



Environmental education at school: unsuitable actions from human being to the environment and its consequences

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ABSTRACT

This experience report seeks to report the application of an **SD** whose objective was to make students understand the problems caused to the environment due to human action. The participants were 27 students of the 4th year of Elementary School of a State Public School, in Juína-MT. The **SD** was applied and developed during the month of November in 2021, totaling 14 hours divided into 7 meetings with 2-hours. Students were evaluated throughout the process, believing that learning assessment should always occur and not just through tests and evaluations. Among the main results, it can be highlighted that the students were able to understand the definition of each action worked on in the classroom (excessive use of pesticides, burning, deforestation, consumerism, and waste of water), as well as their consequences for the environment and living beings. Thus, it was possible to sensitize children to conscious actions based on a sense of responsibility and the common good. Finally, regarding the participation and execution of activities, a significant number of students were excited, active, and enthusiastic with good arguments for the discussions held in the classroom, reaching more than 50% of correct answers in the *kahoot quiz* with questions related to the theme.

KEYWORDS: Anthropic Actions. Environmental education. Environment.

1 INTRODUCTION

In the beginning, human being relationship with nature was mainly one of survival, but over the years the humanity acquired greater knowledge and began to explore more natural resources, and thus, environmental problems began to emerge.

The predatory exploitation of these natural resources has caused impacts, affecting the environment and people's quality of life. These impacts generate socio-environmental and economic problems for the current generation, as well as for future generations (MATOS; BATISTA; PAULA, 2020).

According to Tavares, Sousa and Santos (2018, p. 02) “multiple problems arise related to the environment, bringing with it the need to develop actions aimed at its preservation and recovery, as well as encouraging and raising awareness among citizens, since they are the main responsible for environmental problems”.

For Matos, Batista and Paula (2020) in the face of the growing socio-environmental crisis in current times, it is necessary to rethink the relationship between society and nature. In this concern, Environmental Education contributes to the construction of integrated thinking and environmentally responsible actions in search of ecological awareness.

In this context, the environmental education becomes clear and necessary to overcome these problems, living in harmony with nature through conscious actions and attitudes that do not harm the environment –our own planet.

So, it is important believe that environmental education in school practice can bring good results, since this theme is teaching at school as a possibility of work whose students connect with crucial problems of the time all of us live in (DEMOLY; SANTOS, 2018).

According to Barreto and Vilaça (2018), due to the seriousness of the environmental situation worldwide, the Federal Constitution provides the legal basis, laws that guarantee rights and determine obligations and priorities related to the environment. It thus asserts, as a duty of the public power as governments to promote EE at all levels of education, and public awareness for the preservation of the environment. In addition to the Federal Constitution from Brazil, there are laws, letters and documents that defend Environmental Education in schools and educational institutions and in other spaces, both formal and informal.

In this perspective, the purpose about environmental education is that everyone understands the environmental problems and, simultaneously, can act with the objective of exercising an active and responsible citizenship in the sense of solving them (BARRETO; VILAÇA, 2018).

Therefore, Environmental Education spreads knowledge about the environment, seeking to help in its preservation and maintain its resources in a sustainable way, and from a continuous process, people see themselves actions and can act and search of solutions for the environmental problems (TAVARES; SOUSA; SANTOS, 2018).

Accordingly, the purpose of the experience described here was to make students understand the problems caused to the environment due to unsuitable human being action.

2 METHODOLOGY

This study is characterized as an experience reported in the education area. According to Mussi, Flores and Almeida (2021) the experience report is a type of knowledge production, whose text deals with an academic or professional experience in one of the pillars of university education (teaching, research and extension). The main feature of this study is the description of an intervention, and its construction must contain a theoretical and scientific basis, as well as a critical reflection.

Consequently, it is seen that this type of work allows the critical presentation of scientific practices and/or professional practices and/or interventions.

The theme “Environmental Education” was developed through a Didactic Sequence (SD), organized in 7 meetings of 2 hours each, totaling 14 hours. This SD was developed during the month of November in 2021, involving 27 students enrolled in the 4th year of Elementary School at a State Public School, in the city of Juína, State of Mato Grosso. The school is called “E. E. Ana Néri”, it is in a suburban neighborhood and has approximately 200 students enrolled in both shifts (morning and afternoon). The institution has eight classrooms.

To keep the confidentiality of the students, they were named by codes A1, A2, A3 up to A27, which means Student 1, Student 2, Student 3... Student 27. Different methodologies were used for data collection: informal dialogue, written research assignment, oral presentation, parody contest, debates, quiz through kahoot and production of posters, which are described in detail in Chart 1, along with the steps from SD.

Chart 1 – Methodologies and stages of DS

Stages/Meetings	Methodology	Development
01	Informal Dialogue	Begin a dialogue about issue through the question: “What unsuitable actions are practiced by human being that harm the environment? And what are those consequences?”
02	Research assignment (in group)	Division of actions emphasized by students by groups to carry out the assignment.
03	Oral presentation (in group)	Oral presentation of the groups followed by debates among students.
04	Parody Contest (individual)	Each student will create their parody using a famous song as a base, with the aim of “sensitizing people about their actions in the nature”.
05	Presentation and voting of the best parodies.	Each student individually will be in front of the classroom to read or sing their parody created using the microphone after that the other students will vote for the tree best parodies.
06	<i>Quiz with kahoot</i>	Through the kahoot application, do a quiz with 12 questions about the theme to check student learning.
07	Poster production – final procedure	Divide the class into 2 groups, 1 will produce a poster talking about the concept of each action discussed in the previous steps and the other about the consequences.

Source: Own authorship (2021).

In each of the stages described above, the students were evaluated. In this way, searching meaningful learning, encouraging students also the participation and the interaction of them, believing that the evaluation process occurs in the course of classroom days, the evaluation was carried out continuously through the teacher's observations. The participation and involvement of students during classes was evaluated, considering the assimilation of content through dialogue and debates, carrying out activities, analysis of responses to these activities, as well as through a report made available by the kahoot application.

It is emphasized that in this class there are students who are not literate yet, therefore, to include everyone in the proposed activities, some alternatives were created. They received help from the regent teacher who read the questions and issues raised, also helped with research and and the creation of parodies, the students said what they wanted to write and the teacher wrote down their lines, after that they transcribed the parodies manually.

3 RESULTS AND DISCUSSIONS

The results obtained in each meeting accomplished with the students during the development of the DS, as well as the appointments with authors of the theoretical framework are presented below.

Meeting 1 – When it was started the dialogue from the question “What are the actions practiced by human being that harm the environment?” The students emphasized five actions as essential: waste of water, consumerism, burning, deforestation, and excessive use of pesticides. When the teacher asked this question, the teacher had a purpose to open dialogues, debates and make reflections about these statements. According to Barreto and Vilaça (2017),

the purpose of EE is to provide an up to date about the theme, reflecting on the trends regarding the best relationship between human beings and the environment.

In this approach, when work with EE in the classroom can reduce environmental problems, because according to Barreto and Vilaça (2017) even Brazil, a country rich in natural resources, is already suffering seriously environmental problem that can only be mediated through education.

Meeting 2 – The students were divided into 5 groups and each group researched one of the actions described above.

Group 1 was left with the question “Describe the consequences of wasting water for the environment and living beings”. Before of the general analysis of the assignments, it is possible to show that some of the consequences of this waste is the lack of water in various world locations, since the amount of fresh water available on the planet is smaller than salt water. As well as causing a water crisis, especially in dry times, in addition to the reduction of water supply and less availability of water in water reserves. The children emphasized that without this natural resource there would be no life on the planet, because almost all human activities involve the use of water.

Group 2 was left with the question “What is consumerism and what are its consequences for the environment and living beings”? Before of the answers, it is understood that consumerism is the excessive consumption of unnecessary products, that is, buying over and over. The result is mass production of garbage, general pollution, environmental degradation and devastation. Thus, the ecosystem is going to be destroyed.

Group 3 was left with the question “Give the meaning what is burned and what are its consequences for the environment and living beings”. According to the observations of the group, burning is a practice to clean the land with the use of fire naturally or by human being action, resulting in the destruction of biodiversity, global warming and health problems due to smoke and polluting gases emitted.

Group 4 was left with the question “Explain what deforestation is and what are its consequences for the environment”. According to the children's observation, deforestation is understood as the removal of vegetation from a specific location, triggering problems such as climate change, natural destruction of many species, loss of biodiversity that collaborates to the extinction of animals (imbalance in the food chain) as it happens the destruction of natural habitats. The text emphasizes that today the biggest concern is the deforestation of the Amazon rainforest.

Group 5 was left with the question “Give the meaning what are pesticides and what are their consequences for the environment and living beings”. According of the analysis of the answers, it is understood that pesticides are chemical products used to combat/kill pests such as fleas, ants, and caterpillars. Its disorderly use can cause soil, water, and air contamination, reduce soil fertility, affect biodiversity, in addition to many diseases due to intoxication, such as main cardiac arrhythmias, cancer, respiratory allergy, pulmonary fibrosis and others.

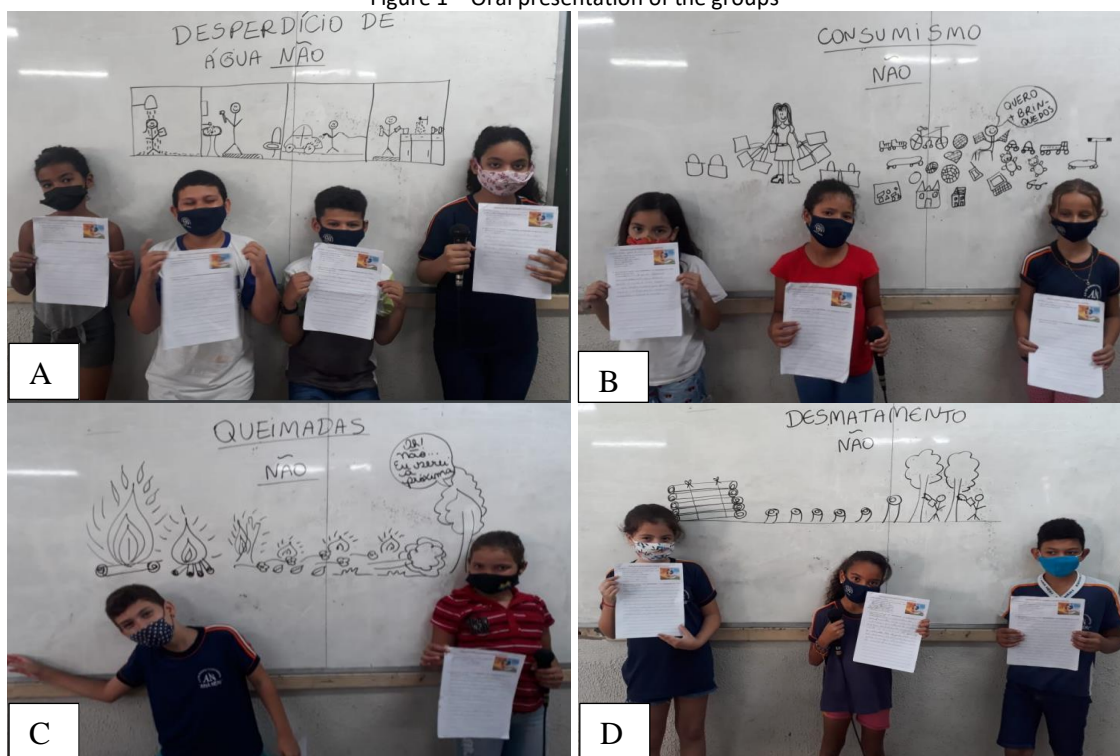
In this approach, it is important to emphasize that in the past natural resources seemed unlimited and the consequences of anthropic action could only be felt locally, but now these actions go beyond local limits, and thus the problems that they have been causing in global terms for the nature and humanity (BARRETO; VILAÇA, 2017).

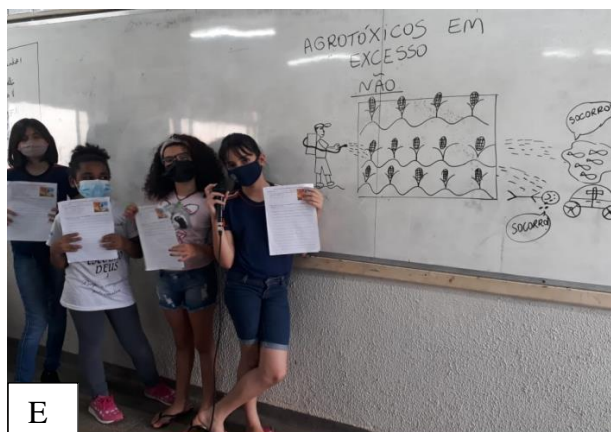
At this point, retaking to the questions answered by the students, it was seen that by researching and reflecting on the consequences of inadequate human attitudes towards the environment, they were able to understand that each one does his/her duty in the world so that it does not harm others, after all, unsuitable practices of an individual in nature causes damage to everyone and not only to those who practiced it, because there is an interrelationship between everything and everyone: society-nature. Therefore, “it is of great importance to understand that the real meaning of learning environmental education is based on the relationships that we produce between us, other living beings and with everything that surrounds us in the environment” (DEMOLY; SANTOS, 2018, p. 11).

According to the authors, the observation “of the way we coordinate behaviors in the environment, how we act and do things, from the smallest to the grandest, tells us how much we feel as an integral part of the environment and how we understand the interdependence among living beings” (DEMOLY; SANTOS, 2018, p. 02).

Meeting 3 – When students given their written work to the teacher, they went from group to group to the front of the classroom for an oral presentation and debates on the theme researched. Figure 1 illustrates the moment when the groups were presenting the referred assignment.

Figure 1 – Oral presentation of the groups





Source: Data collected during the experience (2021).

As can be seen in Figures 1A, 2B, 3C, 4D and 5E, for each exposed (presented) theme, the blackboard in the classroom was representing this theme through drawings that were produced by the students. It is important to say that the idea of creating the drawings came from the students themselves.

In these presentations, students socialize each other's. They were singular and indispensable moments for the development of critical thinking, since it is through dialogue, debates, exchange of ideas, search and reflection that criticality develops. In this context, Tavares, Sousa and Santos (2018, p. 14) emphasize that “the Federal Constitution treats education as a right for all and a duty of the State, and Environmental Education must be based on critical and innovative thinking”.

In this stage, some students were shy at most times of the presentation, others were more resourceful, but with the help of the teacher, all they were able to present, expose their knowledge and participate with their ideas and opinions.

Meeting 4 – Each student created their parody based on lyrics from an existing song, which it had the aim of “sensitizing people about their actions in nature”. When the parodies were analyzed, some of them went off the theme, other students did the parodies in the form of text, some did not give back it, but among all the participants, 16 students produce the parodies with the following titles: Bullet Train from Planet Earth; The consumerist *patricinha* (who consumes too much) became a conscious citizen; Zero consumerism; Fall falls destruction; Before and after Planet Earth; Fight for the planet; Lack of water; Preserve to live; Conscious practices; The world is sick; Preserving nature; Take care of our home; Garbage on the floor; Plants cry; More awareness and less garbage; and Turn off the faucet.

In a general analysis, the parodies produced bring messages about important care that human being must have with the environment such as: to stop burning, stop deforestation, consume less, plant tree seedlings, buy few toys, throw garbage in the trash, turn off the faucet in daily activities, etc. Thus, the authors Tavares, Sousa and Santos (2018) corroborate by saying that one of the objectives of Environmental Education:

is to promote social transformation, since it does not only happen within schools, but in all places of the society and can occur individually and collectively with the purpose of making citizens more aware that can care

about global problems, observing their causes and interrelationships from a systemic perspective, in their social and historical contexts (TAVARES; SOUSA; SANTOS, 2018, p. 14).

In point of view of the authors' thinking, it can be understood that EE aims to make conscious citizens, therefore, students, when the students created the parody, developed aspects related to citizen awareness, which can be identified in their words.

In this same line of thought Matos, Batista and Paula (2020) highlight that EE can contribute to the construction of responsible and integrated thinking and to an ecological awareness through new ways of acting and interacting with the environment.

Meeting 5 – After producing the parody, in this step each student read it individually using the microphone in front of the classroom. For the evaluation of the parodies, 4 students were invited to be jurors of the contest, where each jury voted from 0 to 10. At the end, these scores were added up. Therefore, 5 students were finalists and again another 4 students were called to be judges and give their grades, where the following scores contained in Table 1 were obtained.

Table 1: Score of the five finalists in the parody contest

Students	Jury note 1	Jury note 2	Jury note 3	Jury note 4	Score
A4	7	9	5	10	31
A5	9	10	9	10	38
A1	9	10	7	9	35
A2	10	9	9	9	37
A3	9	9	8	10	36

Source: Prepared by the authors according to the data collected in the survey (2021).

In point of view of the table above, it was can seen that the three best scores are A5, A2 and A3, respectively. Consequently, they were happy and excited to get win the contest. However, the teacher congratulated the other participants for their dedication, creativity, imagination, and ability to create parodies.

It should be emphasized that due to the limited space, it has been transcribed in Table 2 only one of the parodies created by the students, which is produced by A5, in this case, the winning student of the promoted contest.

Table 2 – Contest winning parody

Song Name: Fall fall Destruction!!! (Adapted from the song Cai Cai balão!!! Fall fall ballon)
Fall, fall burn... Fall fall degradation... If not now, it will be the biggest problem.
Fall fall deforestation... Fall fall devastation... We are not going to let the planet fall down.
Fall fall consumerism... Fall fall trash... A world without pollution.
Fall fall use of pesticides... Fall fall intoxication... For a planet without contamination.
Fall fall waste of water... Fall fall lack of awareness... Everyone must act like responsible citizens.

Source: Prepared by A5 (2021).

According to the jury, this parody was considered one of the best for having rhyme and meaning at the same time and for include various topics such as those studied in the classroom.

Meeting 6 – By the kahoot application, students answered a quiz with 12 questions related to the actions debated since the beginning of the SD. For this activity, they took their cell phones to school as can be seen in Figure 2.

Figure 2 – 4th grade students at the moment of the quiz with kahoot



Source: Data collected during the experience (2021).

In Figure 2, It is verified that some students did not have a cell phone. In this case, they joined those who had a mobile device so that they also participate in the activity. It is observable that some students had problems with the internet signal and were unable to participate in the experience.

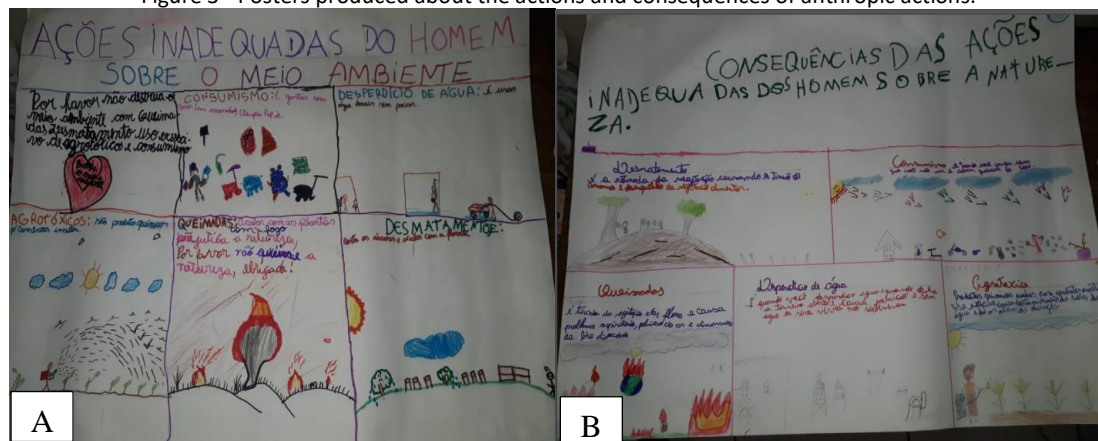
After the students had answered the quiz, the application showed a final report, which in this case pointed to a total of correct answers greater than 50%, thus showing that the students were able to understand the subjects covered in the classroom.

During the use of the *kahoot* application, the joy and engagement of the students were noticeable for playing while studying and learning. In this way, it shows that games and other differentiated methods emerge as great allies in the teaching and learning process of a specific content such as EE, after all, technology and games are part of the social reality in this 21st century.

For Tavares, Sousa and Santos (2018) Environmental Education can be approached in different ways at school, like this the teacher can use different methodologies and creative methods to obtain greater attention and participation from their students.

Meeting 7 – With the students separated into two groups, one produced a poster about the concept of every unsuitable human action on the environment (FIGURE 3A), and another about the consequences of these actions (FIGURE 3B).

Figure 3 - Posters produced about the actions and consequences of anthropic actions.



Source: Prepared by students of the 4th year of Elementary School (2021).

For the elaboration of the posters represented in Figures 03A and Figure 03B, they were reused the back of other posters already displayed on the school walls that would go to the trash because they had old information, so the students and the teacher did not produce more materials, that is, more garbage in the world.

According to Matos, Batista and Paula (2019) the study of Environmental Education is presented as something extremely relevant as it becomes an exercise to stimulate environmental awareness, in the pursuit of sustainability. In this logic, when the students had the attitude of reusing materials, in this case another poster, they practiced sustainable actions, thinking about the good of the planet.

Adding to these debates, the teacher must be as an agent of social transformation and reflectively work to modify reality through the development of values. However, to happen, the teacher needs to look for different alternatives, such as building something that sensitizes people and doesn't just stop at traditional constructions. One of these alternatives for raising awareness is the production of posters in a group that allowed taking the knowledge learned to other people outside the classroom (TAVARES; SOUSA; SANTOS, 2018).

Finally, it is important to point out that when the students drew on the posters, reproduced drawings stereotyped by society, such as “pompom-shaped” trees and coconut palms on beaches. A next assignment to be developed with the students will be related to the aesthetic aspect of these productions, of observation of natural reality, deeping into the details, paying attention to the tree species and coconut trees existing in specific places, the types of trunks and leaves, among other elements.

FINAL CONSIDERATIONS

It was concluded from the results that the students acquired important knowledge about EE, because they understood which anthropic actions can harm the environment, as well as their consequences for nature and the life of the population.

In general, there was effective involvement of the students in the proposed activities, except the parody in which there was little participation (in a total of 27 students, 11 did not participate), as well as they were protagonists of their learning, given that they researched, wrote, created and they debated with good arguments the issues raised during the classes, also allowing other colleagues to speak and give their opinions.

Finally, it is hoped that this proposal can contribute to future pedagogical practices aimed at Environmental Education and this work is intended for all people who are interested in a better world, making people aware of their actions in the environment, especially for teachers who can work directly with children and teenagers in crucial stages of human development.

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