Study of the environmental ecological environment: perception of children and young people of the schools from Obligado District, Department of Itapúa

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Abstract

For proper management and care of the environment in a citizenry, the implementation of education from an early age is necessary. Environmental education from its beginnings, when only general concepts about the environment were talked about, until today, with the influence of sustainable development, was intended to help the proper perception of the environment in people, for which we must become aware, besides transmitting to children and young people good practices that influence their daily lives and that constitute a way of life. From the study carried out, it is intended to reflect the perspective in knowledge, management, sensitivity and behavior relating it to environmental issues. Through the use of a mixed type survey, the sample under study was questioned about the level of knowledge about the environment resulting in regular knowledge, at which water and air were presented as an aspect of greater interest as a component environmental. Aware that there are environmental problems at different scales, more specifically, at regional level, environmental pollution is categorized in a first order of importance. Information about the environment is perceived to a greater extent through the media and even to a greater extent through television.

Keywords: Environment. Basic education. Environmental education. Environmental perception.

Introduction

One of the challenges facing environmental education is to imply the importance of discernment towards the environment, the ecosystem, and thereby contribute to the formation and training of young people and children, managers, planners and people in charge of making decisions, facilitating understanding, orienting their values and behaviors towards a harmonious relationship with nature. Another challenge in the social sector is radically transform the management structures and redistribution of natural resources. Both issues constitute true referential axes when talking about sustainable development.

Environmental education is undergoing changes in its terminology, focused on the dimension of sustainable development and, more specifically, on the problems involved with development. It focuses not only on formal and non-formal education because it is outside the school environment, but also on a deeper study of the relationships involving environmental quality, ecology, socio-economic factors and political trends, through a holistic view of problems (CARLSSON; MKANDLA, 1999;

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TILBURY, 1995), instead of achieving behavior modification, the purpose of previous versions of environmental education terminology.

Breiting (1997), Calvo and Franquesa (1998) and Curiel (2001) establishes the objective of environmental education to develop in students the training for action, that is, the use as a reference framework for democracy, as well as dialogue, negotiation and consensus to resolve conflicts by affecting, especially, the participation of individuals in these procedures as an essential part of their training.

Behaviors focused on changing the paradigm of environmental education are considered a way of rethinking our relations with the biosphere, at the same time as an instrument of social transformation (NOVO, 2009). The globality and depth of the sustainable challenge requires the participation of everyone, in particular, of people who in the future can make decisions. It takes entrepreneurs, scientists, engineers, lawyers, pedagogues, who can provide solutions to sustainability problems in their jobs and in their competence framework (MARTÍNEZ; AZNAR; ULL; PIÑERO, 2003). Since the Belgrano Conference (1975), it was established that environmental education involves a permanent process in which individuals and the community become aware of their environment and acquire the knowledge, values, skills, experiences and determination that will allow them to act individually as collectively in the resolution of present problems as in those that will come in the future.

Caride Gómez (2017) mentions that an investigation in environmental education is, by its very nature, necessary and inexcusable, built on the scenarios that pedagogical knowledge enables in its convergence with knowledge in the social and environmental field, and should be reflected in the conceptual frameworks, epistemological, theoretical, meteorological, academic etc. Environmental education reveals the predominant relationships of the human being with the environment, the causes of environmental problems and their possible consequences (FLORES, 2012). Andrade Frich & Ortiz Espejel, 2008, suggest that through environmental education research, environmental development and management models can be established. Thus, at present, there are some changes in the terminology of this discipline, so that it includes in greater depth the dimension of sustainable development.

Compiled for the first time in the report of the World Commission on Environment and Development (1987) (UNESCO) called Our Common Future, the union of education with sustainable development. However, as the changes in terminology point out, in many cases, they do not help but rather generate new confusion, shifting attention to what is really important in the new currents of thought. It should also take into account the internal environment of the person, such as the psychobiological factors of each individual and the external environment, which covers the natural environment, the social environment, that is, the organization of social groups and the artificial or technological environment that designates all the things invented by the human species (CURIEL, 2001). Passing the terminology from an ecological perspective to have an integral vision between social and nature.

Flores (2012) recognizes that environmental behaviors are not explained in themselves, but within the socio-cultural context in which they occur, making it possible to identify the opportunities offered by interaction and school or non-school work, as well as the types of restrictions that imposes, with its classification and social rank, being some of its characteristics:

- The articulation of environmental aspects with educational aspects;
- A complex object of study, with its concept of integral environment (natural, social and built);
- The questioning of the practices that give rise to environmental problems;
- The search for comprehensive and holistic answers.

On the other hand, Ramos (1992) cites that the work derived from educational research determines the pedagogical conditions, the modalities of intervention of the teaching staff, the most effective procedures for the assimilation of knowledge and the modification of concepts, values and attitudes of the public, however, since environmental education is the objective, it is constituted by the relationships between environmental and educational aspects. For some researchers, their borders are not so clear, because of the different biases addressed, for example, the ecological or the anthropogenic, causing confusion once again, such as focusing attention on conservation practices, which, although it corresponds to a perspective in education environmental, it does not constitute this type of education by itself (FLORES, 2012).

According to Morin, (1999), education is impossible without a reform of thought that leads to a true process of apprehension of man as a complex subject who thinks, feels, knows, values, acts and communicates. This principle is also valid for environmental education, at which technological information and communication strategies were also used for environmental education.

It is a priority that contemporary societies facilitate the feedback of environmental education with the needs of the communities in which the school is inserted. It also represents an opportunity for environmental education to reach its inhabitants, collaborating in the understanding of their problems and in the search for answers, as an alternative to environmental problems; in the community, you can develop educational actions that people tend to participate actively and self-organization to manage possible solutions. Salgado-Carmona and Sato (2012) mention that education linked to the community promotes respect for biological and cultural diversity so that societies strengthen and resist a capitalist model that devastates the relationships of human beings with each other and with their environment.

Through the link between the school and the community, it is intended to give value to the cultures of the communities, by promoting recognition of their identity and their relationship with others and the natural environment. Rodríguez and Hernández (2012) also demonstrated in their research that through environmental programs made up of concrete and viable actions, designed and executed by the students themselves, environmental problems of the school, community, where they stood out, can be mitigated; at school, the environmental actions in a fun and pleasant way; in the community, there are greater responsibilities for the commitment they assume with the population and the authorities, generating values of responsibility, maturity, discipline and companionship for the care of the environment of their community . Agro ecology projects are also presented, such as community gardens, where the promotion of critical awareness regarding consumption, as well as healthy eating. Where it is committed to an integrative environmental education that contemplates the union between disciplines and knowledge; theory and practice; epistemology, politics and ethics; actors and sectors; the local, regional and global; as well as past, present and future.

Flores (2012) thus concluded that environmental education and research in environmental education will help to see environmental problems differently, without directly solving them, but generating information that promotes knowledge for the transformation in the relationship of human beings with their environment.

Perception is not necessarily supported by a neutral way of contemplating the world, certain problems must be privileged over others with varying degrees of importance influenced by interests and power relations. By means of the observation, reality cannot be distorted, so the study of perception is very important (FLORES; REYES, 2010).

In their research, Montaño and Conde (2012) studied the perception of environmental problems

in the city of Arauca, where they investigated the assessment of the surveyed group among a youth group and an adult group, both groups received information from different sources on environmental issues, highlighting there are environmental problems, but there is a lack of tools to help valuing the environment, hence the need for more conscious citizenship forms of a more reinforced basic education towards the environment, educational campaigns, trainings, and encouragement of education. Environmental management in the rulers, fines and sanctions increases natural areas, respondents mention that the main problems in the region are related to the oil industry (region where these industries are located), garbage pollution, burning of garbage and pollution of rivers between the four most mentioned, also mentioning the influence of the media that can help generating education and awareness, focusing on those surveyed studies and TV as a means of influence.

It is stated in articles of the same nature that the educational instance is not having an effect on the attitudes and beliefs of the students (MONTAÑO; CONDE, 2012).

To achieve the stated objective, the study has been classified as a non-experimental and descriptive design. Based on the above, the objective of this research was to evaluate the ecological-environmental perception of children and young people from schools in the Obligado District, Department of Itapúa, in order to determine their vision towards their environment and their perspective towards the future in relation to the environment.

Materials and methods

The investigation was carried out in the Obligado District, Department of Itapúa, Paraguay, in schools that have the third cycle of basic schooling, which corresponds to a total of eight schools. In four of them, the surveys were selected for their location or distribution, three urban and one rural, being one of the urban private-subsidized and the others public institutions. In the country, there is no instance of study and approval of this type of analysis. The research does not respond to the biomedical field and does not imply any risk. Therefore, the work and consequently the questionnaire applied, as it was not invasive, did not require going through an Ethics Committee or similar for its application. However, the instrument was developed strictly based on the objectives set in the investigation and made known, considered and consented to by the educational authorities of each institution under analysis.

The population under study, to which the survey was applied, was the third cycle, students age 12 to 15 years old from 7th to 9th grade, with 40 students in their entirety. The general data of the institutions surveyed are detailed in Table 1:

Table 1 – Data of the educational institutions surveyed

Institution Nº	Number of students in the third cycle	Sector	Zone
Nº 1106	180	Priv. Subsidized Urban	Urban
Nº 4083	65	Publica	Urban
Nº 644	116	Publica	Urban
Nº 1426	82	Publica	Rural
Total	**443**	**-**	**-**

Source: Elaborated by the authors (2019).

The methodology adopted was through the non-experimental and descriptive method, through the formulation of a mixed survey (closed and open), with general consultations on the perception in the environmental field, which helped evaluating the assessment of environmental care and its importance in ecology, its care etc. The survey consists of five sections and their respective questions:

- Environmental
- knowledge:
  - Knowledge of the word environment.
  - The degree of knowledge.
- Environmental perception.
- Selection of ecosystem components and their level of importance.
- Importance of environmental balance.
- Existence of environmental problems in the country.
- Environmental situation in the country.
- Environmental situation in the region.
- World environment situation.
- Level of impact of environmental problems.
- Environmental management.
- Access to information about the environment and its problems.
- What are the main environmental risks at the country level?
- Whom does the treatment of environmental problems correspond to?
- Worldwide, impact on environmental problems.
- Environmental sensitivity.
- Compliance with global warming forecasts.
- Human activities impact the environment.
- It is time to enhance positive changes.
- Level of impact on the environment of the aforementioned activities.
- Incidence of activities mentioned when raising awareness.
- Environmental behavior.
- Description of the environment in which one lives.
- Draw how you see the environment in the future.

The first four were multiple-choices questions, and the last one open-ended; among them, it was requested to describe how they observe the future of the environment, emphasizing their perspective on it. Quantitative and qualitative approaches were taken for data collection and analysis, the data is presented in graphs, weighting the results obtained.

For the multiple-choices questions, the following options were taken into account, each one amounts to:

0 = Never - Bad - No	1 = Fair (enough)	2 = Fairly	3 = Very much – Excellent

Results and discussion

The survey was conducted on 40 students, in order to obtain a general database on their knowledge, perception, management, sensitivity and their environmental behavior. In environmental issues, new knowledge is being generated, and it is very important to emphasize the assessment of the environment and its care since adolescence, thus facilitating the incursion of good practices related to environmental care. When asked if they know the word "environment", 72.5% answered "quite a lot", 15% "regularly" and 12.5% "a lot", which should be taken into account. In general, it was observed that these students are considered poorly informed, however, it can be stated respondents know, in this age group, a basic approach makes it easier for them to learn new concepts and also become active in caring for the environment, therefore, it can be inferred the country has issues related to the environment in its study program for the years surveyed.

Regarding the consideration related to the degree of understanding of the knowledge of environmental issues, the students responded that in 67.5% they are considered quite informed, 27.5% regular and 5% think they know a lot. These data were considered sufficient to point out how they perceive their understanding in relation to environmental issues, being they aware that they need to learn more and more, since they are at the beginning of their educational stage.

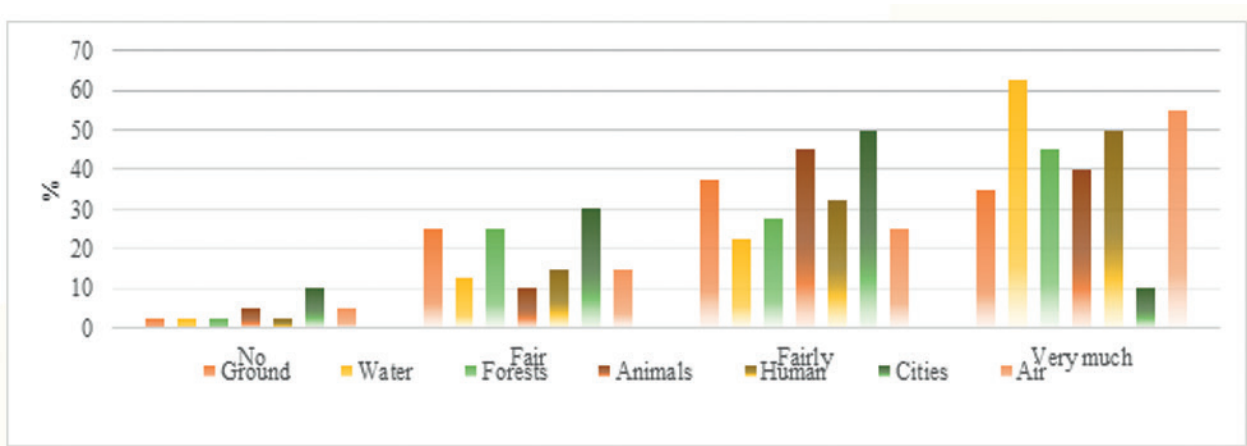
In the beginning of every person´s learning process, at schools, basic skills are instilled. In the early stages, it is important to promote a good perception even more, if one takes into account issues related to natural sciences.

In initial stages of the formation of a student, they are conceived with the basic competences, at which they also play the first impressions towards their environment.

Perceptions are the first awareness of something through the impressions that communicate the senses, which are focused on the second part of the survey; as mentioned by Vázquez and Elejalde (2013), a very important part of Environmental education and awareness is the perception of a person in understanding and making a judgment about environment care.

When asked about the level of importance of some items related to components of an ecosystem, water (62.5%) and air (55%) took first and second place, being able to interfere with this criterion campaigns environmentalists always address, followed by humans in third place, with 50% in order of importance, as it can be verified in Figure 1.

Figure 1 - Level of importance of items of ecological components

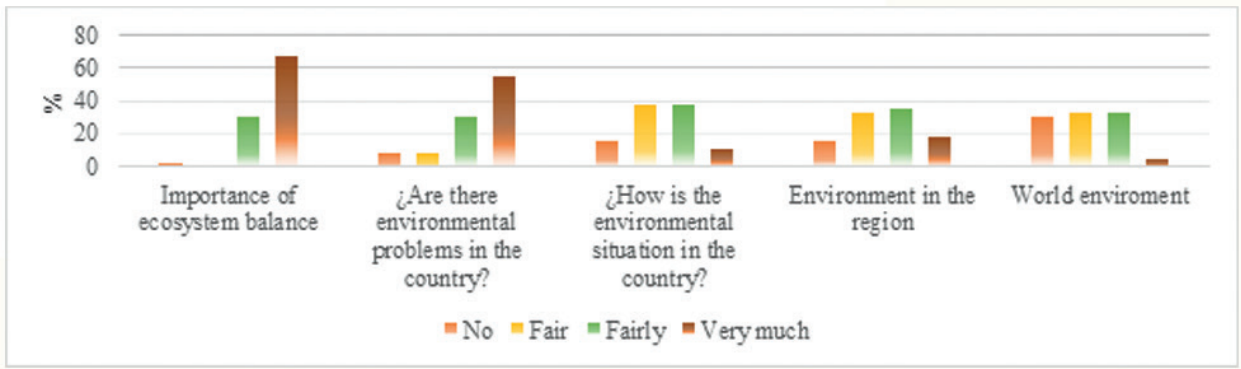


Source: Elaborated by the authors (2019).

Regarding whether the environmental balance is important, about 70% of the students considered it very important, in accordance to what mention Carlsson and Mkandla (1999) and Tilbury (1995) on growth related to what is sustainable development, which is increasingly applied in environmental education in schools, venturing into the Paraguayan basic education program.

More than half of them stressed that if there are environmental problems in the country, and that there are many, those are considered regular when comparing their region with the rest of the country, which is also seen as regular. At the global level of the environmental situation for the respondents, it is perceived as bad taking into account all these questions. The students see and evidence the existence of environmental problems in the world, country and region, and they are aware of these, being of utmost importance, as mentioned by some authors, the capacity for action is part of the objectives of environmental education (FIGURE 2).

Figure 2 - Environmental perception



Source: Elaborated by the authors (2019).

Following, there were some common environmental problems found worldwide, at which respondents were asked to give their consideration on the level of importance of these in the region they inhabit. At this point, it could be observed that more than half considered much, giving importance to environmental pollution (45%), high poverty rate (25%), lack of a roof or decent housing (22%), low level in education (22%), and social problems being considered of less importance (17.5%) when compared to other considerations, in general all environmental problems were classified (FIGURE 3).

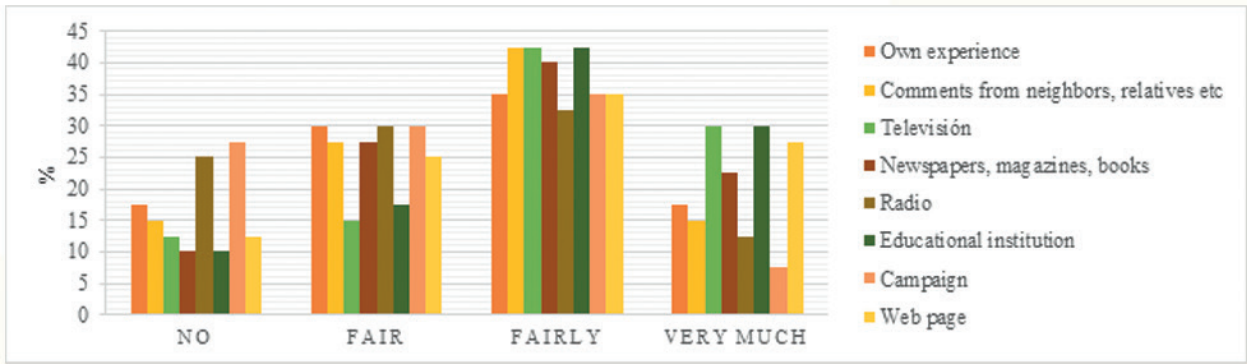
Figure 3. Level of importance of items for environmental problems.

Source: Elaborated by the authors (2019).

Another question was related to whether they considered there could be a solution to the environmental problems mentioned in the previous questioning, 75% considered it as enough or a lot of the possibilities of being able to reach a solution, being important this positivism is already part of the way of knowing one can get there if they get involved.

When asked about where or how they came to access information about the environment and its problems, they responded that some sources mostly on Television and through the Educational Institutions; in order of importance and less valued, the specific campaigns related to environmental issues (FIGURE 4). These data also met the findings of Montaño and Conde (2012), in which study, institutions and television were also highlighted, hence their influence over general education.

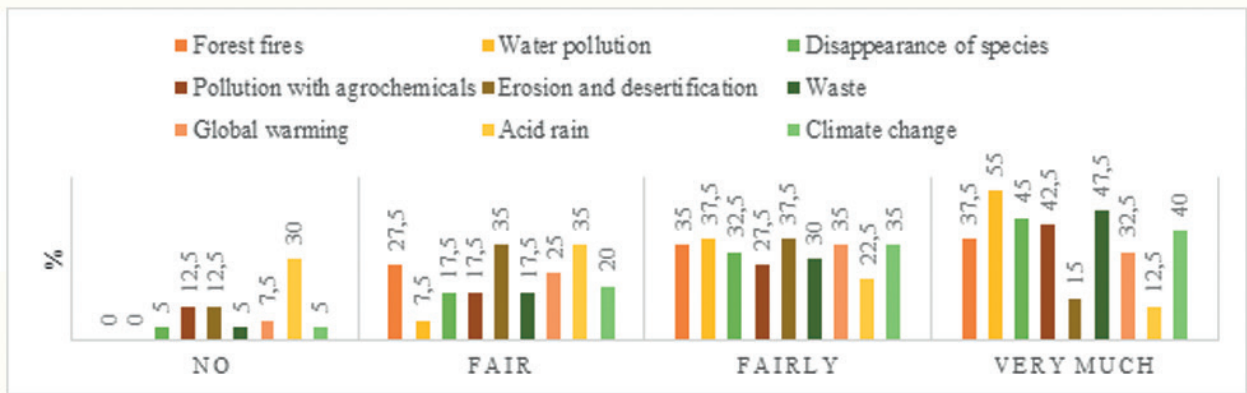
Figure 4 - Source of information.



Source: Elaborated by the authors (2019)

Regarding some environmental problems that are frequently heard, they were asked to assess their importance at the country level, and greater percentage of importance was recorded in the contamination of water, waste and the disappearance of species and to a lesser extent the acid rains, however, these types of rain were not yet registered in the country, these results being reflected in Figure 5. In relation to what was observed by Montaño and Conde (2012), to the people interviewed for water pollution and for the management of the waste, these issues can be related to the different campaigns focused on those issues.

Figure 5 - Assessment of environmental problems.



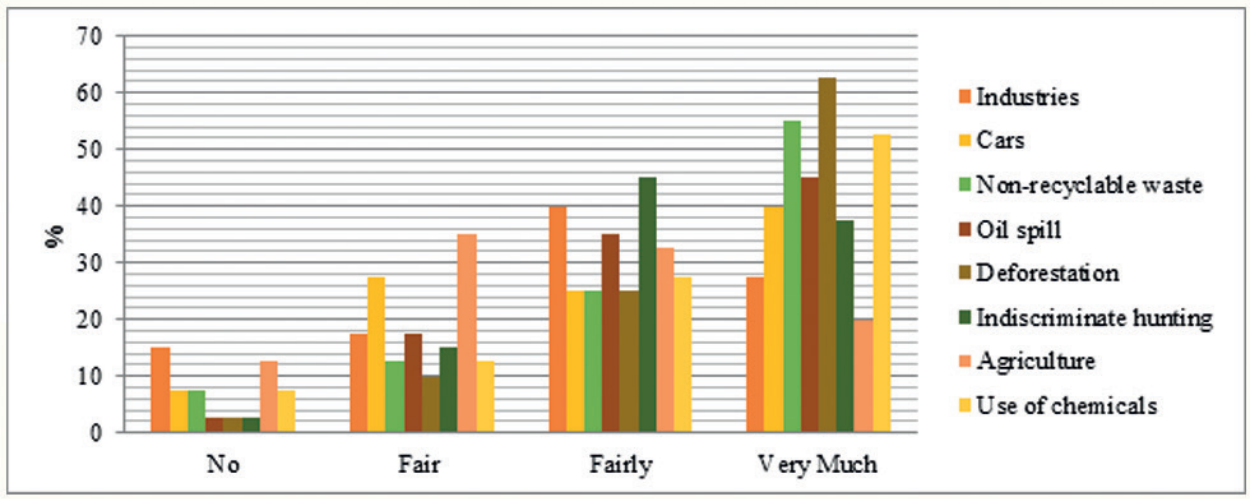
Source: Elaborated by the authors (2019).

Regarding environmental sensitivity, the students pointed out the following aspects: if they would come to believe that global warming forecasts would be fulfilled, 73% responded “quite a lot”.

Likewise, when asked about whether human activities produce environmental impacts on the environment, they answered yes, and that they are aware of it, but they also said there is time to make changes to improve the quality of life, showing optimism with the positive change.

As Figure 6 shows, when consulting the activities that destroy the environment most, deforestation, non-recyclable waste and agrochemical waste were valued with a higher score, and the industry is less valued, and may be due to the environment where these students find each other.

Figure 6 - Level of influence of environmental problems



Source: Elaborated by the authors (2019).

On sensitization, for which some activities were mentioned, it was shown that, through penalties for infractions, people would be influenced to a greater extent, and incentives were mentioned to a lesser extent. Among the most popular topics mentioned and observed in Figure 7, the most valued were the use and contamination of water, recycling and deforestation and, among the least mentioned, the defrosting of the polar caps.

Figure 7 – Assessment of environmental issues

Source: Elaborated by the authors (2019).

The influence of environmental education on the awareness towards the management of natural resources by people was positively valued. It is very important that the information reaches the whole community, since it is the most effective way. Secondly, politicians and administrative authorities are most likely aware of their importance and influence in decision making in the community.

When dealing with the subject on which one is interested in inquiring and on the opening of conducting conversations in a way to deal with the subject, 75% of respondents said that in particular they would be prone to initiate conversations.

Regarding the behavior of the respondents for their environment, through the general analysis of the responses, it was shown that 60% of the respondents are not in accordance with their environment, where pollution, excessive garbage and lack of conscious and collaborative people. 30% said they were satisfied, but with things to improve. They were also asked to make a design to see how they investigate or visualize the future of the environment, 70% of the respondents referred their future from a negative perspective. Destruction of biodiversity, cleaning and garbage were the most cited issues.

Conclusion

Through the students' perception of environment, the need for a basic education can be perceived, which cannot be isolated. It should be known that it is necessary for society to participate in order to reach an outcome, focusing on the use of technology and always making it clear that we are all part of the environment, being each other's attitude important. There is influence of informal education, mainly through television channels, which have a broad effect and influence children and young people on the prevention and care of the environment, however, with a tendency to always present negative aspects and not the positive advances that are achieved. When some results of the surveys were analyzed, a certain contradiction was perceived, they expressed, on one hand, hopes of change in the face of the current situation related to environmental problems; however, in their designs, the future is presented in a negative way, indicating there is uncertainty or fear, but there are anxieties for a better future. Naturalist campaigns focused on waste management and reforestation positively influence the sensitivity of children and youth. In a second stage of the investigation, it is intended to carry out a series of usual activities in awareness campaigns, aiming to establish the best approach to be considered in formal education.

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Estudio del ámbito ecológico ambiental: percepción de niños y jóvenes de las escuelas del Distrito de Obligado, Departamento de Itapúa

Resumen

Para una adecuada gestión y cuidado del medio ambiente en una ciudadanía, es necesaria la implementación de educación desde edades tempranas. La educación ambiental desde sus comienzos, cuando solamente se hablaba de conceptos generales sobre medio ambiente, hasta hoy, donde con la influencia del desarrollo sustentable se pretendió ayudar a la percepción adecuada del medio ambiente en las personas, para lo cual se debe tomar conciencia de ello y transmitir a niños y jóvenes buenas prácticas que influyan en su cotidiano y que se constituyan en una forma de vida. A partir del estudio realizado, se pretende reflejar la perspectiva en conocimiento, gestión, sensibilidad y comportamiento relacionándolo con temas ambientales. Mediante la utilización de una encuesta tipo mixta, a la muestra objeto de estudio, se le cuestionó el nivel de conocimiento sobre el medio ambiente dando como resultado un conocimiento regular, donde el agua y el aire se presentaron como un aspecto de mayor interés como componente ambiental. Conscientes de que existen problemas ambientales en diferentes escalas, más específicamente, a escala regional, la contaminación del medio ambiente es categorizado en un primer orden de importancia. Informaciones sobre el medio ambiente son percibidas en mayor medida a través de los medios de comunicación y en mayor medida a través de la televisión.

Palabras–clave: Medio ambiente. Educación básica. Educación ambiental. Percepción ambiental.

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