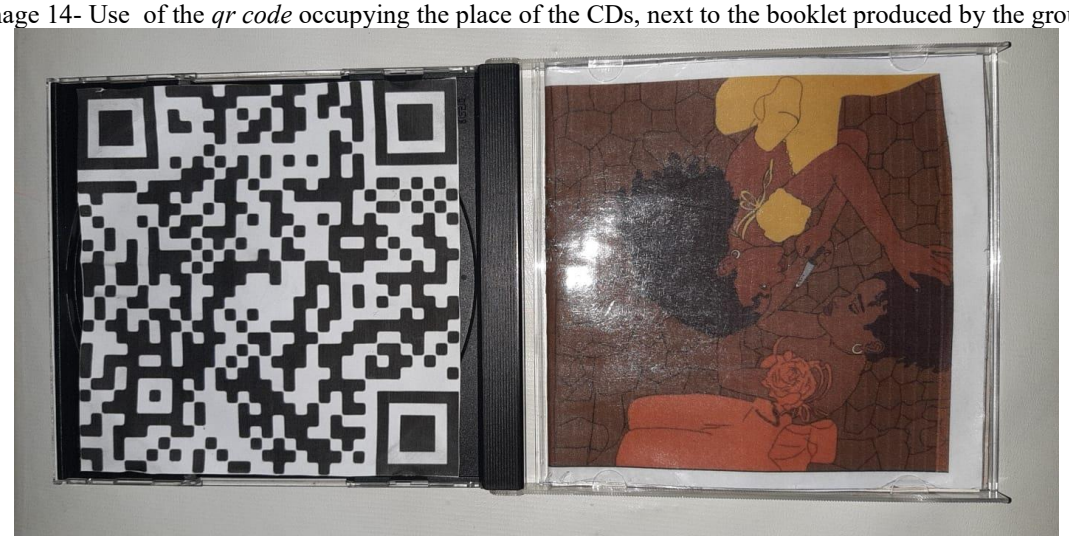


Image 15 - Elaboration of the booklet mixing the covers of the CDs used in the collection of songs.

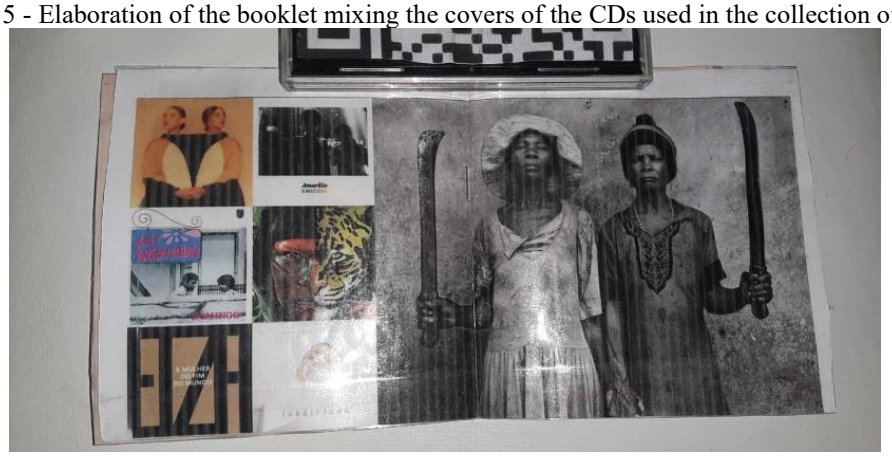


Image 16- Stylized cover with the book in the foreground and other black and white elements in the background.

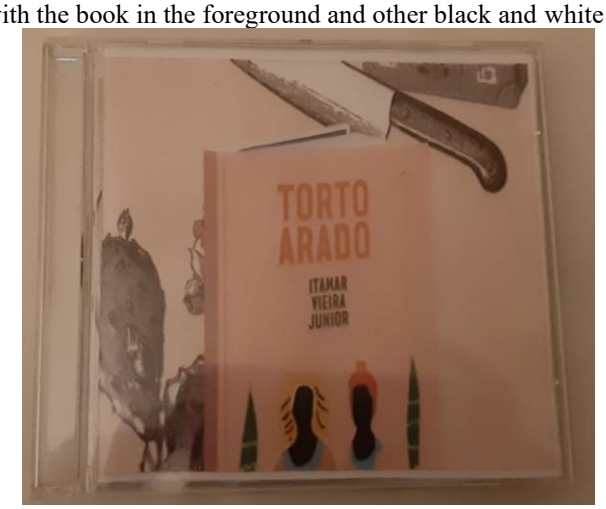
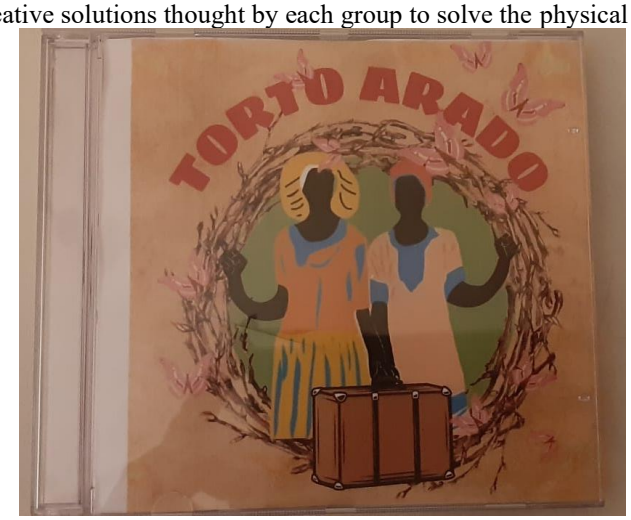


Image 17- Another CD box with the booklet based on the original images and watercolor hand drawings produced by a student in the group.



Image 18- Creative solutions thought by each group to solve the physical lack of the CD.





As on previous occasions, the groups of students had to participate in the process of tidying up and looking for creative solutions to exhibit their work during the Open Space Week. Unlike in 2017, the musical score would not be chosen or exchanged by visitors. Because it was a playlist, it would be playing uninterruptedly in the room.

The five-year gap between the first work carried out in 2017 and that of 2022 brought impactful changes, which motivated the creation of a timeline to illustrate the evolution of sound devices and also the way songs came to be heard.

As well as the musical evolution, the room, the exhibition, the production and the execution of the work were also rethought and contextualized for the new event.

The name of the *non-room* could not be any other: "(RE) EXISTENCE" - referring to our resistance to the worst moments experienced by all of us, due to the COVID 19 period, and an exaltation of our eternal resistance in Education.

Resistance and not something programmed and not organic. We don't need to rebuild systems. Long live a breakdown in the "No, sir, yes sir" system of Education.

2 CONCLUSION

"Sit down, shut up, do, copy, write, read, listen, reproduce, don't forget, fall on the test, fail...", those who have never used these phrases as an instrument to measure forces, let them cast the first stone.

These imperative statements are a reflection of a robotic view of the evaluation system, as we learn to program ourselves and our students for exams and evaluations in a systematic and reproductive way, since we are all being evaluated.

Most of the time we don't stop to think about what we are looking for when evaluating a student or ourselves, through a work: do we only take into account a specific result desired by the institution? Or do we seek to identify possible learning difficulties that will provide material to reformulate the entire didactic process?

Normally, we surrender to the social impositions of our time and to the educational market that ranks the results of the educational institutions, which lead, the public schools for the offer of a possible 14 salary as a prize and the private schools, for the approval of the entrance exams.

Unlike these parameters, we cannot fail to consider that we need to have a clear vision of what we expect or what we have to observe in an evaluation process: what dosage should be used in the evaluation activities, both in the command of the proposals and in the number of instruments, so as not to lose the essential, which is the exchange with the students and with the other teachers?

It is common ground that evaluation processes are part of everyday school life. They are presented in the form of instruments that, in most cases, focus on the contents worked on and should be vehicles for attributing values to the learning process. However, the question to be discussed is whether we are valuing the evaluation processes centered on selection and ranking, without looking at the processes or the paths taken by the student to obtain a certain result.

In everyday school life, it seems that we are getting lost in the pedagogy of the exam, setting up calendars full of mock exams and formal evaluations or even using handouts that train the famous answer card or, still, encouraging the use of essays in the format of recipes to complete semi-ready texts with a few authorial words. With such practices, we are certainly moving away from an assessment that considers the learning process, the assimilation time and the recognition of the content as a guiding thread.

Evaluation implies a position, that is, it is up to the teacher or the school as a whole to take a position on the results obtained in the accomplishment of the route to be followed. Thus, the evaluations have a greater objective of exchange and reflection for a redirection of the practices of the teacher and the school, aiming primarily to help students in the achievement of learning and not just a good placement in lists of results.

Therefore, activities, such as those presented in this article, outside the formal school standards, elaborated and rethought through a lot of dialogue between students and the teacher, or students and teachers, provide other ways of thinking and obtaining an evaluation. Inclusive forms of talents and skills that are often not valued or perceived in the midst of the pragmatic content worked on.

The school that works on collaborative projects or mini-projects, regardless of the content or merely marketing objectives, is a school desired and remembered by the students, as there is the promotion of meaningful learning. It's a colorful school.

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SEVEN
publicações acadêmicas

The aim of this project is to analyze the three-stage sport and its contribution to the development of children and adolescents in citizenship formation and social inclusion

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ABSTRACT
This is a research on the investigation of the Sport in Three Times Project of the Secretariat of Sport of Ceará, in which we want to know the contribution of the project to the development of children and adolescents in citizenship formation and social inclusion. In addition, to know the perception of teachers and parents/guardians of students in relation to the project and suggestions for improvement for it. Thus, it aims to strengthen the understanding of the participants taking as reference the experience of implementation and practice of this project in the Areninhas of the State of Ceará. The research is exploratory in nature, with a qualitative approach, where thirty people who are involved in the project were interviewed and answered a questionnaire proposed by the researchers. The research was built from the answers of the students, teachers and guardians/parents of the students of the Areninhas where the interviews were made. The contribution of the project to the lives of its participants was positive, as several physical, psychological, social and cultural benefits were identified, favoring the formation of the individual as a whole. In addition, it plays an important role in keeping practitioners away from crime and social vulnerability.

Keywords: Design, Arenas, Soccer.

1 INTRODUCTION

The Sport in Three Times Project is offered in several cities in the state of Ceará. Fortaleza is one of the cities contemplated. It takes place in arenas maintained by the state and the city hall. There are professionals trained to teach young people between 7 and 17 years of age. Each center is formed by 01 Physical Education professional, responsible for planning, monitoring and carrying out sports activities in compliance with the project proposal through the guidance of the pedagogical coordination. Each nucleus is composed of 100 participants, who are distributed in groups by age groups between: 07 to 10 years old (Learn), 11 to 13 years old (Develop) and 14 to 17 years old (Overcome). The main modalities are soccer, society soccer, functional training and recreation. In each center, at least 02 collective and/or individual sports modalities/activities are offered to the beneficiaries in the Learning and Development classes (07 to 13 years old). In the Overcome class (14

to 17 years old) there is the possibility of offering at least 01 (one) sports modality/activity. More sports modalities/activities may be developed in all classes, according to the interest of the participants, skills and competencies of the professional. The classes are organized with a minimum of 25 students and a maximum of 35 students, that is, a minimum of 02 classes per nucleus, divided into their respective age groups. It is established that participants have a minimum frequency of 02 or 03 times a week, with a minimum of 50 minutes of daily activities. In addition, there are professionals who organize the entire project, that is, the managers. According to the Secretariat of Sport of Ceará (2022), the Sport in Three Times Project boils down to: creation and implementation of sports centers for the development and promotion of sport and leisure for children and adolescents in the age group of 07 (seven) to 17 (seventeen) years, in the municipalities of the State of Ceará through sport. According to Cotta (1998), a program is the set of projects that aim at the same purposes, which establishes the main points of the intervention, identifies and orders the projects, in addition to defining the institutional scope and allocating the resources to be used. Project, on the other hand, is an integrated set of activities that aims to transform a portion of reality, filling a need or changing a problem-situation. And it is in this context that the Sport in Three Times Project comes in, as this work realizes that it has the potential to transform people's lives, and complementary characteristics of the society in which sport is studied may emerge because, according to Cunha (2022), the project aims to promote the dissemination of sport in the municipalities of Ceará, through democratization and guarantee of access, as a stimulus to social coexistence, the formation of citizenship, quality of life and the socialization of knowledge, contributing to the integral development of children and adolescents. According to section III of the Federal Constitution of 1988, which speaks of sport in its art. 217, **IT IS THE DUTY OF THE STATE TO PROMOTE FORMAL AND NON-FORMAL SPORTS PRACTICES, AS A RIGHT OF EACH INDIVIDUAL, OBSERVING: II - THE ALLOCATION OF PUBLIC RESOURCES FOR THE PRIORITY PROMOTION OF EDUCATIONAL SPORTS AND, IN SPECIFIC CASES, FOR THE PROMOTION OF HIGH-PERFORMANCE SPORTS; IN ITS ITEM** § 3, the Government shall encourage leisure as a form of social promotion. Thus, the constitution established that it is the duty of the State to promote actions that guarantee access to sports and leisure for the entire Brazilian population. As a legal framework, the notion that sport and leisure are "social rights" is inaugurated. These elements are essential for society from their playful character of a practice of citizenship endowed with social meaning that mobilizes men, women, children and society in general, serving as an example for other states. Therefore, we seek to reflect, identify and understand these aspects present in the activities practiced during the class hours of the project, in which soccer is the main modality taught.

2 METHODOLOGY

Once the research has had a practical application, it is classified as applied in nature, with a qualitative approach and statistical analysis.

According to Arango (2009), quantitative research can use statistical analysis resources to be effective.

Based on its objectives, we can define it as an exploratory research. According to Gil (2006), exploratory research has as its main objective the improvement of ideas or the discovery of intuitions.

The technical procedures used in the research were information collections. According to Gil (2006), research of this type is characterized by the direct questioning of people whose behavior one wishes to know.

As it is an investigation that is related to the project (scenario of action of children, adolescents and teachers), the research was carried out in two Arenas. The researchers contacted the teachers and arranged the visit. Arriving at the place, they were welcomed by the teacher and the students and soon after explained why they were there, as well as whether the research he was going to carry out would take place.

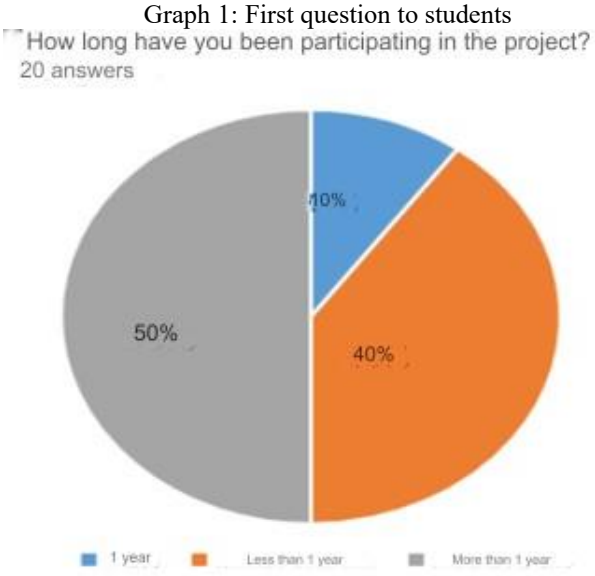
The first Areninha that was visited is located on Av. Alberto Craveiro, S/N – Castelão, Fortaleza – CE. The date of the visit was 05/09/2023 at 9:00 am. Eight children (six boys and two girls), six parents/guardians (one man and five women) and one teacher were interviewed. The second Areninha visited is located at R. Santa Terezinha, 188 – Bom Sucesso, Fortaleza – CE. The date of the visit was 05/12/2023 at 6:00 pm. Twelve children (eleven boys and one girl), two parents/guardians (two women) and one teacher were interviewed. In all, thirty participants of the project were interviewed, twenty students, eight parents/guardians and two teachers from the visited Areninhas who participated in the research regardless of gender or age. Only participants who agreed to the terms of the survey were allowed to take part in the study. The choice of sample was accepted by convenience or intentional, as it was chosen for accessibility by the participants themselves, who were interviewed to participate in the research according to availability of schedules and agreement.

Data collection was carried out in the Areninhas, where the sports practices take place, through an interview structured by the researchers containing open questions that met the proposed objectives of the research. According to Gil (2006), a structured or formalized interview is based on a list of questions and the interviewer follows a previously established script. It is not allowed to adapt to a given situation, reverse the order or elaborate other questions for the interviewees.

As the research approach will be qualitative, the treatment will be statistical, through descriptive statistics and production of graphs, with the help of the EXCEL *software* of the company Microsoft Corporation.

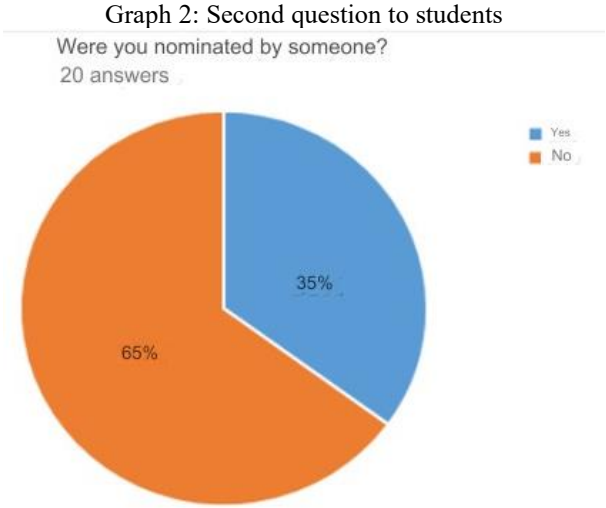
3 RESULTS

Graph 1: First question to students



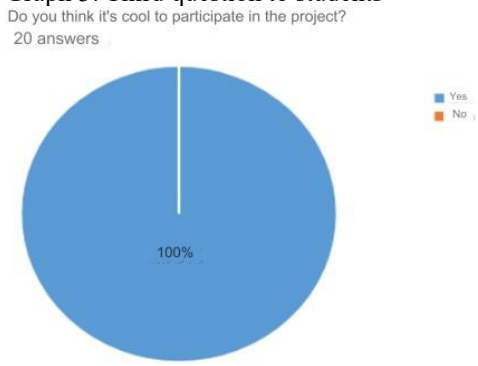
In this first question, as we can see through the answers, fifty percent of the students of the project have already been participating for more than a year. For more than a year, receiving many benefits that the project provides. And in addition, many develop with it, bringing part of these benefits to family life. Corroborating with Silva (2012), the main benefits that are found in sports projects are fun, the development of physical and mental motor skills, peace, tranquility, friendships, challenge and overcoming limits. Many of these benefits were found in the project.

Graph 2: Second question to students



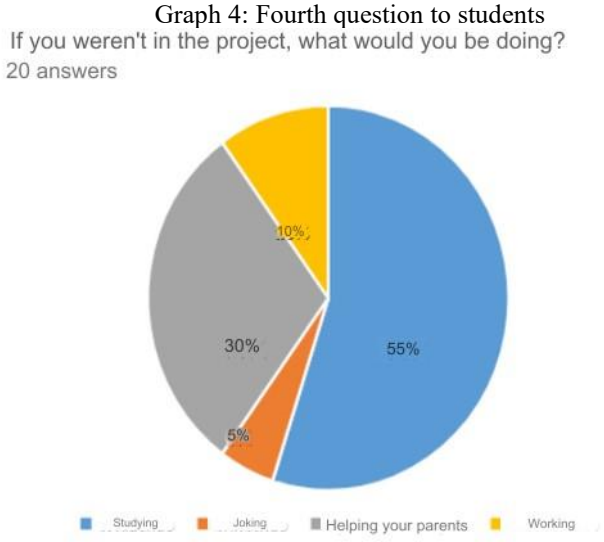
In the second question, many participants (65%) answered that they were not recommended by someone, hence the importance of spreading and expanding the project throughout the state of Ceará.

Graph 3: Third question to students



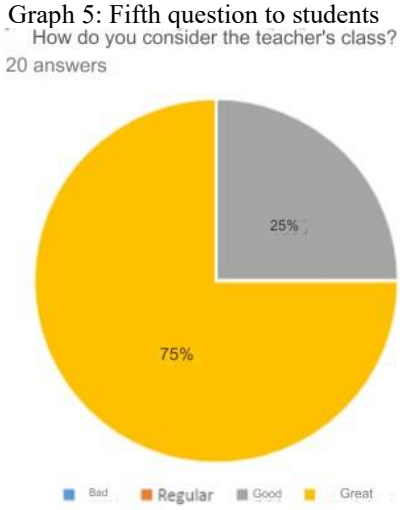
In the third question, one hundred percent of respondents answered that they think it's cool to participate in the project. Let's see how many young people can be kept away from crime and social vulnerability.

Graph 4: Fourth question to students



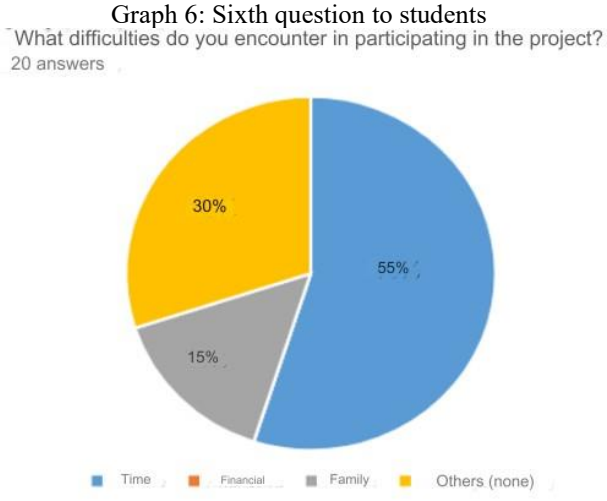
In the fourth question, they answered that if they were not in the project, most of them (55%) would be studying. However, we may think that these answers were only obtained by the fact that they had a change in mentality and perspective on life. Because they had a notion that even though they are in conditions of social vulnerability, they have good paths to choose from.

Graph 5: Fifth question to students



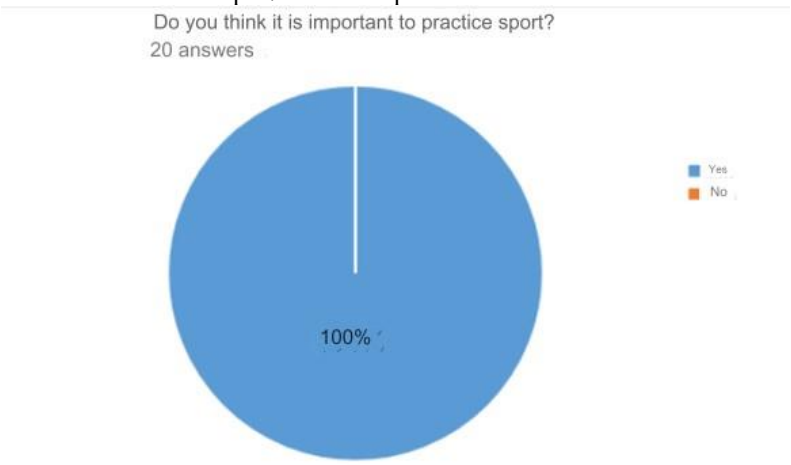
In the fifth question, one third (75%) of the interviewees answered that they consider the teacher's class to be excellent, hence the importance of the search for professional qualification is increasingly present in the lives of teachers and other professionals. Continuing education should be for teachers one more support for them to be able to work and exercise their function in society, able to perceive how to act so that their students' time in front of their class is a moment of learning (MILEO, 2009). Teachers, like all professionals, must be constantly updated, since society is undergoing transformation due to the advancement of technology and human development. Teachers, after maintaining a process of qualification and updating, may feel more secure to develop a reflection on their pedagogical practice, analyzing all the events during their class, rethinking positive and negative points presented during this period. So, in order for the project to continue to be of great value and contribute positively to the lives of the participants, a change and a constant improvement of the physical education teachers are necessary so that they seek other moments of reflection on the practice, not only in the moments made available by the project to which they are part.

Graph 6: Sixth question to students



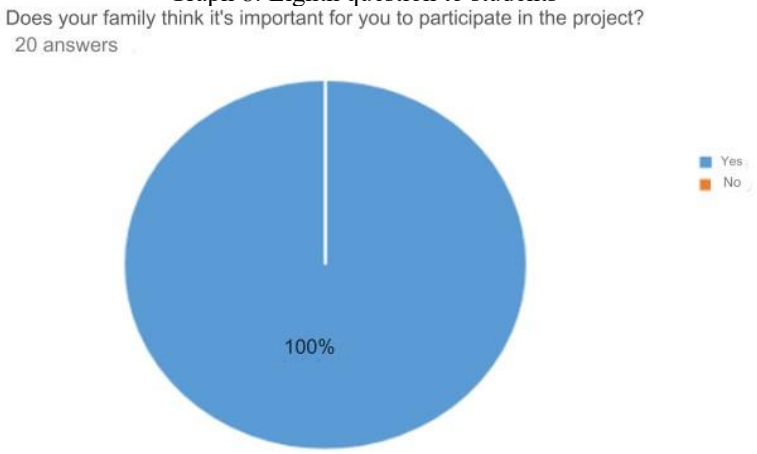
In the sixth question, they answered that the biggest difficulty they face in participating in the project is the time available. I believe that they are shocked by the schedules of going to school, so they end up going to the project in another shift, but without ceasing to participate. At night, I believe it is due to some risk of robbery, violence, etc., but this may be a topic to be investigated in future research. A curiosity was that no one answered that they had financial difficulties to participate in the project. The project is free of charge offered by the municipalities in partnership with the state government. But if they had to spend on transportation to get to the Arena, maybe they would pose this difficulty. For this reason, the government of Ceará expanded the project to the entire state and built Areninhas in several neighborhoods of the capital of Ceará. In this way, bringing social inclusion and equal opportunity for all.

Graph 7: Seventh question to students



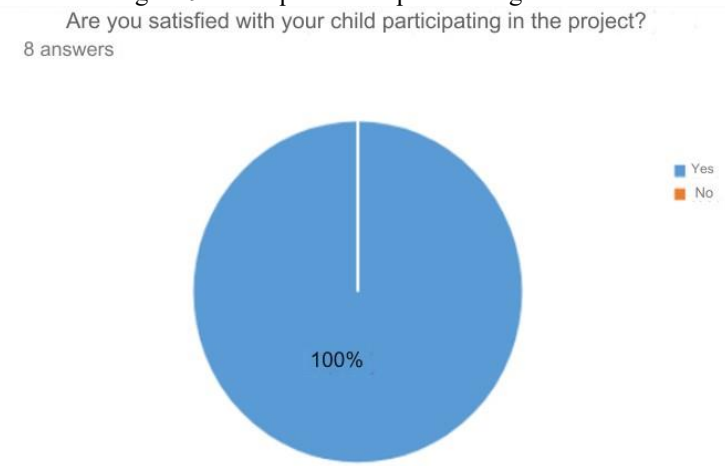
In the seventh question, one hundred percent answered that they think it is important to play sports. In addition to others, these are points to reflect the size of the impact that the project has on the lives of the participants, so it can be deduced that they have a mentality that sport can positively transform their lives. Therefore, knowing what students think, like and expect, and trying to demonstrate the usefulness of the contents developed by the professional, becomes increasingly indispensable if we want the project to have a high level of success and a contextualized Physical Education that respects children as active subjects of the teaching-learning process (FILGUEIRAS, 2007).

Graph 8: Eighth question to students



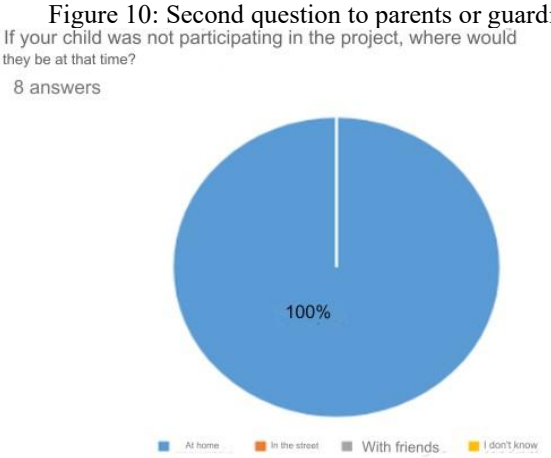
The eighth question indicates that one hundred percent of the interviewees answered that their families think it is important to participate in the project.

Figure 9: First question to parents or guardians



In this first question, parents were asked if their children are satisfied with the project, and one hundred percent of respondents answered yes. This answer makes us think that parents realize that the project protects their children against street evils such as bad company, drugs and avoidance of crime (CASTRO, 2011).

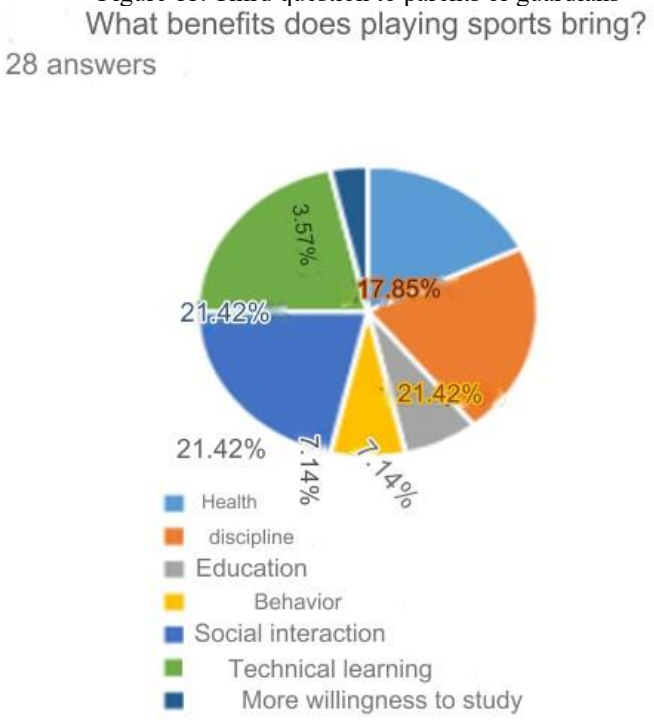
Figure 10: Second question to parents or guardians



In the second question, all parents answered that their children would be at home if they had not participated in the project, because, as Castro (2011) says in his research:

> According to all the professionals, mothers and several students, the project protects from a possible "negative" socialization on the streets where children and adolescents can get involved with "bad influences" and learn "things that are no good".

Figure 11: Third question to parents or guardians



In this third question, parents/guardians could answer more than one option. Regarding the benefits that sports brings, among several of them that parents mentioned, discipline (21.42%), technical learning (21.42%), social interaction (21.42%) and health (17.85%) stood out. The researcher Castro (2011) in his studies says that family members perceive the sports project as a space capable of promoting "positive socialization" and different types of learning and as a space that helps in the

performance of school tasks. In addition, friendships and interaction with other participants are important factors for the involvement of students in social projects. This means that the subject is valued and co-responsible for the teaching-learning process and the desired transformation can be achieved (FILGUEIRAS, 2007). These statements reinforce aspects that can be apprehended from the project throughout this research.

Figure 12: Fourth question to parents or guardians

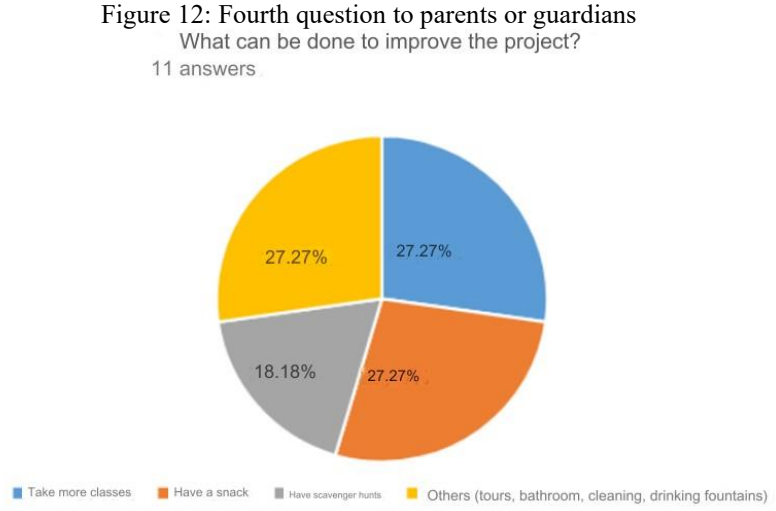
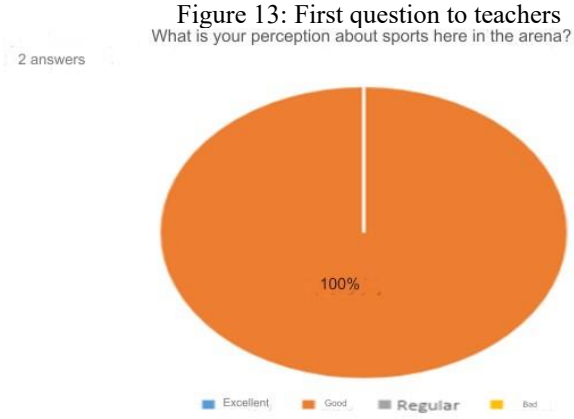


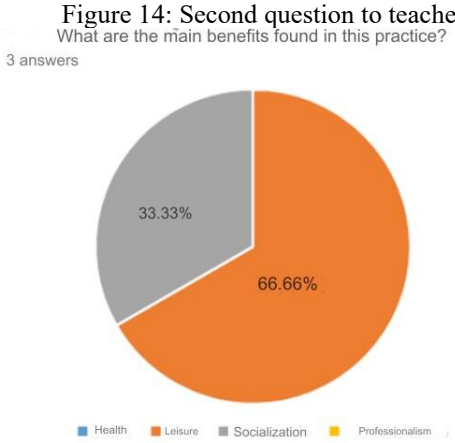
Figure 13: First question to teachers



In the fourth and final question, parents/guardians could also answer more than one option. He was asked what can be done to improve the project. The opportunities for improvement are visible when the interviewees were asked about this subject. Among the options provided by the questionnaire and those suggested by the parents, most answered that they should have more classes (27.27%), have snacks (27.27%) and have scavenger hunts (18.18%). Through these answers, we can see that parents are engaged in the project and find classes scarce. Perhaps because most of them were people from poor communities, they replied that they should have a snack. Food can serve as an incentive for children to continue in the project and for new children to become part of it. Not to mention that being well fed they can yield more.

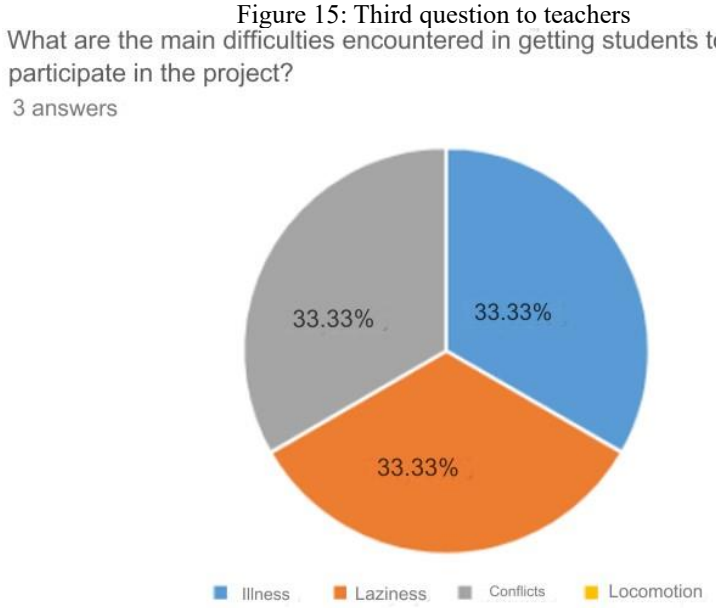
In the first question, when we asked what is the perception of the teachers in relation to the sports practice in the Areninha where they teach, all answered that the perception is good, that is, there is a level of satisfaction, but it can improve, because they had the option of answering that the perception is great. The teachers answered the good option of the first question, perhaps not because of the fact of the class itself, but because of their perception of the students, since the quality of the class depends on both parties.

Figure 14: Second question to teachers



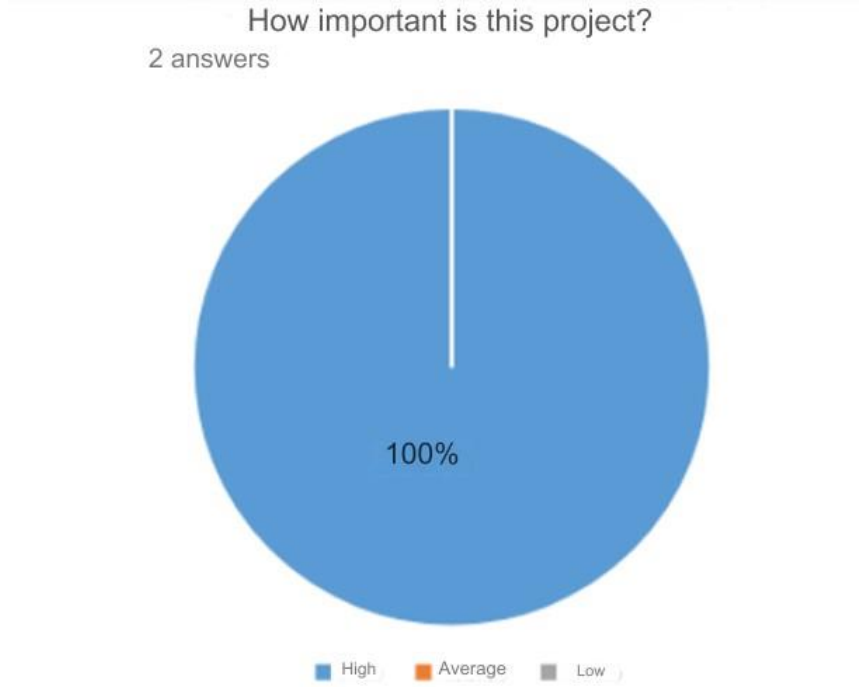
In the second question, you could answer more than one option. One of the teachers answered two options and the other answered one option. We wanted to know from the teachers what benefits they found in the project. Of the options, the one that stood out the most was leisure (66.66%). In terms of health, although not mentioned by the teachers, it is something that the practice of sports promotes by itself, as the participants mostly demonstrate physical, mental, social well-being, etc. The students' joy, companionship, social respect, solidarity and the reduction of anxiety and depression on their part are also benefits acquired directly and indirectly. says Pereira (2013). It also says that the related health benefits are improved mental health and increased academic performance. Socialization was followed by 33.33%. The Sport in Three in Times Project, agreeing with Souza (2020), promotes sports activities carried out within social projects, although they do not exclude the discovery of future athletes, have the purpose of encouraging discussion and critical reflection, developing awareness of rights and duties, promoting values of social coexistence among students and contributing to citizenship.

Figure 15: Third question to teachers



In the third question, they could also answer more than one option. One of the teachers answered two options and the other answered one option. The teachers answered that the difficulties encountered for the students' adherence to participate in the project are laziness, illness and conflicts (33.33% for each option).

Figure 16: Fourth question to teachers



In the fourth question, when asked about the level of importance of the project, the teachers answered that it is high. There are several social projects aimed at young people, with the aim of

improving their living conditions and providing their autonomy and protagonism in contemporary society. In addition, we have to accept that there is very strong evidence, because the teacher can lead the student in the direction of what he considers to be the picture of necessary and desired learning. We can identify that the teachers interviewed may perceive that the impact that sport had on their own education in general can also be used for the social evolution of their students. Perhaps the biggest challenge that teachers face is to ensure that all students are reached according to the project's objectives, due to the fact that there are different characteristics and needs among the participants.

4 FINAL THOUGHTS

From the data obtained, both in the questionnaires and in the observations of the activities, it is possible to understand some central answers that comply with the objectives delimited by this work.

During the analysis of the data, some issues and parallel aspects were highlighted, in addition to those that correspond to the real objective of the data. Through the answers to the questionnaires by the public served by the project, it is possible to identify its high level of importance, in addition to providing good quality sports practice, excellent classes and satisfaction of its participants.

During the development of this research, it was observed that the project has a positive impact on the lives of its participants throughout the State of Ceará, in addition to keeping practitioners away from crime and social vulnerability.

Several benefits that the practice of sports at Areninha bring were verified, such as health, social interaction, discipline, technical learning of the sport, among others. The parents' desire is for the project to have more classes and they gave suggestions for maintenance and improvement of the Arenas. The main difficulties encountered were the issue of class schedules, laziness, illness and conflicts on the part of the students.

In view of the general objective of this research, it was found that the Sport in Three Times Project has relevance in the formation of children and adolescents, as it is working on social and sports values that will be carried throughout life, in addition to the psychic-motor benefits, developing practitioners in a healthy and integral way.

There were difficulties encountered due to the limitation of the number of students interviewed, their low level of education and that of their parents/guardians to answer the questionnaire, the lack of financial resources and time to visit more Areninhas, in addition to the lack of public security in some locations where the Areninhas are located. Thus, if it were not for the need to maintain the focus of the research and the lack of more time, these aspects could be studied in more depth.

After carrying out this work, it is possible to affirm a better understanding of its study objective, that is, how the project has been developed in the State of Ceará, as well as the importance of parents or guardians and the performance of teachers in relation to their students.

There are some possibilities for deepening this research, so some proposals are launched: to specify the answer options of the students' questionnaires so that a better understanding can be obtained; visit more Areninhas in more neighborhoods of Fortaleza/CE to learn more about the reality and make appropriate comparisons; analyze what the government can contribute to maintain and improve the structure of the Arenas.

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Integrative review evaluation of newborn screening for the diagnosis of sickle cell anemia

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ABSTRACT

INTRODUCTION: Sickle cell anemia is a hereditary, chronic hemoglobinopathy, defined as a hemolytic anemia, caused by a deformation in the structure of erythrocytes due to the production of Hb "S", changing the natural biconcave format, to a "sickle" or "sickle" shape. half Moon". Data show that sickle cell anemia reached in the period from 2014 to 2020, the annual average of 1,087 new cases of children diagnosed with sickle cell disease. The test for initial diagnosis is the so-called "Heel Foot Test", which comes from neonatal screening and is performed using the High Performance Liquid Chromatography method.
PURPUROSE: The objective of this work is to carry out an integrative review on the evaluation of neonatal screening for the diagnosis of sickle cell anemia.
METHODS: This is an integrative literature review. The survey of scientific articles was carried out using the descriptors: "Neonatal screening"; "sickle cell anemia"; "Neonatal screening"; and "sickle cell anemia", using the Boolean operator "AND", in the Scientific Electronic Library Online (SciELO) and PubMed databases; in the period from April 1 to May 20, 2023
RESULTS: A total of 234 articles were found, of which 84 were excluded for not meeting the inclusion criteria (complete and free articles and temporal cut), leaving 150 publications. Of these, 100 articles were excluded, according to pre-established criteria and after reading the titles and abstracts of articles that did not meet the initial theme of this study. 50 works were submitted to readability evaluation, culminating with a quantitative of only 11 scientific articles included as object of study in this integrative review, being (2) Scielo and (9) PubMed.
CONCLUSION: Therefore, all the studies analyzed in this review demonstrated the importance of the presence and performance of neonatal screening for genetic diseases, especially for sickle cell anemia, since early detection of this chronic and severe disease is essential. This screening and subsequent early clinical intervention can reduce infant mortality, minimize comorbidities, generating better quality and increased life expectancy for patients with this main type of hemoglobinopathy.

Keywords: Foot test, Hemoglobinopathy l, Hemoglobin S Disease.

1 INTRODUCTION

Sickle cell anemia is a hemoglobinopathy belonging to the group of qualitative hemoglobin (Hb) diseases, characterized by a genetic mutation in chromosome 11 (eleven) of this protein, resulting from the replacement of a nitrogenous base, adenine (A), by another called thymine (T), in the codon of the beta globin gene, which passes from GAG to GTG. And it causes the replacement of the sixth amino acid in the chain, glutamic acid, with valine. This causes the appearance of hemoglobin variant "S" (NOGUEIRA, 2013).

It is a hereditary, chronic disease, defined as a hemolytic anemia, caused by a deformation in the structure of erythrocytes due to the production of Hb "S", changing the natural biconcave shape, to a "sickle" or "half moon" shape. Due to this rearrangement, these cell types lose their flexibility, becoming more rigid, shortening their average life, with a consequent chronic hemolysis, causing typical symptoms of this anemia, such as tiredness, paleness, jaundice and reticulocytosis. In addition to the high risk of blood vessel obstruction due to the presence of these drepanocytic cells (CARDOSO et al., 2021).

Sickle cell anemia, when it affects the organism of its carrier, reveals numerous correlated factors that feed back into permanent cycles of chronic inflammation. Drepanocytes, sickle cells, adhere to the vascular endothelium, causing obstruction, resulting in local hypoxia, aggravating the process called sickling. And, consequently, these alterations that exist in the cells and that affect the tissues trigger the inflammatory process characteristic of this pathology (CARDOSO, 2020).

There are two theories for the emergence of sickle cell diseases, the first theory would be that it arose from malaria, an infectious disease caused by the protozoan of the genus Plasmodium, transmitted by the bite of the mosquito of the genus Anopheles and thus would have contributed to the mutation of the HbS gene. for man has ceased to be a nomad. Its origin predominates in sub-Saharan Africa, India, Saudi Arabia and Mediterranean countries (DALELLASTE; REISER; KUSE, 2022).

In 1910, James Bryan Herrick published in the Archives of Internal Medicine, pioneering the suggestion that sickle cells were the cause of sickle cell disease.

In 1935, Campbell, a surgical resident, drew the attention of physicians to the awareness of the clinical symptoms of sickle cell anemia, as the diagnoses were wrongly made, confusing it with other diseases such as appendicitis and any other that caused abdominal pain (RAMOS, 2020).

Sickle cell anemia reached an annual average of 2014 to 2020 1,087 new cases of children diagnosed with sickle cell disease, according to data from the national program that carries out the screening process in children under 5 years of age. This hematological alteration had an incidence of 3.78 per 10,000 live births. It is currently estimated that there are between 60 thousand and 100 thousand patients with sickle cell disease in the country and their geographical distribution is quite heterogeneous (STOCK, 2022).

Data from the mortality content system of the Unified Health System indicate that, between 2014 and 2019, most of these patients with sickle cell disease in the country died in the second or third decade of life (20 to 29 years old) (DE SOUSA, 2015). Between 2018 and 2021, the coverage of the transcranial Doppler ultrasound survey for children and adolescents with sickle cell anemia aged 2 to 16 years showed the importance of calculating cerebral blood flow to prevent a possible stroke (ALVES, 2019).

The clinical manifestations of sickle cell anemia can affect or target practically all organs and systems, occurring from the first year and extending throughout the patient's survival period. The main occurrences are pain crises; jaundice; anaemia; Infections; hand-foot syndrome; splenic sequestration crisis; accident in the cerebral blood vessels; priaprismo; severe chest syndrome; aplastic crisis; Ulcerations; Osteonecrosis; renal causes; Eye; among others (DOS SANTOS, 2021).

The main standardized treatment for this hemoglobin "S" disease is the use of the drug hydroxyurea, although it does not cure the disease. And among the therapeutic arsenal also used to minimize the consequences of this disease is folic acid supplementation, the use of analgesics, anti-inflammatories, intravenous hydration in pain crises, blood transfusions, the prophylactic use of antibiotics and vitamin supplements, and periodic immunizations (SOUZA, 2020). The therapeutic resource with the best results is hematopoietic stem cell transplantation (JARDULI-MACIEL et al., 2022).

Genetic counseling has important psychological, social, and legal implications, resulting in a high degree of responsibility toward women, institutions, and professionals who provide it. It is essential that it is carried out by experts qualified and with extensive experience, within the strictest ethical standards (RAMALHO, 2015). It is one of the best tools with regard to hereditary diseases, as it directly reflects on the quality of life of patients with specific genetic pathologies (DE ALCANTARA et al., 2021).

There are several methods for confirming the diagnosis of sickle cell anemia, these techniques can help patients detect the disease or sickle cell trait early. They are, the complete blood count and its complementary microscopy; o Reticulogram; Hemoglobin Electrophoresis, a standard test in the laboratory routine to identify variant hemoglobins, such as hemoglobin "S". There is also Isoelectric Focusing. And currently, Polymerase Chain Reaction (PCR). However, the initial diagnostic test is the so-called "Heel Test", which comes from neonatal screening and is performed using the High Performance Liquid Chromatography (HPLC) method (ARDUINI, 2017; PORTO et al., 2020; SOUSA et al., 2021).

The history of Newborn Screening (NT) began in the United Kingdom in the late 1950s, through the screening of metabolic disease that was detected in the urine test. Initially, it was just an organized phenylketonuria detection project with dietary counseling and carried out shortly after birth. In 1960, a conference held by the Medical Research Council recommended to local authorities the continuation and possible expansion of the phenylketonuria screening program (BONZO et al., 2013).

Since the 1960s, the World Health Organization (WHO) has identified the need for neonatal screening programs. In Brazil, neonatal blood screening, popularly known as the "Heel Test", was incorporated into the Unified Health System (SUS) through Ordinance GM/MS No. 22, of January 15, 1992, enforcing the obligation to perform the test on all live newborns, analyzing phenylketonuria and

congenital hypothyroidism. And in June 2001, there was an increase in the number of diseases screened by the National Neonatal Screening Program (PNTN), including the detection of sickle cell diseases and other hemoglobinopathies (MENDES et al., 2020).

In 2020, this screening program examined 964 cases of sickle cell disease and 60,094 heterozygous carriers of hemoglobin S, sickle cell trait. Studies show that if treatment is not carried out in the first years of life, only 20% of children will reach 5 years of age. The institution of the World Sickle Cell Disease Awareness Day in consideration of Sickle Cell Disease helped the Ministry of Health to highlight the need and the need for early identification of the disease, even in neonatal screening (Sickle Cell Disease Test). Foot) shortly after birth (POMPEO et al., 2021).

The previous identification of genetic diseases, based on a neonatal screening, can directly assist in early treatment and, possibly, avoid more severe conditions in carriers of these diseases. However, it is of fundamental importance that this screening process be publicized, publicly accessible and free of charge to the general population, and of a mandatory nature carried out by the related governments.

Thus, the objective of this study is to conduct an integrative review on the evaluation of newborn screening for the diagnosis of sickle cell anemia.

2 METHODOLOGY

2.1 TYPE OF SEARCH

This is a study in the integrative format of literature review, whose theme is "EVALUATION OF NEONATAL SCREENING FOR THE DIAGNOSIS OF ANEMIA SICKLE CELL"; Based on data collection carried out through consultation of journals and subsequent thorough reading of titles, abstracts and full papers.

The descriptors used for the search were: "Neonatal screening"; "sickle cell anemia"; "Neonatal screening"; and "sickle cell anemia", using the Boolean operator "AND", in the Scientific Electronic Library Online (SciELO) and PubMed databases; from April 1 to May 20, 2023.

For the pre-selection of the articles, previous readings were carried out through the titles and abstracts, and those that addressed the research theme were chosen. Only articles that portrayed the theme in a targeted way were considered.

2.2 INCLUSION AND EXCLUSION CRITERIA

Full and free articles published in the time frame from 2012 to 2023, in English and Portuguese, that addressed the initial theme proposed were included in the research.

Monographs, dissertations, theses, and articles were discarded as exclusion criteria incomplete and duplicates in the chosen databases, abstracts and expanded abstracts that did not portray the

purpose of this study or that were written in languages other than those mentioned above, and articles published outside the chosen period and articles that did not directly address the theme delimited in this research were excluded.

2.3 ANALYSIS OF THE RESULTS

The results of this review were organized in a flowchart (Flowchart 1) and in a chart (Chart 1) for better interpretation of the data.

3 RESULTS

A total of 234 articles were found, of which 84 articles were excluded because they did not meet the inclusion criteria (full and free articles and time cut-off), with 150 publications remaining. Of these, 100 articles were excluded, according to the pre-established criteria and after reading the titles and abstracts of the articles that did not meet the initial theme of this study. 50 papers were submitted to readability evaluation, culminating in a quantity of only 11 scientific articles included as an object of study in this integrative review, which make up the results of this research and whose distributions are described in Flowchart 1.

FLOWCHART 1 - Data Collection Flowchart

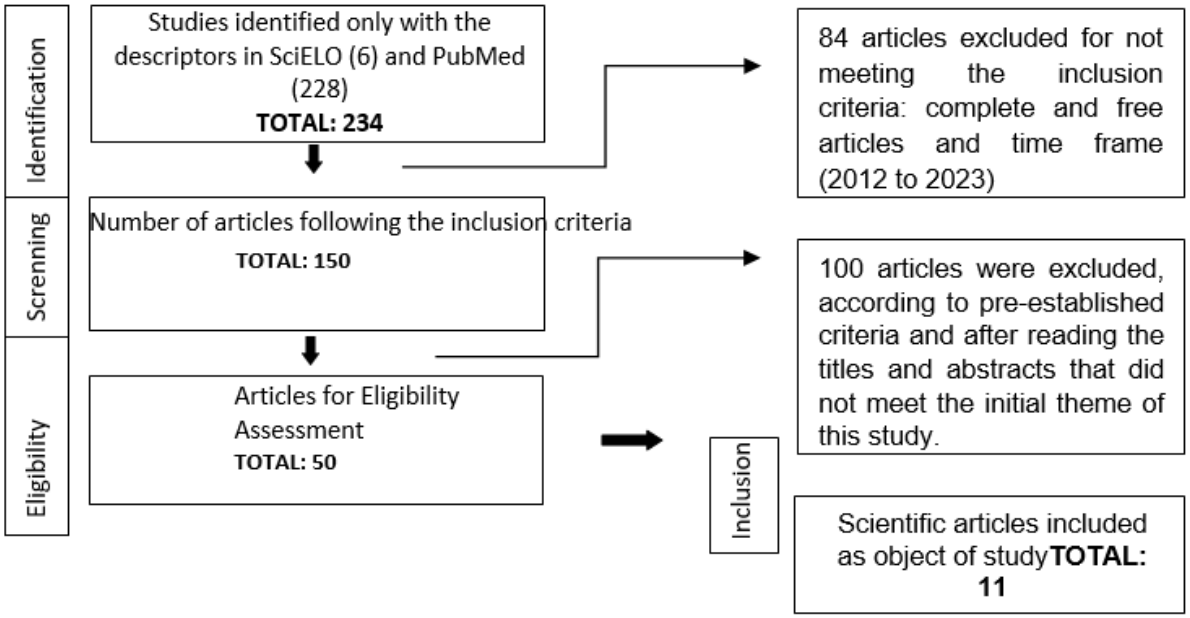


Chart 1 shows the origin, title of the study, authors, journals, and relevant considerations of the 11 scientific articles (SCIELO: 02 and PubMed: 09) included in this integrative review.

Chart 1 – Articles used in this integrative review.

No.	Origin	Job Title	Author /year	Newspapers	Relevant considerations at work
1.	PubMed	Neonatal Screening of Sickle Cell Anemia: A Preliminary Report	PANIGRAHI; PATRA; KHODIAR, 2012	Indian Journal of Pediatrics.	Newborn screening study for sickle cell disease conducted with 1,158 newborns, this study demonstrated the importance of early detection of sickle cell disease (SS) by newborn screening
2.	PubMed	Neonatal Screening for Sickle Cell Disease in Congo.	DOKEKIAS *et al.*, 2022	Anemia	The study was conducted with 2,897 children, aged or younger 5 days. As a result, they were abnormalities found hemoglobin in 20.81%, in which the main hemoglobin was Hb S
3.	PubMed	Neonatal Screening and the Clinical Outcome in Children with Sickle Cell Disease in Central India	UPADHYE *et al.*, 2016.	Plos one	A study conducted in Central India with 2,134 newborns showed that 48.7% were normal, but 45.8% were sickle cell and 4.9% were sickle cell homozygous (SS). Therefore, this study reinforces that sickle cell anemia is among the hereditary diseases with the greatest evidence that early diagnosis and treatment improve the clinical outcome of its carriers.
4.	Pubmed	Sickle cell screening in Europe: the time has come.	SHOOK; WARE, 2018	British Journal of Hematology	This study emphasized that it is also important to develop a clinical care program for sickle cell anemia, which should include: prophylaxis of infection with penicillin and prophylaxis of malaria; family training to identify severe or persistent early symptoms and the severity of crises.
5.	PubMed	Universal neonatal screening for sickle cell disease and other haemoglobinopathies in Ferrara, Italy	BALLARDINI *et al*., 2013	Blood Transfus	In this study, 24 patients with hemoglobinopathies were identified from nenonatal screening, 16 of whom had HbS.
6.	PubMed	Screening and Clinical Profile of Children With Sickle Cell Disease in a Tribal Area of Gujarat.	DAVE *et al*., 2022.	Indian Pediatre	Dave *et al*., (2022) screened 2,492 newborns with sickle cell trait using HPLC, 3.5% were diagnosed with SCD, which corresponds to 87 newborns.
7.	PubM|ed	. Dépistage néonatal de la drépanocytose en France [Newborn screening for sickle cell disease in France].	BROUSSE; BENKERROU, 2021	Medicine Science	A newborn screening program has demonstrated considerable efficacy in reducing infant mortality, as well as severe infectious, anemic, and neurovascular complications in childhood in patients with sickle cell anemia.

8.	PubMed	The Prevalence of Sickle Cell Disease and Its Implication for Newborn Screening in Germany (Hamburg Metropolitan Area). Pediatr Blood Cancer.	GROSSE *et al*., 2016.	Pediatric Blood & Cancer	This article highlights that sickle cell disease is among the hereditary diseases with the greatest evidence that early diagnosis and treatment improve clinical outcome, and newborn screening is important for this.
9.	Scielo	Incidence of variant hemoglobins in newborns attended by a public health laboratory.	REIS *et* al., 2018	Albert Einstein	A study at the Central Laboratory of Public Health of the State of Piauí (PI, Brazil). A higher occurrence of sickle cell trait was found in 4.1% of the sample, with emphasis on cases of homozygous hemoglobin S (0.1%). Therefore, we can conclude that neonatal screening programs are important for screening, guidance on health actions, and follow-up dasfamiliascom hemoglobinopathies, in order to reduce morbidity and mortality rates
10.	PubMed	Sickle cell disease in childhood: from newborn screening through transition to adult medical care.	QUINN, 2013	Pediatric Clinics of North America	A study highlights that in the first months of life of newborns they are asymptomatic, because very young infants still produce a significant amount of fetal Hb (Hb F), which ends up inhibiting the polymerization of Hb S. This period of protection conferred by Hb F usually lasts about 3 months, allowing the Newborn screening and intervention precocious.
11.	Scielo	(Lack of) knowledge of mothers about sickle cell trait and disease: a qualitative study.	ROCK *ET AL*., 2021.	Magazine Brazilian Nursing Degree,	The diagnosis cannot be restricted to the result of neonatal screening, requiring that preventive information on sickle cell crises be reinforced. It is recommended to seek out other affected family members to learn about their genetic condition, reflecting on Their Reproductive Decisions

4 INTEGRATIVE REVIEW

Newborn screening is a technique that can be performed using umbilical cord blood and by the isoelectric focusing methodology for early diagnosis of sickle cell disease (SCD), in which the confirmation of the results must be performed using another technique, such as citrate agar electrophoresis at acidic pH. A clinical care program for sickle cell anemia should also be conducted, which should include: penicillin infection prophylaxis and malaria prophylaxis; family training to identify severe or persistent early symptoms and the severity of seizures, as reported in the study by Shook, (2018).

Quinn (2013) had already highlighted that in the first months of life, newborns are asymptomatic, as very young infants still produce a significant amount of fetal Hb (Hb F), which ends up inhibiting Hb S polymerization and protecting against sickle cell anemia. As Hb F decreases in the first few months, there is a proportional increase in Hb S (rather than normal Hb A). This period of protection conferred by Hb F usually lasts about 3 months, allowing for newborn screening and early intervention.

In the newborn screening study for a type of sickle cell disease, sickle cell anemia, conducted by Panigrahi, (2012) with 1,158 newborns, between the months of February 2008 and January 2009 by the Department of Pediatrics and Neonatology, Pt. JNM Medical College & Dr. BRAM Hospital, Raipur (Chhattisgarh), it was possible to find sickle cell disease in 0.2% of the newborns, while the sickle cell trait was found in 5.8% of the individuals tested.

Another, more recent study by Dokekias et al., (2022) with 2,897 children, aged 5 days or less, between October 1, 2019 and March 31, 2020, where blood samples were collected and analyzed using the high-performance liquid chromatography (HPLC) machine. As a result, hemoglobin abnormalities were found in 20.81% of the newborns, the main hemoglobin was Hb S, which corroborates the neonatal screening data obtained in the study by Panigrahi (2012).

A study conducted in Central India, by researchers Grosse et al., (2016), with 2,134 newborns, showed that 48.7% were normal, but 45.8% were sickle cell and 4.9% were sickle cell homozygous (SS). After screening, these babies were followed, of which 75 of the SS (sickle cell anemia) had clinical complications, while 13 babies remained asymptomatic, demonstrating the importance of early diagnosis. This scenario reinforces the findings of Upadhye et al., (2016), that sickle cell anemia is among the hereditary diseases with the greatest evidence that early diagnosis and treatment improve the clinical outcome of its carriers (UPADHYE et al., 2016).

The study conducted in Ferrara, Italy, between September 26, 2010 and January 31, 2012, by researchers Ballardini et al., (2013), in which 1,992 neonatal tests were performed, analyzing umbilical cord blood by high performance liquid chromatography - HPLC, in which 24 patients with hemoglobinopathies were identified. 16 individuals had sickle cell anemia and the rest had other variant hemoglobins.

Recently, researchers Dave et al., (2022) also conducted a neonatal screening study, where 2,492 newborns with the so-called sickle cell trait were screened, according to the HPLC technique used and the life span restricted to two days after birth, in a hospital in the tribal area in Gujarat, in the period from 2014 to 2019. Confirming the presence of sickle cell anemia, of the newborns who underwent this type of screening, a representative percentage of 3.5% were diagnosed with this sickle cell disease, corresponding to 87 newborns.

Brousse and Benkerrou (2021) found that newborn screening for sickle cell diseases in France has been able to catalog the identification of 9,260 children since 1989 and adding up to 583 cases in 2019. This French screening program, combined with prophylaxis measures from a well-organized social health network in the country, has demonstrated considerable efficacy in reducing infant mortality, as well as severe infectious, anemic, and neurovascular complications in childhood, in patients with sickle cell anemia.

Neonatal screening was analyzed at the Central Laboratory of Public Health of the State of Piauí between February 1, 2014 and December 31, 2015, by the researchers Reis et al., (2018), in a very representative sample of 69,180 newborns, of which 3,747 were diagnosed with some hemoglobinopathy. A relevant occurrence of sickle cell trait was also found in 4.1% of the children evaluated. In this study, it was also evidenced that most hemoglobin alterations were present in male (49.8%) and brown (38.5%) newborns.

In a study developed by Rocha et al., (2021), carried out in the outpatient clinic of a public hospital, from October to December 2017, all participants had sickle cell trait. Allied to 20 children diagnosed with sickle cell disease by the "heel prick test" and 3 diagnoses, after hospitalization due to the disease. This research ratified the warning that the diagnosis cannot be restricted to the result of neonatal screening, requiring that the preventive information of possible sickle cell crises be reinforced during this process, and it was also recommended the complementary submission of a possible genetic counseling for the family members of these patients with sickle cell anemia and sickle cell trait.

5 CONCLUSION

Therefore, all the studies analyzed in this review demonstrated the importance of the presence and performance of newborn screening for genetic diseases, especially sickle cell anemia, since the early detection of this chronic and severe disease is essential. This screening and subsequent early clinical intervention can reduce infant mortality, minimize comorbidities, and generate a better quality of life and increase life expectancy for patients with this main type of hemoglobinopathy. Neonatal screening programs around the world are important for the selection, orientation to the appropriate health actions and follow-up of families affected by this sickle cell disease, who should also, as highlighted in this study, be submitted to the parallel process of genetic counseling. In addition, the possible complement of the diagnosis of sickle cell anemia and sickle cell trait was also observed by other techniques subsequent to the neonatal screening process, for the purpose of specific confirmation of the presence of the disease and the current clinical situation of the patient with this disease.

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SEVEN publicações acadêmicas

Addressing educational safety in Brazil: Social psychology approaches to mitigate school violence

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ABSTRACT
The challenge of school violence presents a complex landscape affecting students, teachers, and the broader community. In this chapter, we delve into an in-depth analysis of school violence within the Brazilian context, advocating for a holistic strategy to tackle this critical issue. Our discussion is rooted in social psychological theories and reinforced by contemporary empirical studies. We examine how individual behaviors, interpersonal dynamics, and broader societal factors contribute to the prevalence of violence in educational settings. The chapter underscores the necessity of nurturing ethical values and fostering environments within schools that are not only safe but also conducive to learning and personal growth. We also highlight the role of evidence-based practices, including programs focused on social-emotional learning and conflict resolution techniques, in mitigating violent incidents. The effective implementation of these strategies demands collaborative efforts from educators, policy makers, family members, and community stakeholders. Integrating insights from social psychology with practical, evidence-backed interventions, this chapter outlines a framework for cultivating an educational atmosphere that is both nurturing and academically enriching, thereby supporting the holistic development of students.

Keywords: Educational safety, Mitigating school violence, Holistic strategies, Brazil, Social psychological perspectives, Ethical learning environments, Collaborative interventions.

1 INTRODUCTION

The prevalence of school violence in Brazil has become a critical issue of concern, attracting increasing attention from a broad spectrum of stakeholders including academic researchers, policymakers, and educational practitioners. A growing body of literature, including recent studies and reports, has alarmingly pointed to a rise in violent incidents within educational environments, underscoring the urgency for a comprehensive and nuanced understanding of this complex issue (Garcia-Silva; Lima Junior, 2022; Trevisan, 2022; Unesco, 2019). This chapter is dedicated to an extensive exploration of school violence in Brazil, primarily through the lens of Bandura's social psychology, a significant theoretical framework that provides invaluable insights into the dynamics and prevention of violent behaviors (Bandura, 1973; Bandura, 1977; Bandura, 1990; Bandura, 1997). By applying the principles of social psychology, this study endeavors to present a detailed analysis and recommend evidence-based interventions for this pressing issue.

The historical context of moral and ethical education in Brazil has seen a series of transformations. The 1960s were marked by a period of moral dogmatism, highlighted by the

mandatory inclusion of "Moral and Civic Education" in the curriculum. This approach gradually gave way to moral relativism in the 1990s, reflecting a broader change in educational paradigms and policies. Influenced significantly by constructivist theories, particularly those of Piaget, there was a notable shift towards the rational and autonomous development of values. This evolution emphasized the importance of social negotiation and the contextual nature of moral and ethical frameworks in the educational context (Buxarrais, 2000; Morillo, 2022).

Despite these educational advancements, the issue of school violence remains pervasive, highlighting the need for a deeper and more comprehensive exploration of theoretical frameworks and practical strategies. Bandura's social learning theory emerges as a crucial perspective, offering insights into the mechanisms that underlie violent behaviors (Dias, 2023). This theory emphasizes the importance of observational learning, self-regulation, and the impact of social factors on individual behavior (Bandura, 1973; Bandura, 1977). Furthermore, the concepts of self-efficacy and moral disengagement, as proposed by Bandura, are instrumental in understanding the cognitive and motivational processes that contribute to the manifestation of violence in schools (Dias, 2023). Self-efficacy, which pertains to an individual's belief in their ability to execute specific actions, plays a pivotal role in determining whether an individual will engage in prosocial or violent behaviors (Bandura, 1990; Bandura, 1997). Moral disengagement, meanwhile, sheds light on the cognitive processes that enable individuals to rationalize and justify aggressive actions, thus offering a more nuanced understanding of the factors that fuel school violence (Bandura, 2002; Gini, 2016).

To effectively confront the challenge of school violence in Brazil, it is essential to weave together Bandura’s insights from social psychology with other theoretical perspectives, such as sociocultural theories and ecological systems frameworks. These interdisciplinary approaches are key to understanding the complex interplay of individual, interpersonal, and broader contextual factors that contribute to violent behaviors in schools (Bronfrenbrenner, 1979; Swearer et al., 2010). According to Dias (2023), drawing on a comprehensive array of research and evidence-based practices, this approach enables policymakers and educators to develop targeted interventions that not only address the underlying causes of violence but also promote prosocial behaviors and foster a safe and supportive school environment.

This chapter goes beyond merely presenting theoretical concepts; it seeks to bridge the gap between theory and practical application in the context of school violence in Brazil. By integrating a rich tapestry of relevant literature, empirical findings, and practical implications, this chapter contributes to the ongoing discourse on effective strategies for preventing and addressing school violence. The ultimate aim is to foster healthier, more inclusive, and safer learning environments for students, where they can thrive academically and personally. The exploration of Bandura's social

psychology within this specific context provides a unique and valuable perspective, enriching our understanding and informing practical strategies to combat school violence effectively.

2 UNDERSTANDING THE COMPLEX LANDSCAPE OF VIOLENCE IN BRAZILIAN SCHOOLS: A DEEP DIVE INTO CURRENT CHALLENGES

The issue of violence in Brazilian schools has evolved into a critical and multifaceted concern, capturing the focused attention of academics, policymakers, and educators. In recent years, numerous studies and reports have illuminated the extent and intricacy of violence within school environments, emphasizing the need for a detailed understanding and effective responses (Garcia-Silva; Lima Junior, 2022; Trevisan, 2022; Unesco, 2019). This section aims to expand upon the current landscape of school violence in Brazil, weaving together the latest literature and research to offer a comprehensive and evidence-informed perspective.

A pivotal study by UNESCO in 2002, involving extensive research across 14 capital cities in Brazil, underscored the prevalence and multi-dimensional nature of violence in educational settings (Abramovay, 2002). This study broadly defined violence as any form of physical or symbolic harm inflicted on individuals or groups within the school context. Its findings revealed an alarming trend of increasing school violence, creating an environment fraught with insecurity and fear among students and educators.

The manifestation of violence in schools takes on various forms, impacting different relationships like teacher-student, student-teacher, and student-student interactions. The spectrum of aggression ranges from subtle abuses of authority by educators to overt threats, bullying, and physical or verbal assaults among students (Abramovay, 2002; Becker; Kassouf, 2016; Silva; Negreiros, 2020). While blatant acts of violence such as physical confrontations garner significant attention, it's crucial to recognize the myriad other forms of violence, including assaults on individuals, property damage, and the overall deterioration of the school atmosphere (Abramovay, 2002; Becker; Kassouf, 2016; Silva; Negreiros, 2020).

To fully grasp the complexity of school violence, it is imperative to explore the various factors contributing to its emergence. Extensive studies have identified a range of contributing elements, including but not limited to societal inequalities, family dynamics, peer influences, exposure to media violence, and suboptimal school conditions (Musu-Gillette et al., 2017; Payton et al., 2008; Nation et al., 2003). These factors often interact in complex ways, exacerbating the challenges faced by students and educators in these environments.

The impact of school violence extends far beyond the immediate physical and psychological harm inflicted on students. It significantly impedes academic achievement, school attendance, and broader educational outcomes. Students who are victims or witnesses of violence are more prone to

engage in delinquent activities, suffer from mental health issues, and face difficulties in forming positive relationships (Becker; Kassouf, 2016; Silva; Negreiros, 2020; Polanin; Espelage; Grotpeter, 2020). The far-reaching implications of school violence highlight the critical need for comprehensive and effective interventions to mitigate its effects and cultivate a nurturing and safe learning environment.

Addressing the challenge of school violence demands a multi-dimensional approach that harmoniously integrates research findings, policy formulation, and practical implementation. Effective strategies should include preventive measures, prompt identification and intervention strategies, specialized support for students at risk, and initiatives that promote positive school climates (Durlak, 2011; Silva; Negreiros, 2020; Swearer et al., 2010). Additionally, fostering collaborative efforts among various stakeholders, including educators, families, community groups, and governmental bodies, is vital for the successful implementation of evidence-based strategies and sustainable change (Musu-Gillette et al., 2017).

The situation of violence in Brazilian schools presents a deeply troubling scenario that requires immediate and concerted action from all involved parties. By gaining a comprehensive understanding of the scope and nature of school violence, and by considering the myriad factors that contribute to its occurrence, policymakers, educators, and researchers can collaboratively develop and implement evidence-based interventions. These measures are not only crucial for safeguarding the well-being of students but also play a significant role in their academic success and in fostering a more peaceful, cohesive society.

3 DEEPENING UNDERSTANDING OF SCHOOL VIOLENCE THROUGH SOCIAL PSYCHOLOGY

School violence, a complex and multifaceted issue, demands a comprehensive approach for effective intervention and prevention. This expanded section explores the crucial role of social psychology in providing a deeper understanding of the various dimensions of school violence, examining individual, interpersonal, and contextual factors.

At the individual level, psychological aspects play a pivotal role in shaping behavior, particularly in the context of school violence (Dias, 2023). Research has consistently shown that individual traits such as aggression, impulsivity, empathy deficits, and mental health challenges are significant risk factors (Swearer et al., 2010; Vagi et al., 2013). These traits do not operate in isolation but are influenced and exacerbated by environmental and social factors, leading to a heightened risk of engaging in violent behavior. Understanding the psychological makeup of individuals, including their thought processes, emotional regulation, and coping mechanisms, is essential in identifying and addressing the roots of violent behavior in school settings.

The dynamics within school environments, particularly interpersonal relationships, significantly contribute to the manifestation of violence. Bullying, a critical aspect of school violence, involves complex power dynamics and can have profound implications for both victims and perpetrators, often escalating into more severe forms of aggression (Espelage; Swearer, 2003; Swearer et al., 2010). The interactions between students, and between students and teachers, can create an atmosphere that either promotes or mitigates violence (Dias, 2023). Understanding these dynamics is crucial for developing effective strategies to reduce violence and improve the overall school climate.

Beyond the individual and interpersonal levels, according to Dias (2023), broader societal and contextual factors significantly impact school violence. Socioeconomic disparities, community violence, family relationships, and media exposure to violence are all critical factors that contribute to a heightened risk of violence in schools (Farrell et al., 2006; Huesmann et al., 2003; Turner et al., 2011). These elements interact in a complex manner with individual predispositions and interpersonal relations, creating a multifaceted web of influences that can encourage or mitigate violent behaviors.

Social psychology offers several theoretical frameworks that are instrumental in understanding the dynamics of school violence:

- Social Learning Theory: Proposed by Bandura (1973), this theory highlights the importance of observational learning, imitation, and reinforcement in shaping behavior. It suggests that individuals, particularly children and adolescents, learn from observing others, including behaviors related to violence. This perspective underscores the influence of peers, media, and authority figures in modeling behaviors within the school context.
- Social Identity Theory: Developed by Tajfel and Turner (1979), this theory examines how an individual's identity within social groups influences their attitudes and behaviors. In the school environment, group dynamics, social categorization, and intergroup conflicts can play a significant role in the development of aggressive behaviors and attitudes. This theory helps in understanding how group affiliations and perceived social hierarchies contribute to the perpetuation of violence.
- Social Ecological Model: Introduced by Bronfenbrenner (1979), this model provides a comprehensive framework for analyzing the multiple layers of influence on an individual, from immediate environments like family and school to broader societal factors. It emphasizes the interaction between these different levels and their cumulative impact on individual behavior, particularly in the context of violence in schools.

In conclusion, by examining the interplay of individual, interpersonal, and contextual factors through the lens of social psychology, we gain a more comprehensive understanding of the mechanisms and risk factors associated with school violence. This expanded perspective is essential for developing and implementing evidence-based interventions and preventive strategies that aim to create safer, more

nurturing, and supportive educational environments for students. The insights from social psychology not only aid in addressing existing issues of school violence but also in proactively shaping school policies and practices to prevent the onset of such behaviors.

4 COMPREHENSIVE STRATEGIES FOR ADDRESSING SCHOOL VIOLENCE IN BRAZIL: A MULTIFACETED APPROACH

Confronting the widespread issue of violence in Brazilian schools necessitates a holistic and multi-layered strategy, moving beyond mere disciplinary actions towards cultivating a nurturing and secure educational atmosphere. This section offers an in-depth analysis of potential approaches to tackle school violence, emphasizing the significance of values education, ethical development, and the application of Bandura's social cognitive theory. Drawing from a wide range of literature and research, the aim is to provide a well-founded and authoritative perspective on practical and effective methods to address this complex challenge.

4.1 EMPHASIZING VALUES EDUCATION

The role of values education in addressing school violence cannot be overstated. It serves as a foundational element in shaping the moral and ethical compass of students, thereby influencing their behavior and interactions within the school environment.

Values education involves imparting essential moral values such as empathy, respect, responsibility, integrity, and fairness. These values form the cornerstone of students' personal development and social interactions (Lepre, 2019; Morillo, 2022). The goal is to cultivate a mindset in students that values and respects others, thereby reducing instances of conflict and aggression. Integrating these core principles into the curriculum and school culture promotes an environment where prosocial behavior is the norm.

Research has consistently demonstrated the positive impact of values education programs in reducing aggression and enhancing prosocial behaviors among students (Morillo, 2022; Piotrowska et al., 2015; Torney-Purta et al., 2001). These programs equip students with the necessary skills to navigate social challenges, make ethical decisions, and engage constructively with their peers. For instance, programs that emphasize empathy and respect have been shown to reduce bullying and other forms of school violence significantly.

Effective implementation of values education requires a holistic approach that goes beyond the traditional classroom setting. It involves integrating values into every aspect of school life, including policies, teaching methods, extracurricular activities, and the overall school climate (Dias, 2023). Teachers play a crucial role as role models, demonstrating these values through their interactions with

students and colleagues. Additionally, involving families and the wider community in values education initiatives can reinforce these principles beyond the school setting.

While the benefits of values education are clear, its implementation comes with challenges. It requires a consistent and school-wide effort, with educators trained in delivering values-based lessons and activities (Dias, 2023). There is also a need for continuous assessment and adaptation of these programs to ensure they meet the evolving needs of students and the school community. Engaging students in meaningful discussions about values and ethics, and providing opportunities for them to apply these values in real-life situations, are essential for the deep internalization of these principles.

In summary, values education is a powerful tool in the fight against school violence. By instilling core moral values, schools can foster a positive culture that encourages respect, empathy, and responsibility among students. This approach not only addresses the immediate issue of violence but also prepares students to become ethically responsible citizens. The implementation of values education, while challenging, offers a pathway to creating safer, more inclusive, and harmonious school environments.

4.2 NURTURING ETHICAL DEVELOPMENT

The nurturing of ethical development in students is a critical component in addressing school violence, complementing and reinforcing the principles taught in values education. Ethical development in educational settings involves guiding students through the process of understanding and resolving moral dilemmas, fostering personal reflection on ethical values, and building a robust framework for ethical reasoning.

Ethical development is a multifaceted process that involves more than just understanding moral values; it requires students to actively engage in ethical reasoning and decision-making. According to Rest (1986), ethical development is a journey that encompasses recognizing moral issues, making moral judgments, establishing moral intent, and carrying out moral actions. This journey is crucial in preparing students to face real-life moral challenges and respond with integrity and ethical consideration.

Bandura's social cognitive theory, with its emphasis on observational learning, social modeling, and self-efficacy, is particularly relevant in the context of ethical development (Bandura, 1999). By observing and emulating positive role models, whether they are teachers, peers, or figures from literature and history, students can learn to internalize ethical behaviors and decision-making processes. The theory highlights the importance of creating a school environment where positive behaviors are not only taught but also visibly practiced and reinforced.

Exposure to positive role models, both in and out of the classroom, is essential for students to develop strong ethical principles (Dias, 2023). Teachers and school staff can embody these principles

in their daily interactions, serving as live examples of ethical behavior in action. Additionally, incorporating discussions about historical figures, literary characters, or contemporary leaders who exemplify ethical behavior can provide students with a broader range of role models.

Kohlberg's stages of moral development provide another useful framework for understanding how students progress in their ethical reasoning (Kohlberg, 1981). By tailoring discussions and activities to students' developmental stages, educators can more effectively engage them in ethical thinking.

Gilligan's theory of moral development, which emphasizes the role of empathy and relationships in ethical reasoning, can also complement this approach (Gilligan, 1982). This perspective encourages educators to create learning experiences that foster empathy and an understanding of the interconnectedness of relationships in ethical decision-making.

Incorporating ethical discussions into the curriculum, using case studies, and engaging in role-playing scenarios can provide practical opportunities for students to practice ethical reasoning (Dias, 2023). These activities encourage students to think critically, consider different perspectives, and make decisions based on ethical principles.

Nurturing ethical development is a dynamic and continuous process that plays a vital role in equipping students with the tools to handle moral dilemmas and make ethical decisions. By integrating theories like those of Bandura, Kohlberg, and Gilligan, and providing real-world applications, schools can foster a culture of ethical thought and behavior. This approach not only aids in reducing school violence but also prepares students for the ethical challenges of the wider world, promoting a more just and compassionate society.

4.3 FOSTERING A POSITIVE SCHOOL CULTURE

Developing a positive and non-violent school culture is essential for mitigating school violence and enhancing the overall educational experience. This includes cultivating healthy relationships, community spirit, and constructive communication within the school environment.

A supportive school climate is marked by nurturing teacher-student relationships, effective peer collaboration, and a shared sense of responsibility among all members of the school community. These elements contribute significantly to a positive educational environment where violence is less likely to occur (Nation et al., 2003; Wang et al., 2019). Creating such a climate involves consistent efforts across various levels, from school policies to everyday interactions in classrooms and hallways.

The quality of teacher-student relationships is a critical factor in fostering a positive school culture. Teachers who establish trust, respect, and understanding with their students can significantly influence their students' attitudes and behaviors (Hattie, 2009). Effective communication, empathetic

listening, and consistent support are key strategies teachers can employ to strengthen these relationships.

Fostering peer collaboration and encouraging student engagement are essential for building a strong sense of community within the school. Activities that promote teamwork, mutual respect, and shared goals can help students develop a sense of belonging and responsibility towards their peers and the school (Cohen et al., 2009). This sense of community is vital in reducing incidents of violence and bullying.

Implementing conflict resolution strategies and restorative practices is crucial in promoting a non-violent school culture. These approaches focus on understanding the root causes of conflicts, addressing the needs of all parties involved, and repairing harm (Thorsborne, 2017; Wachtel, 2016). Restorative practices, in particular, emphasize the importance of dialogue, empathy, and mutual respect in resolving disputes and restoring relationships.

Programs and activities that develop empathy and respect among students are essential components of a positive school culture (Dias, 2023). These can include social-emotional learning curriculums, cultural awareness programs, and community service projects. Such initiatives help students understand diverse perspectives and foster an inclusive and empathetic school environment.

Cultivating a positive school culture requires concerted efforts from all stakeholders, including educators, students, parents, and the wider community. By focusing on building strong relationships, promoting community spirit, and implementing constructive conflict resolution strategies, schools can create an environment that is conducive to learning, collaboration, and mutual respect, thus reducing the likelihood of violence.

4.4 COLLABORATIVE IMPLEMENTATION AND STAKEHOLDER ENGAGEMENT

The successful implementation of strategies to combat school violence relies heavily on a collaborative approach involving various stakeholders, including policymakers, educators, parents, and the wider community.

Collaborative efforts must begin at the policy and curriculum development stages. Integrating values education, ethical development, and principles from Bandura's social cognitive theory into the school curriculum is a complex process that benefits from diverse perspectives (Lepre, 2019; Torney-Purta et al., 2001). Policymakers and educational leaders should work closely with teachers, parents, and community representatives to ensure that the curriculum is culturally relevant, age-appropriate, and aligned with the community's values and needs.

Educators play a critical role in implementing these strategies. Continuous professional development focused on values education, ethical development, conflict resolution, and classroom management is essential for teachers to effectively facilitate these programs (Darling-Hammond et al.,

2017). Training should also focus on enhancing teachers' skills in building positive relationships with students and in creating inclusive and supportive classroom environments.

Parental involvement and community engagement are key to the success of violence prevention strategies. Schools can foster this involvement through regular communication, workshops, and community events. Engaging parents in discussions about values education and ethical development helps extend the learning beyond the classroom and into the home (Epstein, 2011). Community organizations can provide additional resources and support, such as mentoring programs, after-school activities, and mental health services.

Establishing mechanisms for regular evaluation and feedback is crucial for assessing the effectiveness of implemented strategies. This involves collecting data on student behavior, school climate, and academic outcomes, and using this information to make informed adjustments to the programs. Feedback from students, teachers, parents, and community members should be actively sought and considered in the evaluation process.

Long-term sustainability of violence prevention initiatives requires building and maintaining strong partnerships among all stakeholders. This includes creating formal agreements with community organizations, fostering ongoing dialogue with parents and families, and engaging local government and policymakers in supporting school efforts (Blank, Melaville & Shah, 2003).

Collaborative implementation and stakeholder engagement are fundamental to the success and sustainability of strategies aimed at reducing school violence (Dias, 2023). By working together, all parties can contribute to creating a safe and nurturing educational environment where students can thrive.

In conclusion, effectively addressing school violence in Brazil requires a comprehensive and multifaceted approach that prioritizes values education, ethical development, and the incorporation of Bandura's social cognitive theory. By fostering empathy, ethical decision-making, positive relationships, and a sense of community, schools can establish a safe and inclusive environment that significantly reduces the risk of violence. Collaboration among all stakeholders is imperative for the successful implementation and long-term sustainability of these strategies. Adopting this evidence-based approach paves the way for schools to focus on the holistic development and well-being of students, thereby contributing to a more peaceful and inclusive society. This strategic framework not only addresses the immediate challenges of school violence but also lays the foundation for cultivating a generation of ethically responsible and socially conscious individuals.

5 FINAL REMARKS

Addressing and preventing school violence is an intricate task that demands an extensive, well-researched approach. Throughout this chapter, we have dissected the multifaceted nature of school

violence and emphasized the critical need for integrating robust research findings and evidence-based strategies to cultivate safe, nurturing educational environments.

The extensive research on school violence highlights the complex interplay of numerous contributing factors. This complexity defies simplistic explanations and underscores the necessity of examining individual, interpersonal, and broader contextual elements.

At the individual level, research has consistently identified psychological factors that are associated with an increased propensity for violent behavior. These include aggressive tendencies, impulsivity, low levels of empathy, and existing mental health challenges. Recognizing and understanding these traits is vital for identifying at-risk individuals and for formulating targeted interventions (Swearer et al., 2010; Vagi et al., 2013).

The role of interpersonal dynamics within schools is also paramount in the emergence and perpetuation of violence. Bullying, as a specific example, has been identified as a significant precursor to more severe forms of aggression. Issues such as power imbalances, social hierarchies, and negative peer interactions are instrumental in fostering a culture of violence within educational settings (Espelage & Swearer, 2003; Swearer et al., 2010).

The broader social and environmental context in which students live plays a substantial role in shaping their attitudes and behaviors. Factors such as socioeconomic disadvantage, community violence, family dynamics, and media violence exposure interact with individual and interpersonal processes, thus contributing to the complexity of school violence (Farrell et al., 2006; Huesmann et al., 2003; Turner et al., 2011).

To effectively tackle school violence, it is crucial to employ a comprehensive approach that addresses these risk factors at various levels. Programs that have demonstrated effectiveness include those that enhance the overall school climate, develop social-emotional competencies, support positive teacher-student relationships, and encourage peer-led interventions. Tailoring these interventions to meet the diverse needs of student populations, while considering cultural, socioeconomic, and contextual variables, is essential (Cook et al., 2010; Nation et al., 2003; Olweus et al., 2013).

The involvement of educators, parents, and the community is integral to creating an inclusive, secure school environment. Collaborative efforts are fundamental for the successful implementation of violence prevention strategies, fostering a culture of respect, empathy, and tolerance. Partnerships with community organizations, parental engagement, and ongoing professional development for educators can substantially augment the effectiveness of these initiatives (Centers For Disease Control And Prevention, 2014; Vivolo-Kantor et al., 2016).

Continual research and evaluation are paramount for refining and enhancing violence prevention programs. By consistently assessing the efficacy of interventions, researchers can identify effective practices and contribute to the development of strategies that adapt to the evolving nature of

school violence. Future research should aim to understand the specific contexts of violence, its long-term impacts on individuals and communities, and the efficacy of various intervention methods (Bradshaw et al., 2009; Durlak et al., 2011).

In summary, effectively addressing and preventing school violence requires a comprehensive, deeply informed understanding of its complexities. By considering the interplay of individual, interpersonal, and contextual factors, implementing evidence-informed interventions, promoting collaborative partnerships, and pursuing rigorous research and evaluation, we can strive towards establishing safe and supportive educational environments conducive to the holistic development of students. This dedication to comprehensive action and continuous enhancement is crucial for the well-being and holistic growth of individuals and communities at large. The journey towards mitigating school violence is ongoing and requires the committed efforts of all stakeholders in the educational ecosystem.

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Philosophical conceptions and their applications in the degree course in physical education: A case study

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ABSTRACT
The transformations of knowledge are the object of study of different pedagogies that aim to contribute to the formation, especially of the human one, of the individual. It is no different with Philosophy. This area of knowledge seeks ways - pedagogical alternatives - for the teaching-learning process, in Higher Education to become understandable both for students, especially in the Physical Education course, since they prioritize only the technical-practical aspect. Thus, it is stated that the object of the discipline of Philosophy in the Physical Education Course is, essentially, to constitute the connection of the game and sport to the body and movement.

Keywords: Philosophical, Physical education.

1 INTRODUCTION

The transformations of knowledge are the object of study of different pedagogies that aim to contribute to the formation, especially of the human one, of the individual. It is no different with Philosophy. This area of knowledge seeks ways - pedagogical alternatives - for the teaching-learning process, in Higher Education to become understandable both for students, especially in the Physical Education course, since they prioritize only the technical-practical aspect. Thus, it is stated that the object of the discipline of Philosophy in the Physical Education Course is, essentially, to constitute the connection of the game and sport to the body and movement.

For Matos (2016), within the scope of the study of Philosophy related to Physical Education is all the action of body movement that manifests itself in sports and playful terms with or against active people, whose motivations have to do with the processes of education, training, development and learning.

It is believed that sport is an articulator of human knowledge that has the need to promote an interconnection with the student's reality with the teacher's performance in sports education/literacy (ARAÚJO, 2018). According to Paes (2016), at the beginning of the twenty-first century, Philosophy, associated with Sport, presents itself as a mediator of this academic discussion and a guide for new procedures and professional interventions, aiming to provide the relationship between sports teaching and learning with an increasingly scientific basis.

As previously explained, Physical Education has been influenced by other areas of the human sciences, especially Philosophy, and since the 1970s and 1980s, there has been the development of

reflections on the form, why and how to teach, in addition to numerous other issues that may be frequent in the classes given in undergraduate courses. Great scholars in the field have thought and formulated different conceptions, each with its own objectives that go beyond the traditional development of capacities and physical fitness.

These professionals tried to break the paradigm that the body is "objectified" in the production process. It was in this way that the philosophical conceptions that influenced the Pedagogy of Physical Education emerged, with varied proposals that aim to try to explain and apply the knowledge of this area of knowledge within the training courses of physical educators.

Within this philosophical-pedagogical view, the developmental approach seeks, according to Tani (1986), to offer students the experimentation of movements, in order to ensure their normal development, following the biological maturation of the organism, according to biological and chronological age, accepting that variations may occur from one individual to another.

Psychomotricity, too, is another approach that gained prominence in the 1970s and 1980s. It aims to use Physical Education as a way to assist in the teaching of other school subjects, using it as an instrument, without giving it a specificity. This pedagogical method is still widely used. Freire's psychomotor proposal focuses more specifically on children's culture, the philosophical-pedagogical approach that is the fundamental instrument for the development of the student in elementary school. It is also theoretically based on developmental psychology and the studies of Jean Piaget.

The philosophical-pedagogical approach of Plural Physical Education understands human movement as a culturally constructed body technique and defined by the characteristics of a certain social group, thus considering every gesture as a body technique, as it is a cultural technique. It works so that the differences between students are perceived: their movements, expressions, life history, valuing their individuality, regardless of the model considered "right" or "wrong". In addition to the teaching of sports, it considers the ways in which students deal culturally with the forms of gymnastics, fights, dances and all forms of manifestations of body culture. The plurality of actions is to accept that what makes students equal is precisely their ability to express themselves differently.

Another philosophical-pedagogical conception that exerts a lot of influence in the area of Physical Education is the critical-overcoming theory. This theory is surprising because it has, as the name implies, a critical view of the paradigm of education in capitalist society, since it is based on Marxist ideas. In this proposal, the authors Valter Bracht, Lino Castellani Filho, Michele Ortega Escobar, Carmem Lúcia Soares, Celli Taffarel and Elizabeth Varjal identify as the object of study of Physical Education, the body culture verified in the work Coletivo de Autors, which involves manifestations such as dance, gymnastics, capoeira, games and sports (without emphasizing only the technique). Knowledge is systematized in cycles, teaching meets the reality of the working class.

Another proposal with a critical view of reality was developed by Professor Elenor Kunz, from the Federal University of Santa Catarina (UFSC), called critical-emancipatory theory. As he says in his work, Kunz (2004) had as his theoretical basis the works of the pedagogue Paulo Freire and Merleau-Ponty, among others. The object of study in this proposal is human movement as a means of communication between human beings and the world, with the objective of developing in students the ability to analyze and criticize what is imposed on them. It uses social interaction and the language of moving in the face of the world as its main tools, privileging the aspect of know-how, know-how and know-how to think.

Represented in Brazil, mainly, by the German professor Reiner Hildebrandt, the philosophical-pedagogical conception of open classes should also be cited as a great reference. Inspired by the ideas of Trebels and Brodtmann, it considers that working within a closed conception prevents, or at least inhibits, the formation of self-sufficient, autonomous and critical individuals, unlike the open conception, which collaborates for the development of these characteristics, bringing the student to a co-participation in the decisions of what should be worked on in class.

2 OBJECTIVES

After this short presentation of some of the philosophical-pedagogical conceptions of Physical Education, we can have at least a small perception of the different proposals that exist today in the area, in which Philosophy is directly linked. However, it is necessary to understand how they are worked in higher education, in Physical Education courses. Thus, the main objective of this work was to verify the applicability of Philosophy associated with the main Pedagogical Conceptions of Physical Education in a Higher Education Institution in the city of Divinópolis-MG.

Therefore, this work is of paramount importance, since it will also allow us to identify how these conceptions are worked and also to ascertain what is the philosophical-pedagogical conception of Physical Education (or which are) used by the teachers who teach the classes and finally, to analyze what is the relationship between Philosophy and the most efficient pedagogical conception from the teacher's point of view.

3 METHODOLOGY

The present study consisted of a descriptive, quantitative and exploratory research with the purpose of collecting the necessary data, through the application of a questionnaire, intended only for physical education teachers, who teach in the Physical Education Degree course and have a specific degree in this area, during the period from April to December 2020, in order to verify if the teachers participating in this research know the conceptions of Sports Pedagogy, the scope of its applications

and which of them bring greater benefits in the formation of students according to the point of view of those who teach the classes.

Quantitative research is characterized by clear and objective questions through questionnaires. Exploratory research, on the other hand, aims to analyze bibliographic research and case studies, and descriptive data are collected through the analysis of documents, interviews that aim to study the nature and characteristics of a given group.

According to Lakatos and Marconi (2003), the questionnaire is an extensive direct observation technique, defined as "a data collection instrument, consisting of an ordered series of questions, which must be answered in writing and without the presence of the interviewer" (2003, p.201).

The questionnaire consisted of eleven questions, three of which were presented in the form of a test, asking for what is called a limited answer or fixed alternatives, which characterizes them as closed questions, according to the authors cited above. The other eight are open-ended questions, in which the interviewees can freely discuss the topic they were asked

The sampling design was based on the following criteria for inclusion: 1 - only teachers of the physical education course of the public HEI, gender was not considered; 2 - Bachelor's degree in Physical Education or Licentiate/Bachelor's degree; 3- accept the invitation to participate in the research and sign the ICF. Exclusion criteria: 1- lecturer in other IES courses; 2- not graduated, specifically, in Physical Education Degree or Bachelor's Degree; 3- Do not accept the invitation;

The data obtained during data collection were stored in a database program (Microsoft® Excel 2007) and analyzed using the SPSS® 15.0 for Windows® (Statistical Package for the Social Sciences) software.

4 RESULTS AND DISCUSSION

In the public HEI mentioned, out of 10 teachers, only 6 were graduates specifically in Physical Education or Bachelor's Degree and agreed to participate in the research. For all teachers who answered the questionnaire, the minimum degree observed was that of specialist in Physical Education, with different approaches. When asked about their knowledge of the existence of the pedagogical conceptions of Physical Education, all the teachers stated that they knew them. In addition to knowing these conceptions, the teachers stated that they applied their knowledge in the elaboration of their classes. The constructivist, developmentalist, psychomotricity, critical-emancipatory and overcoming critical conceptions were the most cited by the interviewees.

When asked about which pedagogical conception of Physical Education (or which are) used by them and which is the most "efficient" of their points of view, the answers were similar. They categorically affirm that these theories actually complement each other and provide a more enriched training and a more cohesive performance of the professionals in training, thus ensuring the

emancipation of the student-teacher, that is, this study did not try to consider a better or worse conception, because it is known that such conceptions although they have diversified objectives, propose a new way of acting and thinking about Physical Education.

In this sense, and according to Darido (2004), pedagogical conceptions can be understood as pedagogical assumptions that characterize a certain pedagogical line adopted by teachers in their practice. Therefore, such pedagogies are created according to the objectives, educational proposals, practice and posture of the teacher, methodology, role of the student, among other aspects.

The data found in this research contradict the finding of Kunz (2004) where the author states that universities fail in the training of Physical Education teachers, because they try to train specialists in sports, but they are unprepared to teach and promote what the discipline really aims at. In the present study, the teachers not only know but also apply these conceptions, a fact observed in the answers obtained through the application of the questionnaires.

5 FINAL THOUGHTS

The purpose of this study was to analyze the conceptions they have about the different pedagogical approaches of this area of knowledge in the field of teaching practices of Physical Education teachers of an HEI. We also sought to understand which pedagogical tendencies guide the teaching practices of these professionals. According to the data obtained in this research, we sought to understand the possibilities that each conception has to offer. Thus, this research showed that, nowadays, the teachers who teach in Physical Education courses, both in the Bachelor's and in the Bachelor's course, use concepts, methods, practices and pedagogies of the different conceptions of Physical Education, showing that they are committed not only to the training of qualified professionals, but also, in the formation of critical citizens who can influence their social environment based on their awareness and their knowledge based on the theoretical and methodological parameters they extracted during their academic training, thus developing the ability to make their decisions based on their conscience and thus have the opportunity to fight to improve the conditions of the society that surrounds them.

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SEVEN
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Voices on the margins: The black woman's formative novel

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ABSTRACT
This paper presents an approach to Conceição Evaristo's novel of formation, whose narratives dramatize the lives of characters who are on the margins of social centers, bureaucratic estates, oligarchies, political patronage, neoliberal economic rationality, and the cultural matrices of colonial domination. In this sense, by proposing a critical reflection on the dominant values of the instances of consecration of the Western literary canon, that is, universities, schools, critics, and Brazilian literary historiography, this text aims to open up ways of proposing a democratic literary education.

Keywords: Conceição Evaristo, Novel of formation, Black woman, Education.

1 INTRODUCTION

One of the great demands proposed for contemporary historiography and literary criticism is to promote the analysis, supply and consumption of works of literature excluded from the pantheon of the canon. In a society as plural as ours, with multiple and heterogeneous identities, the questioning of the literary canon has come to be seen as a fundamental value. If the canon, a religious word in its origins, as stated by Harold Bloom (2013, p. 33), also "originally meant the choice of books in our educational institutions" (2013, p. 29) and "became a choice between texts that fight with each other for survival" (BLOOM, 2013, p. 33), its tradition would need to be made more flexible for survival in schools of texts that contemplate ways of life, the beliefs, attitudes, commemorative rites, symbolic codes and values of historically excluded groups in colonized societies that inherited the cultural matrices of colonial domination.

It is well known that "globalization and the increasingly rapid circulation of human groups and information opened the eyes of thinkers and artists to the universalist abuse of hegemonic Western cultures, which had used the words man, culture and art in a logocentric way until then" (PERRONE-MOISÉS, 2016, p. 10). At a time of declining nationalist ideology, national canons became the object of denunciation for their authoritarian and homogenizing constitution. Finally, literary studies then lost their fragile specificity, based on values considered ethnocentric, and the works then began to be evaluated and studied according to themes that dialogue with culture in the plural. In the Brazilian case, the critical analysis of the colonial imaginary instituted by our canon has become a decisive

premise for a problematizing reading of social identities and revealing the political and economic contradictions of our contemporary reality.

Contrary to what Harold Bloom (2013) thinks, who considers that we cannot illuminate the canon with a new doctrine, be it Marxist, Foucauldian or feminist, we understand that literary criticism and educational institutions are destined to the challenge of making visible the artistic products whose positive representation of marginal values can contribute to the decolonization of the Western episteme. questioning their hierarchies and values, since it is no longer possible to grasp the contemporary, whose reality is governed by a cultural pluralism, without considering that "social and geopolitical movements, disseminated and supported by the mass media, have led to the valorization of works dedicated to specific causes and previously despised groups: women, blacks, colonized, homosexuals, etc" (PERRONE-MOISÉS, 2016, p. 1).

2 QUESTIONING THE CANON

The process of exclusion from the canon of works written by writers on the margins needs to be thought of as conditioned by socio-historical conjunctures responsible for the ideological formations of those who decide and judge in the sphere of aesthetic and cultural taste, which demands the identification of the historical process that enabled the delimitation of cultural hierarchies, fostered as effects of long-lasting social and structural conditions. that formalized patriarchy, machismo, racism and the naturalization of colonial practices, since individuals are rooted in political and moral realities whose structures, in the Brazilian case, were built to remain socially unequal. In a manner of speaking, it is necessary to reiterate that "unequal power relations are constitutive of the literary field and structure it in all its aspects and dimensions" (WREC, 2020, p. 90).

Based on these considerations, it is relevant to ask: who are the voices on the margins of the center? What would be the center as a result of which there would be voices on the margins? If the center can be understood as the empire of Western European capitalism, how was the reaction to its dominance that "culminated in the great movement of decolonization throughout the third world?" (SAID, 2011, p. 9) In this way, it is necessary to "project a general model of imperial culture on a planetary scale and a historical experience of resistance against empire" (SAID, 2011, p. 10), despite the fact that the European cultural imposition on the peoples of the third world, during the implementation of the colonial regime, brought with it, as Frantz Fanon reminds us (2021, p. 20), "the death of autochthonous cultures", since, having witnessed "the liquidation of their systems of reference" by European domination, these cultures were coerced to learn "new ways of seeing", with many having assimilated "a pejorative judgment about their original ways of existing".

In this way, studying the voices on the margins in literature also presupposes a libel against cultural memory that relegates to oblivion the violence of the practices of colonial domination

promoted by the West over the peoples of Africa in the Americas, since history teaches us that the cultural destruction promoted by the colonizers became the driving force sustaining colonial legitimacy. Thus, if the cultural hegemony of the West depended on the war against the keys of the resistance of the native peoples, that is, against the symbols of their identity, it is necessary to understand that "without memoricide, therefore, violent or carried out in progressive transition, hegemony is impossible" (BAEZ, 2010, p. 301).

In other words, the reasoning is dialectical: without memoricide there is no center of domination, canon, official memory, monument. In this sense, the certificate of identity of voices on the margins depends on the symbolic struggle promoted by a literary criticism and historiography committed to the study, unveiling and legitimation of literary products that narrate the historical experience of resistance of peoples who live on the margins of empires, bureaucratic classes, oligarchies, political clientelism. of neoliberal economic rationality, in short, of the centers of imperial power.

According to Edward Said (2011), "the main object of dispute in imperialism is, of course, land; But when it came to who owned the land, who had the right to settle and work on it, who exploited it, who reconquered it, and who now plans its future – these questions were thought about, discussed, and decided in the narrative." Also according to this author (SAID, 2011, p. 43), "neither imperialism nor colonialism is a simple act of accumulation and acquisition. Both are sustained and impelled by powerful ideological formations." In this way, given that the imperialist ideologies that formed the centers of economic and cultural domination in Europe are materialized in fictional narratives, it is essential to show how the voices that are on the margins of this process resist the instituting imaginary of colonial domination.

From this perspective, the study of these voices is based on the perspective of postcolonial criticism, according to which "literary works are not innocent representational vehicles, but that, on the contrary, they participated in the domination of the West over the rest of the world" (DURÃO, 2016, p. 104), which makes relevant, therefore, the analysis of fictions that contribute to the decolonization of colonial thought. Consequently, these voices can be understood as an instrument of cultural resistance and struggle in search of the construction of a more just and egalitarian society, given that peripheral writers have been, in effect, "confronted with an underdevelopment or a deficit of the institutions of normative knowledge production in their own societies" (WREC, 2020, p. 140). Moreover, since neither the state nor the state institutions of knowledge production can be trusted, peripheral anti-colonial writers and critics of the empire of capital often "cannot be sure about the adequacy of the information produced about their own societies" (WREC, 2020, p. 141), which leads them to produce fantastic narratives in order to problematize the contradictions of the socioeconomic experience of the combined and uneven development of societies on the margins of the center.

On the other hand, it is also necessary to decentralize the perspective through which the exclusion of social voices situated on the margins is analyzed, which demands the displacement of the logocentric criteria that define the canon to think about the experience of those who experience economic, political and cultural exclusion within uneven technical and industrial development. In this sense, it is relevant to investigate: what do these voices say about life in the world system of capitalism? How do they feel about your existence? And if they live in a situation of extreme misery, what can they narrate? How do they represent themselves and how do they perceive the way they are officially represented? How do they represent this experience in literature? This is then the urgent need to study the literature of those excluded from the system, the literature written by black women, who fictionalize their contradictory experiences or, in exceptional cases, realistically expose the impasses of a life within a soul-devouring capitalist system.

3 THE FORMATIVE NOVEL OF CONCEIÇÃO EVARISTO

An example of resistance and heroism on the margins is the one presented by the black writer Conceição Evaristo, who integrates her work into the tradition of the novel genre. To highlight this marginal heroism, it is necessary to make brief considerations about the consolidation of the genre. Moreover, the novel is the bourgeois genre par excellence. In this sense, the hero of this novel would no longer be the knight-errant of medieval chivalric novels, but the man inserted in this new political reality consolidated by industrial capitalism. In Don Quixote's novel, for example, the so-called novel of trial, as Bakhtin (2011, p. 207) states in his book "Aesthetics of Verbal Creation", the hero is built to go through trials of "fidelity, of bravery, of courage, of virtue, of nobility, of holiness, saving his beloved Dulcinea of Toboso from great dangers, facing powerful enemies, dragons, in order to conquer, in their adventures, new kingdoms.

In this universe, "the world is not able to change the hero, it only experiences it, and the hero does not influence the world" (BAKHTIN, 2011, p. 212). The tradition of the bourgeois novel will break with this perspective and will inaugurate the novel of formation, as Franco Moretti reminds us, which does not presuppose ready-made, immutable characters, whose unity would be static, but the formation of man that "presents itself in an indissoluble relationship with historical formation" (BAKHTIN, 2011, p. 221). In this way, against the background of capitalism that presupposes freedom as a principle and a social mobility hitherto unknown, in comparison with the stratified nature of the aristocratic society of the ancien régime, the man who appears in the pages of this literature will reflect this historical formation of the world. In fact, "man is formed concomitantly with the world, he reflects in himself the historical formation of the world" (BAKHTIN, 2011, p. 222).

However, the bourgeoisie brings freedom as a principle, but the maintenance of its political order as an end, which allows us to question: how does the novel thematize the narcissistic dynamism

of a youth thirsty for social ascension and political and social self-determination and at the same time the life of a youth whose happiness would no longer be in the inconsequential exercise of this freedom? But in subordination to the norms of society? How does the novel represent this dialectic between freedom and happiness? As Franco Moretti (2020, p. 41) reminds us, this is "a dilemma inherent to modern bourgeois civilization: the conflict between the ideal of self-determination and the equally imperious demands of socialization." When it comes to the Brazilian novel, we learn that the protagonists of the narratives of José de Alencar and Machado de Assis are mostly bourgeois who aim to imitate aristocratic life, they are not blacks, women from the periphery and favela dwellers. What would be the novels of the formation of the black woman and the favela dweller? This answer is not offered by Franco Moretti (2020, p. 15), who evokes the limits of his competence, that is, "Western Europe between the French Revolution and the triumph of capitalism".

Conceição Evaristo's novels represent the exiles and evicted from the system. In these, the vectors of oppression are related to the process of limiting blacks to social ascension. When we read the narratives of Conceição Evaristo, we notice that, unlike the bourgeoisie that consolidated itself as the dominant class with the industrial revolution, the characters Ponciá Vicêncio, Maria-nova, Totó, Dorvi, Bica, Idago, Putinho and their mothers did not have the right to choose between the freedom "promoted" by the market or the happiness guaranteed by subservience to the system. because with Conceição Evaristo we learn that the system is a sectarian and bureaucratic machine, extremely efficient in justifying and naturalizing the pain that fills the eyes of these characters with tears.

In the book "Olhos D'água", the eyes are a metonym for the suffering of people helpless by the State, by the project of conservative modernization of a Brazil that replaced the African captivity, the slave quarters, with favelas. This is the perception of the protagonist of the novel "Alleys of Memory", Maria-nova, who, when called by the teacher to talk about slavery in the classroom, reminds us that our economic and cultural history has a long duration, the history that the big houses are converted into the buildings of the great metropolises and the slave quarters into the alleys of their favela. In fact, the oppression evidenced in Conceição Evaristo's narratives needs to be viewed in a complex way, because in them power relations are socially impregnated by the bias of racism, sexism, class, gender and, mainly, by the politics of death underlying the nation's project: the brutal slum clearance carried out by the agents of neoliberal capitalist modernization. As evidenced in the novel "Alleys of Memory", this process was carried out by blond men who drove tractors, machines that destroyed the dreams of favela residents:

> "The construction firm's bulldozers were digging, plowing the northern tip of the favela. There, the dust became bigger and so did the anguish. Some families were already ordered to leave and this precipitated the pain of all of us. Each family that left was a confirmation that it would be our turn. They offered the resident two options: a little material, planks and some bricks so that he could build another shed somewhere, or a symbolic indemnity, a little money. The latter was worse. Those who opted for the money received a derisory amount, which ended up being

> spent right there. Then came the worst, after the period of permanence had elapsed, neither the money, nor the boards, nor the bricks, only nothing" (EVARISTO, 2017, p. 71).

Despite the thousand struggles "for the right not to leave where they were" (EVARISTO, 2017, p. 146), the firm responsible for the slum clearance threatened the residents, saying that they would be fired and that there was no point in rebuilding the sheds that had been knocked down by the rainwaters. Under these conditions, the blacks of the favela had no paths to experience a dignified life; All were subjected to the material and psychological losses resulting from the violence led by the capitalist logic on a miserable reality. For these men and women, "dreams are good for lunch, for dinner, never" (EVARISTO, 2017, p. 50). And because of gender, class, and race conditioning, life, like the river, "took everything with it" (EVARISTO, 2017, p. 28). There is no prospect of social ascension for black men and women in this context, since they are placed since childhood with obstacles that make it more difficult to access the means for this goal, such as the right to quality education: "there were the problems of the children, who, with the slum clearance, lost their places in schools when they moved in the middle of the year and could not find places close to the place where they went iam" (EVARISTO, 2017, p. 146).

Far from the benefits of a policy promoted by a welfare state, these black and favela children will remain on the margins of class society. And the pessimism of the novel is evident in the memory of the characters Totó and Maria-Velha, who remember the lost work she had been to abandon the farm to try life in the city: "lost work for her to have left the farm where she had been born with all her siblings and come to the city to seek a better life" (EVARISTO, 2017, p. 142). In fact, in the Brazilian historical process of formation of black men and women, the multiple vectors of oppression converge to legitimize the failure of the social trajectories of these characters, who fictionalize the social barriers imposed on these individuals by a reality whose family and political structures were dominated by machismo, patriarchy, racism, by fascism, clientelism, and phallocentrism.

4 PONCIÁ VINCENCIO

In the novel of the formation of black women, "power relations involving race, class, and gender, for example, do not manifest themselves as distinct and mutually exclusive entities" (COLLINS, 2021, p. 16), but in an intersectional way. In fact, this model of the novel invites us to an intersectional reading of the life experiences of these characters, since, "by looking at power from various angles and asking ourselves what kind of power relationship is behind those that are most visible in a given context" (COLLINS, 2021, p. 249), the intersectional perspective points to "creative solutions to important social problems, such as violence against women and girls, the exploitation of work in precarious conditions, and the denial of education to young people" (COLLINS, 2021, p. 244), themes that are entangled in the stories of Ponciá Vicêncio, Maria-nova, and other black women in this

fiction. Unlike her characters in terms of social ascension, Conceição Evaristo transformed her memoirs into a believable writing of this process, since she

> "was born in 1946, in a favela located at the top of Avenida Afonso Pena, one of the most valued areas in the south zone of Belo Horizonte. Over time, shacks and residents were removed, the avenue was expanded, new buildings were erected and the alleys and alleys of childhood had to be lodged in the affective memory of the future writer" (DUARTE, 2006, p. 305).

Based on these considerations, "Ponciá Vicêncio" is the great protagonist of the novel of the formation of the black woman from the favela, whose social trajectory is very similar to those of the characters in "Alleys of Memory", whose stories perhaps keep points of contact with the family dramas witnessed by the writer in the alleys of her childhood. In this novel, those who lived in the countryside feared urban life and Ponciá Vicêncio's mother "also warned him of what it would be like to live in the city", but she "did not understand why people feared the city so much. Some people would go out and be fine; however, they only remembered, only repeated the unfortunate cases, the stories of failure" (EVARISTO, 2003, p. 35). The reading of this work shows us that there is no room in the city for the happiness of the black woman, but Ponciá Vicêncio "believed that she could trace other paths, invent a new life" (EVARISTO, 2003, p. 32), since she was tired "of working the clay with her mother, of coming and going to the lands of the whites and returning empty-handed".

The decisive feature of the formative novel is to represent social mobility and "youth is, let's say, modernity in its purest state, a sign of a world that seeks its meaning in the future instead of seeking it in the past" (MORETTI, 2020, p. 30). However, the social paths traveled by black people who ventured into the life of the city did not allow the long-awaited mobility. Had

> "Other and other cases of acquaintances who left the village on their way to the city and were robbed at the arrival station. They lost what little they had and became beggars right then and there. Others couldn't find work or earned very little and had no way to live. Life was worse than in the countryside. She knew of many sad cases where everything had gone wrong. He tried to think of one that had a happy ending. He didn't remember. He tried harder and didn't hit any. He did not give up. They reminisced so much, talked so much about those sad cases, that even she only remembered them. It didn't matter. Her case, when she returned to get her own, would be a story with a happy ending" (EVARISTO, 2003).

However, Ponciá Vicência's happiness could not come from his process of formation in the capitalist and bourgeois city. In the latter, their freedom would always be stifled by social relations that perpetuate inequality, oppression and injustice. Proof of this is that "Ponciá would return to the place of the waters and there he would find the substance, the humus for his life" (EVARISTO, 2003, p. 129). The protagonist of this novel will find herself with her destiny, with her grandfather's heritage, her traits and her ways, that is, with the link that kept her in close connection with the history of blacks, since "since she was a little girl she worked so well with clay, she had the arts of modeling the raw earth in her hands" (EVARISTO, 2003, p. 130). Finally, by also presenting the reflection on destiny

made by the protagonist's brother, Luandi José Vicêncio, a destiny marked by the disappointments of life in the city, the writer points to a path whose perspective could be emancipatory: the path of reading, because "from reading it was necessary", for Luandi, "to draw other wisdom. It was necessary to authorize the text of one's own life, just as it was necessary to help construct the history of one's own" (EVARISTO, 2003, p. 131). Art, reading and writing are the two great instruments of education and emancipation of black people, of black women, of their writers.

5 FINAL THOUGHTS

Therefore, based on the analysis and considerations about some works of the writer Conceição Evaristo, we note that the study of these narratives needs to be accompanied by a reflection on the place of literature in the context of societies marked by the exclusion of these social voices, which ratifies the permanence in the country of institutions that are not contemplated with political democracy. cultural and social. The inclusion of these voices in the classroom can correspond to an alternative that integrates the aesthetic, economic, moral and religious values that are in dispute in contemporary reality, values that constitute a complex network of connection and social segregation, through which literature can serve as a reflexive guide for the transformative questioning of the political and symbolic structures that legitimize social inequities.

Consequently, the literature teacher cannot forget that "the most emblematic document to show the new times of appreciation of black culture (and the black population) is the law that established the mandatory teaching of Afro-Brazilian and African history and culture in the country's schools (Law 10.639, of 2004)" (ABREU, 2018, p. 26), which includes this literature. In addition, it needs to face the challenge of including other symbolic forms in its practice, such as the artistic products that are resized in the system of exchange of symbolic goods by the culture industry, that is, the hybrid forms that denounce the capitalist logic of the laws of the market, since if there is no resistance to the arbitrary process of cultural segregation operated by the different means of social communication, The centers will overshadow the margins.

In this vicious cycle, the prestige of canonical works, resulting from the process of colonial domination, compromises the supply and consumption of the works of women writers who subvert the values of hegemonic systems of literary representation. In a manner of speaking, the logic of literary education ends up reproducing the exclusionary logic of the systems of representation of the political sphere, where "the powers (of the representative system) represent themselves and do not represent the collectivity of which they are supposed to be representatives" (PENNA, 2015, p. 17), affecting the foundations of a democratic social order.

Questioning the way in which these powers continue cultural memory is one of the moral duties bequeathed to us by humanistic education. Finally, historiography and literary criticism need to

investigate the literature produced by these women, as proposed by the essay "Beyond the canon", present in the book "Literature and feminism: theoretical proposals and critical reflections", by the critic Elódia Xavier (1999, p. 17), which expresses the need for a literary reading that aims to carry out, in the work of critical reflection, the "unveiling of the patriarchal structure in its hierarchical and alienating bias" in our society. This scholar mentions the relevance of rescuing literary works that question hierarchies, values and social structures naturalized by the common imaginary. In order for this proposal to be put into practice, it is first necessary to recognize the "discursive monopoly of the dominant cultural subject, declined in the masculine, which, historically, has managed the production and circulation of meanings and discourses about women according to an exclusionary rationality" (SCHMIDT, 1999, p. 26).

In fact, the approach of narratives that propose the decentralization of this subject from a discursive displacement that places the woman as the producer of her own narrative, as the dominant voice in the imaginary and symbolic construction of her world, questioning, rethinking and transforming her reality, may be able to open a path for the deconstruction of the "identity model of reference of white Western culture" (SCHMIDT, 1999, p. 26). In this way, it would be possible to democratize the access of these voices to the margins to the instances of consecration of the canon, to universities, to classrooms throughout the country. Without the relativization of the cultural reference systems legitimized by the tradition of the West, the idea of democracy that presupposes the representation of the collectivity is imprisoned in an impasse, that is, in a place where contradiction, irony and injustice reign.

In fact, the impasse becomes more acute when this idea of democracy becomes a political ideology to mask the social tensions not resolved by the systems of representation. Thus, confronted with the real conditions of its validity, conditions that are far from the realization of the humanist ideals of justice and equality, it is transfigured into fiction invented by the voices of the center that dramatize stereotypes, values and dreams not dreamed of by the voices on the margins. Finally, on the margins of society and also on the margins of the educational project that forces us "to choose between a model of education that promotes profit and another that promotes full citizenship" (NUSSBAUM, 2015, p. 11), black women writers resist economic, political and social interdicts in the fields of symbolic dispute, that is, in the institutions of consecration of the canon, in schools, in the representative political system, in universities, in publishing houses, in congresses, in periodicals and in digital media.

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