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CHILDHOOD: A CONSTRUCTIVIST APPROACH

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Abstract:

This work demonstrates through classroom practice the importance of developing environmental themes from preschool, as critical beings need to be nurtured from childhood. For this purpose, Piaget's constructivist theory was utilized, viewing knowledge as a construction arising from the subject's action in interaction with the object of knowledge. It aims to illustrate the connection between the broader and more specific mechanisms of human intelligence as action within interaction. Paulo Freire's pedagogy aligns with this, showing paths for education grounded in praxis, where educator, student, and reality must be intertwined, with none being more important than the other. Learning is facilitated when concepts are worked on through objects that are not only part of the child's life but also carry significant historical meaning for them. This work also reflects on Marx's idea of class society, emphasizing the need to understand one's position and the interplay of interests that shape society as a whole.

Keywords: Environmental Education; Constructivism; Critical Thinking; Paulo Freire; Class Society

1. Introduction

The environment today faces a conflict between two opposing situations: on one side, a polluted environment that continues to be indiscriminately contaminated, and on the other, a polluted environment where strategies for recovery are actively pursued through the study of new technologies. These technologies aim to improve the management and sustainable use of natural resources, making it a prominent topic of discussion in Brazil and worldwide.

The explanation for this reality is clear. Some laboratories, funded by capital, develop technologies solely for profit, regardless of their environmental impact and the risks they pose to people's lives. In contrast, a small number of researchers, nonprofit organizations, and parts of the community seek remediation and recovery of degraded environments, studying effects and envisioning future prospects while researching new technologies to better utilize remaining natural resources without degradation or pollution, and even addressing already polluted areas, with the hope that these environments can eventually regenerate. However, some degraded environments

can recover, but there are biological levels that, once reached, result in irreversible reactions.

This raises many questions about why some people prioritize profit over environmental health and life. What mindset prevents them from questioning their actions?

This work showcases an approach taken in a rural school in Japorã-MS, aiming to introduce five- and six-year-old children in Pre-K II to the topic of natural resources, covering usage and conservation, as well as proper resource management, with the intent of nurturing critical thinkers from a young age.

The environmental theme developed by educator Viviane Mallmann was made possible by the opening of three classrooms at the Carlos Jacob Franciozi Settlement in Princesa do Sul, benefiting over two hundred families in the area. The Caminhos da Sabedoria school, an extension of the municipal school José de Alencar, had about fifty-five students enrolled in its first year, 2013, in Pre-K I, Pre-K II, and first grade.

To achieve quality rural education, the municipal government hired three educators from rural backgrounds, two of whom lived in the settlement and one in a neighboring settlement, aiming for the long-desired education for and in the countryside. However, to understand each child's reality and implement educational goals, it's necessary to analyze the struggles these children faced to become settled through Brazil's agrarian reform process. From there, strategies must be developed to address their realities, create differentiated lesson plans, and implement actions that effectively meet expected objectives.

However, undertaking this retrospective is not easy. Brazil's agrarian reality is complex, with an antagonistic cultural heritage regarding land ownership. Each Brazilian family should ideally have land for living, planting, and harvesting, reflecting the colonization process that has created a cycle of endless inequalities and injustices. This has perpetuated land concentration in the hands of a few, producing primarily for export, while a small portion of land supports many who feed the entire nation. The term "agrarian reform" encompasses various distinct ideas and proposals, making it essential to be aware of the meanings used in any text or discourse analysis.

Many farmers today are not where they want to be—on the land. They live in favelas, marginalized and excluded from society. Some individuals who were once landowners lost their property through various means, consolidating rural exodus. Some sold their land due to lack of government support; others were forcibly evicted by large landowners; some

resisted and were killed.

For a long time, people quietly endured exclusion, migrating multiple times for better opportunities. But this has gone on long enough; the voiceless began to confront the system. In this context, the Pastoral Land Commission (CPT) emerged, forming rural individuals, supported by the church, raising awareness and empowering many landless farmers. This led to a movement that gained strength over time, advocating for the right of each farmer to own land and for anyone wanting a small plot for subsistence to access it. However, these rights were not guaranteed by the Brazilian constitution, as laws favored the status quo.

In this scenario of popular organization, the term "Landless" emerged as an identity for those fighting for land rights. This term also inspired the name of one of Brazil's social movements, the Landless Workers' Movement (MST). Most contemporary rural social movements in Brazil arose in resistance to an economic and political system that quickly modernized agriculture. The challenges faced by the rural population, particularly wage workers, peasants, and their families, stem from their integration, exploitation, and marginalization, deepening inequality—not from a "lack" of development but from the "success" of modernization. In fact, inequality and exclusion existed before modernization but were reproduced on a larger scale during the process.

This intensifying struggle encountered a significant problem: the people demanded agrarian reform, while the government proposed a form of agrarian reform that did not meet their needs, merely continuing to support large landowners.

Today, the struggle for land is known for its confrontation with capital, involving protests, encampments, and occupations, all aiming for a reform that grants land, provides access to credit, and enables funding for rural work. Along this trajectory for agrarian reform in Brazil, other popular rural movements emerged, lending strength and political representation to discussions with the government.

As the agrarian reform debate is contentious, so too is the discussion about landless social movements, marked by disagreement between supporters and opponents of the cause. The number of supporters for agrarian reform is gradually increasing. As noted by former Chilean Minister of Agrarian Reform Jacques Chonchol, "(...) if there is no peasant movement, there is no agrarian reform. Agrarian reform never happens because governments willingly implement it; it always incurs political costs and

difficulties."

Given that many large landowners are intertwined with government entities, it's understandable why the struggle for land is so challenging, with many farmers killed, imprisoned, tortured, or exiled. However, this has only strengthened the land struggle in Brazil, which now encompasses not just land access but also quality health care and rural education. In regions where agriculture is the main economic activity, land control equates to wealth and power. Various studies show correlations between income concentration and land ownership, reflecting the degree of participation in the power structure among different social segments.

In 1979, it was found that Brazil's land distribution Gini coefficient had slightly increased. The agrarian reform process is still far from its ideal state, with thousands participating in camps to achieve agrarian reform. Nevertheless, successful practices in settlements should serve as models, encouragement, and arguments in this political, economic, and social journey, exemplified by this school at the settlement's center, empowering children from preschool to build a new popular project based on inclusion, affection, generosity, love, solidarity, and respect for the land.

This particular work will demonstrate the paths taken by the Pre-K II educator in environmental education practice, enabling children to develop critical thinking and alternative pathways based on agroecology towards more sustainable agriculture. Critical thinking must be learned from an early age.

2. General Objective

Awakening children's critical stance regarding the environment, its balance, and agroecological management practices, while respecting local biodiversity.

3. Specific Objectives

Encourage reading about the environment and society.

Learn agroecological practices for soil management and conservation.

Develop critical awareness.

Learn to express oneself without fear.

Create agroecology-based technologies for family farming.

Understand Lavoisier's concept: "In nature, nothing is lost, nothing is created, everything is transformed,"

applying the concept of sustainability.

4. Methodology

The work developed by the educator was based on three fundamental parameters. Paulo Freire's philosophy guided a liberating education rooted in love, dedication, and understanding of the world. Karl Marx's philosophy supported children's individual responses to stimuli, highlighting their historical context and class struggles. Jean Piaget's philosophy was then applied to study and create technologies for managing the environment in which children live.

5. Development

5.1 - Classroom Report: The Evolution of Children in Their Perspectives

First Days of Class: It was worked with the idea that the school year cannot start by introducing content and developing skills and competencies right away. Education, in its best definition today, can be understood as an exchange of knowledge. Therefore, during the first three months of class, the lead educator conducted a comprehensive mapping of the children's family, social, and personal realities, identifying elements that could contribute to the teaching-learning process. During this knowledge period, the educator also shared her reality with the children, her perspectives, and the expectations regarding the proposed teaching-learning process for the entire year.

She then focused on the idea of agreements rather than rules, as something agreed upon is understood by both parties, unlike a rule, which can be imposed regardless of reality and is easily broken, undermining the process based on it. This relationship of freedom and agreements allowed for other important relationships in this desired context, fostering a harmonious classroom environment that enabled solidarity between educator and students, with solidarity understood as the ability to give one's best to someone else. This exchange was made possible because the children knew the purpose of studying from such an early age.

Another argument used by the educator to permeate and build a loving environment was the practice that no one needed to be quiet in class. On the contrary, they were encouraged to engage in constant dialogue as needed; they could talk during the activities proposed by Viviane, except during moments such as reading or when a classmate was presenting. However, outside those times, they could

talk freely, but this conversation had to be in whispers, ensuring it did not disturb the neighboring classmate. Thus, by speaking softly, the children could develop all the proposed activities.

"At all times, the school receives children with low self-esteem, sadness, difficulties in learning, or in getting along with classmates, and we label them as complicated, without limits, or ill-mannered. We do not place ourselves in their favor, we do not ally with them, we do not connect with them, nor do we manage to understand the real reasons that led them to be this way. The school facilitates the role of education today, which should be to build complete individuals, prioritizing being over having, leading the student to be critical and to build their path" (CHARDELLI; 2002).

Viviane aimed to create an annual plan, where activities were studied and articulated month by month to always introduce sequential and didactic program content. For this to happen, some tasks needed to be completed first to ensure success in subsequent ones. For example, it is impossible to ask a child to come to the board and repeat a vowel or consonant sound if they are intrinsically shy about speaking or going to the board. Therefore, the first task before any other was to build the child's self-confidence, which, according to psychology, allows for better learning and development for any human being. This work was carried out during the first three months of class, in an opportune routine.

Childhood is a biologically useful stage characterized as a period of progressive adaptation to the physical and social environment. Adaptation here means "balance," a process that lasts throughout childhood and adolescence and defines the structure of these existential periods. As psychologist Jean Piaget (1985) teaches, "to educate is to adapt the individual to the social environment."

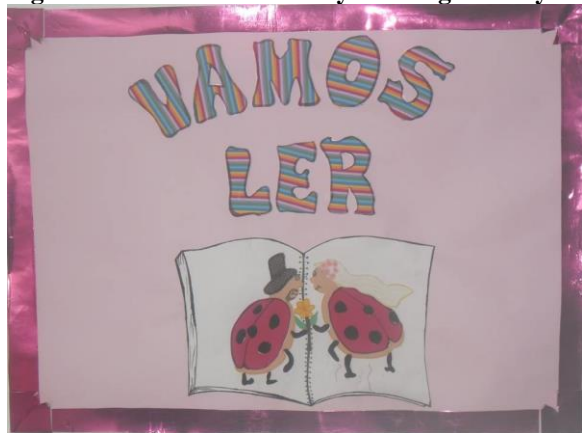
5.2 - Reading the World

To start the classes, the educator organized the children sitting in a circle, each in their own chair, participating in four moments, each with a distinct importance that would culminate in a reading of the world done by the children.

First Moment: In one corner of the room, there was a poster that said, "Let's Read," around which the circle formed for a debate. This activity took about an hour, during which the children, one by one, sitting in a circle with the educator, were invited to share about their weekend, the activities they did the previous day at home, and any news about themselves

they wanted to share. At this time, the children were also asked about the activities their parents engaged in at the farm, such as animal handling, soil management, etc. This discussion helped the educator understand a bit about each child's home routine and thus tailor activities accordingly. It also helped ensure that, during the following hours of class, everyone worked calmly because they had already shared everything they wanted during the initial "agreed" activity. "Emotional well-being helps the normal development of a child's personality and the formation of qualities that make them positive, enabling them to show benevolence towards others" (MUKHINA, 1995).

Fig. 1: Poster Used for Reality Reading Activity



Source: Viviane Mallmann.

Second Moment: It involved reading a story. "Viviane read a different story theme each week, ranging from classic tales like Little Red Riding Hood to Brazilian literature classics by authors such as Carlos Drummond de Andrade and Cecília Meireles, as well as Latin American literature. Texts of varying levels of difficulty were interspersed, taking into account that some contained unfamiliar words from formal language, necessitating pauses to reflect on their meanings. After this stage, children were asked to interpret the text they heard. Questions were tailored to each child's level, previously identified by the educator. During this process, a child would come to the front of the circle, standing with feet together, hands behind, head held high, and a serious expression, and respond to the question. If they answered correctly, they earned a point; if not, they had to imitate gestures and sounds of a character from the story chosen by the educator. If a child couldn't answer, the first child who raised their hand quietly could take a turn; if they answered correctly, they received the corresponding point. To keep track of

points for attentive and correct responses, a poster made of craft paper was created, listing each child's name and marking points for text interpretation and other classroom activities, including tasks done at home. This activity, developed over the first three months of class and continued in subsequent months, facilitated the introduction of literacy in the fourth month, as the children became more confident and unashamed to participate. Once a week, the story told was invented by the educator, reflecting the reality of the camp, making that day the most anticipated by all.

Third Moment: It was when anyone who felt inspired and had a creative idea to invent a story could stand up, come to the front, and share their own story, which was recorded by the educator with a video camera. This was the culmination of the process, as they had the opportunity to express everything they imagined and, with appropriate interventions, create and recreate lived situations. Once a child reaches this level of creativity, they are ready to be literate, as literacy not only requires the ability to combine letters, understand writing and phonetics, but also demands reflection and reconstruction. It encourages children to discover and invent without providing ready-made concepts. Immediate answers should only be given when a child's question focuses on an arbitrary social act (functions of everyday objects). It is important to remain attentive to the series of discoveries children are making, giving them the maximum possibilities for that. Attention should be given to each child, encouraging them to build and understand themselves, giving more emphasis to questions than to answers. The teacher should seek to systematize and coordinate emerging ideas while building a differentiated relationship with the group as a whole and individually with each child, respecting their cognitive maturity and individuality (SALTINI, 1997).

In Figure 2, the daily conversation circle is shown, capturing the happy faces of the children participating in this playful moment.

The substitution of the conventional classroom format with the distribution of participants in circles and the use of group techniques (conversation, study groups, action groups, forums, debate groups, and thematic letters) as alternatives to lectures and didactic presentations prepared the atmosphere for dialogue and the participants' discovery of knowledge that already existed among them but was not recognized as such (FREIRE et al., 1987).

Fig. 2: conversation circle



Source: Viviane Mallmann.

In the fourth moment, children could draw the story. In the first month, since many children lacked the fine motor skills to hold a pencil properly, the educator helped them draw. By the second month, children were able to draw one or two characters by copying from the board, and by the third month, they could draw the entire story. This was a collective construction process where the educator built the story on the board based on the children's suggestions. Then, they copied and painted their drawings, sometimes using colored pencils, other times wax crayons, and even watercolor. After completing their drawings, three children were chosen each day to present their work to their peers. Once a week, the activities were hung on lines in the classroom, allowing each child to recall the story read and observe their progress over time. This activity enabled each child to develop a reading of the world they were living in.

Drawing is one of the semiotic manifestations, meaning one of the ways in which the function of assigning meaning is expressed and constructed. It develops simultaneously with other manifestations, including play and verbal language (PIAGET, 1973). The evolution of drawing shares the development process, going through stages that characterize how children position themselves in the world. According to Piaget, a child's way of knowing an object undergoes significant transformations during their evolution, in the process of adapting to the environment through successive movements. In figure 3, a drawing presented by one of the students depicts the site where he lives. This is interesting because at the beginning of the year, the same activity was requested from him, and his response was a drawing of the house, but it was alone. Now, the drawing includes more than just a house; it features trees, flying

birds, the sun, clouds, and plenty of organic matter.

Fig. 3: Drawing made by Tiago, depicting his house.



Source: Viviane Mallmann.

5.3 - Bringing reality into the classroom and taking the classroom into reality.

All classroom activities were based on themes and subjects relevant to the children's living environment. The stories created by the educator always addressed environmental issues and agroecological practices. By the end of the third month of classes, all the students understood the importance of caring for the environment and the interdependence among living beings. They were aware of large companies producing pesticides and genetically modified seeds, knew about landholding systems, and understood the capitalist system adopted by our government and its impact on Brazil, particularly on their lives, all through well-coordinated situational analyses led by the educator.

Some videos on environmental disasters were shown so that they could critically analyze what was happening to the planet and understand that they needed to do something to break the cycle of pollution that causes so many disasters.

During this month, the concept of the Law of Conservation of Mass, created by Antoine Lavoisier, was introduced, which states that nothing is lost, nothing is created, everything is transformed. It is

crucial for children to understand this concept early on, as it lays the groundwork for many other concepts—such as organic, inorganic, composting, soil recovery, green fertilization, among others—that begin to make sense in their practices as farmers.

To understand transformation, two practices were adopted. One was to have the children observe the composting process, where they saw the transformation of leftover leaves, food, and other organic materials into fertilizer for plants.

The second practice involved bringing dry grass clippings to the classroom so they could touch and feel the organic material in their hands. Each child was invited to respond to a question posed by the educator: “If you had this organic material in your yard, what would you do with it?” The responses were incredible; unanimously, they discussed various ways to use these leaves to protect and restore the environment. What was most amazing was that 90% of their proposals had not been mentioned previously by the educator, indicating they were constructing their own knowledge. Since all knowledge also goes through each person's praxis in their reality, the children took action. Each one taught their parents and grandparents that they could no longer burn organic waste but should use it for the benefit of nature.

Figure 4 below shows the children holding dry grass in the classroom.

Fig. 4: Directed Activity with Dry Grass.



Source: Viviane Mallmann.

Knowing, in essence, is not about merely copying reality but rather acting upon it and transforming it within a system of interactions. "The primary goal of education is to create individuals capable of doing new things, not simply repeating what previous generations have done. Individuals who are creators, inventors, and discoverers. The second

goal of education is to form minds that can critique, verify, and not accept everything presented to them" (PIAGET, 1967/1973).

6. Conclusion

This work highlights the critical importance of engaging children in education as a means of liberation from the early years. The results indicate that by the end of the year, students had developed a newfound understanding of their place in the world, recognizing themselves as part of a capitalist society characterized by land ownership and class distinctions.

From this perspective, the children appropriated knowledge, analyzing and reconstructing their world based on their interests and existing knowledge. This process of deconstruction and transformation led them to create new narratives and practices. Early in the school year, students exhibited insights, teaching their parents environmentally friendly practices, developing technologies to facilitate agricultural work, and challenging outdated practices such as using transgenic seeds and chemical pesticides.

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