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Good environmental practices to develop environmental awareness in basic education students

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Abstract--The research entitled Good environmental practices to develop environmental awareness in basic education students, the purpose of the research was to determine the influence of good environmental practices in the development of environmental awareness in regular basic education students. The research is developed under the positivist paradigm, type of applied study, hypothetical-deductive research method, quasi-experimental experimental design, the dependent variable was environmental awareness that was measured through a questionnaire with four conative, affective, cognitive and active dimensions, the sample consisted of 124 students of basic education secondary level. For the results, the U-Mann-Whitney = 255,000 was used; $z = -8,336$ and $p = 0.000$. It was shown that the program of good environmental practices improves the environmental awareness of high school students in regular basic education, therefore it is concluded that environmental awareness goes far beyond nurturing knowledge, feelings, behaviors or intentions, as isolated elements. , it requires a structuring process

that favors its persistence over time and is reflected in development and social action.

Keywords---good practices, environmental awareness, students

Introduction

The environment is now a fashionable topic because it is of great importance, the natural resources of the planet, among which we can mention air, water, land, flora and fauna, must be preserved for the benefit of present and future generations, through a careful planning and sustainable development. According to Yan et al. (2018) sustainable development not only demands the sustainability of natural resources and the environment, but also emphasizes sustainable human well-being and the happiness of residents. In addition, Cayón and Penalete (2011) stated that environmental problems occur on the planet even in small populations in immediate environments such as home, school and the need to work on raising awareness of environmental care.

Peru is in third place worldwide as one of the places most vulnerable to climate change, in which there are multiple problems such as increased deforestation, illegal logging, as well as extractive activities; Added to this is the growth of illegal mining in several regions, which puts the millions of hectares of forests in Peru at serious risk and is considered a threat (De Echave, 2016).

The multiple climates and ecosystems in Peru and the great challenges to conserve and manage them properly require research on environmental issues to solve immediate problems, in environments like ours that have abundant biological wealth, where there is a need for population growth and economic development, these problems, which cause all kinds of imbalance, must be addressed more seriously. That is why in different countries there are institutions that are in charge of solving some problems, in Peru there is the Ministry of the Environment, which is responsible for encouraging the care of our ecosystem and letting the entire civil society know the rules regarding environmental issues, as well as the use and treatment of ecosystem resources in a sustainable manner.

According to the Ministry of the Environment (MINAM, 2019), published in the Peru Mega Diverse bulletin in its first edition, that there are a large number of countries that have achieved good results with respect to caring for the environment, this is thanks to the type of culture they possess. , it is important that the human being understands the meaning of caring for our environment, hence the question of talking about the environmental awareness of the human being, which leads us to carry out a detailed study to define more accurately the way of thinking about the aspect ecological of the person, from the different dimensions it will seek to explain human behavior with respect to the environment.

Environmental awareness is of great importance since it protects the environment and the elements that make it up, preserving ecosystems and their biodiversity. Therefore, children are instilled from an early age, where parents and teachers are

involved with the sole objective of helping them understand the importance of caring for the

Environment ; In addition, reverse the global environmental problems that are present and that weaken both the planet Earth and the quality of life

Human . Given the need to work on environmental awareness in universities and colleges and their motivation in this training, and the development of activities depends on the enthusiasm of the students, which allows them to achieve the desired transversal skills (Mediavilla et al., 2020) .

From this perspective it is recognized that the problem of awareness regarding the ecosystem refers to the knowledge we have of it, in his work Rodríguez (2018) mentions, the development of environmental awareness must be carried out in a formative way at home, school, universities where the training process is carried out through good environmental practices using awareness strategies on the importance of caring for natural resources, making good use of these resources, environmental awareness as a philosophy of life in relation to the conservation of the environment ambient.

The research is justified, in the theory of the social ecosystem for the environmental management variable, according to Hawley (1950) the system is the only way for the adaptation of the human being and other forms of life, it presents three transcendental proposals: adaptation, growth and evolution. For the variable environmental awareness with the green political theory, which makes use of issues such as justice, will, equity, citizenship or rights to which a green consideration is added but underlining the interdependence with the environment (Vicent, 2018) . The objective of this research was to establish the influence of good environmental practices in the development of environmental awareness in university students.

Complex thought theory

Complex thought is a method of constructing explanatory, objective, and quantitative human knowledge that guides towards a new rationality where the elements, the parts, of understanding the processes, the interrelation and the organization interweave the disagreement that causes order and uncertainty (Tobón , 2013). On the other hand, Pinilla and Aguado (2012) complex thought is a set of actions, interactions, events, precisions, chances, which constitute a difficult tangled, entangled phenomenon, of contradictions, chaos, disorder, ambiguity, order and uncertainty, for example. Human contradiction birth, death, hope and uncertainty, the simple and the complex, everything globally etc.

Ecological paradigm

This paradigm is structured thanks to the contributions of systemic and holistic thinking, but it is not separated from the interdependence of situations that occur and as creators of social environments, we are the main actors in being participants in the cyclical transformation of the environment (Capra, 1998) . Likewise, Suárez (2000) mentions the interrelationship that exists between the

paradigm and the school, including educational processes where the paradigm has a holistic view which will allow the change of the formative process, but from a qualitative perspective, whenever schools do not be reluctant to change and with that innovation.

Education from the point of view of the ecological paradigm, only brings with it change and innovation and leaves aside the ideas and constructs that carry generation after generation, but all change must start from the recognition of human interculturality, which is the starting point to have a different and better lifestyle not only thinking about current societies but also future ones (Zabala G & García, 2009)

Good environmental practices (BPA)

They are practical, useful and didactic actions to improve the environmental behavior of an organization. These actions can be aimed both at reducing the negative environmental impact of the processes developed by the organization and at enhancing positive environmental impacts (Raúdez Rodríguez and Siu Bermudez, 2015) . The BPs are replicable in other institutions and organizations as they emphasize the various strategies and pedagogical tools that have been validated as effective and that are promoted for implementation in the educational system (Nunura, 2021) .

Environmental awareness

Environmental awareness (AC) is a subject that is not used very often due to its complexity when putting it into practice, AC is related to ideas, habits and execution of activities that respect and benefit the care of the environment. The development of AC at an early age is very important, to form people of integrity not only with the care of their ecosystem but also in their daily lives as part of society.

For Gomera (2008) it is the knowledge that the human being has about the environment. It is the conviction of a group or an entire society that natural resources must be protected and used rationally, for the benefit of the present and the future of humanity. AC is the positive attitude towards the environment and appropriate behavior in that regard. Environmental awareness can be broadly defined as the attitude towards the environmental consequences of human behaviour.

La (CA), is defined as a set of experiences, experiences and learning that a person constantly uses in their relationship with the environment, deducing the existence of the subjective in the process of interaction with their environment (Febles, 2004) . While for Moreno et al. (2020) is the level of knowledge that people have about their impact on our natural environment

For his part , Díaz-Encinas and Fuentes-Navarro (2018) mention that AC is a topic that is rarely seen in socio-educational environments, we know the importance of the topic that, in the end, will lay the foundations for professionals in: Biology, ecology, environmental, and other related; In an educational context,

few attempts are made to develop AC in the educational community. In addition, it becomes an example of life where people strive to protect the environment (Díaz-Dumont & Ledesma-Cuadros, 2021)

Dimensions of environmental awareness

Cognitive

It refers to the group of ideas and knowledge on environmental issues, these ideas are acquired over time and in an already established space where people identify with a respective society thanks to cultural and environmental customs (Laso-Salvador et al. , 2019) . Likewise , Hernández-Vigil (2020) mentions that it is fully linked to the acquisition of conceptions, it is also understood as the degree of information presented by the student and finally if the student has an idea of the environmental policy and who are those in charge of protecting the environment. within your institution.

According to Gomera et al. (2013) cognitive environmental awareness explains issues that are considered to be related to awareness and behavior towards environmental values and beliefs. Within this dimension, it seeks to strengthen the reception of environmental information and the degree of knowledge in environmental matters.

Effective

It is related to the commitment of people to environmental beliefs, which are consistent with the improvement of the natural environment and awareness of the negative consequences on the ecosystem, (Hernández-Vigil, 2020)

In this regard , Moyano-Estrada et al. (2010) mentions that the affective dimension is responsible for collecting the feelings of concern of people with their environment, including the habits that are responsible for favoring the protection of the ecosystem. In this regard , Gomera et al. (2013) the affective dimension is the perceptibility to the damage caused to nature and adherence to pro-environmental capacities, where it is not only showing concern but also attention to the permanence of the world as we know it, thinking about its sustainability.

Conative

It includes the will to apply environmental regulations in the act, in addition to showing interest in developing some practices and contributing to improvements in the environmental field, in addition to having some environmental criteria in conduct, this is reflected in their interest in being part of the activities in favor of our environment, (Laso-Salvador et al., 2019) . According to Gomera et al. (2013) is the willingness of students to act with ecological criteria and to accept possible personal costs in order to improve the environment. In the same line Hernández-Vigil (2020) states that the conative characteristic is reflected when the student responsibly assumes a feeling of care for the ecosystem.

Active

It is the intention that a person has towards group and individual action and public behavior at a low and high cost, (Hernández-Vigil, 2020) . This dimension shows that the implementation of responsible ethical environmental practices and behaviors help to care for the environment. environment properly (Laso-Salvador et al., 2019) . According to Gomera et al. (2013) are the actions, individually or collectively, that lead to the implementation of responsible environmental practices and behaviors, including situations of coercion. The practice of ethical behavior links existence with behavior, either in a specific or related way.

Method

The approach is quantitative, hypothetical-deductive method, quasi-experimental experimental design, the manipulation of the independent variable was carried out through a program of good environmental practices where 16 sessions were developed, for the dependent variable the instrument of Gomera et al. (2013) consists of 20 items with four conative, cognitive, affective and active dimensions, an instrument validated with Cronbach 's Alpha 0.987 with a Likert scale, the study participants were two groups, a control group of 62 students and an experimental group of 62 high school students , those who signed the informed consent by parents and students.

Results

Description of results

Table 1
Distribution of levels of environmental awareness of the pre -test and post-test

Environmental awareness levels						
			Unaccepta ble	Average	Acceptable	Total
Control group	Pre	fi	54	6	two	62
		%fi	87.1%	9.7%	3.2%	100
	post	fi	58	4	0	62
		%fi	93.5%	6.5%	0%	100
experiment al group	Pre	fi	51	10	1	62
		%fi	82.3%	16.1%	1.6%	100
	post	fi	13	38	eleven	62
		%fi	twenty- one%	61.3%	17.7%	100

Table 1 in the pre-test of the experimental group shows that 82.3% presented an unacceptable level, 6.1% presented an average level and 1.6% presented an acceptable level of environmental awareness. In the post test of the experimental group, it is observed that 21% presented an unacceptable level, 61.3% presented

an average level and 17.7% presented an acceptable level of environmental awareness.

Table 2
Significance of before and after applying good environmental practices

ranks				
	Cluster	N	average range	sum of ranks
Cognitive awareness_Pre	Control	62	66.00	4092.00
	Experimental	62	59.00	3658.00
	Total	124		
Cognitive awareness_Pos	Control	62	39.04	2420.50
	Experimental	62	85.96	5329.50
	Total	124		

Test statistics ^{to}		
	Cognitive awareness_Pre	Cognitive awareness_Pos
Whitney U	1705,000	467,500
W for Wilcoxon	3658,000	2420,500
Z	-1,096	-7,301
Asymptotic sig.(bilateral)	.273	,000
a. Grouping Variable: Group		

In Table 2, the cognitive awareness of the control and experimental groups obtained a U-Mann-Whitney = 467.500 and $z = -7.301$. Likewise, $p = 0.00$ ($p < 0.05$); so the null hypothesis is rejected.

Discussion

The results showed that the good environmental practices educational intervention program influences environmental awareness significantly with a p value of 0.000. The results coincide with the study of García-Pereáñez and García-Arango (2020) where they conclude that the important thing is to generate CA in a context of the skills acquired in the professional field, their study is mixed with a cross-sectional experimental design, 121 students participated, it is concluded that with the data Obtained, the four dimensions of AC can be evaluated in a more pertinent way to then put into practice environmental policies but related to management and marketing to achieve a better education in sustainability.

Also Moreno et al. (2020) , conducted a study in Argentina, with the aim of validating the ranking of the sustainable development goals (SDGs) by adults and adolescents, as well as the degree of importance they give to caring for the ecosystem, including participating in initiatives in favor of the environment; It is concluded that in the adult population of the sample it is urgent to start with strategies in favor of the environment and include policies highlighting the SDGs from the perspective of protecting the environment. According to Hassan et al. (2010), environmental awareness has three concepts including motivation,

attitude and practice of sustainability awareness. Motivated by psychological factors and emotional forces, the intention to carry out a series of environmentally friendly actions is driven. According to the study carried out by Altin et al. (2014) environmental awareness refers to awareness of environmental issues and active participation in environmental organizations.

On the other hand Díaz-Encinas & Fuentes-Navarro (2018) the study concludes with the importance of knowing the environmental awareness but diversified in its four dimensions, thanks to this it is possible to reformulate the study topics and make the selection of the pertinent didactic methodologies to encourage environmental awareness in younger students with the idea of strengthening a more sustainable education in accordance with environmental problems. In the same line Diaz-Dumont & Ledesma-Cuadros (2021) in Lima - Peru , in their study conclude that there are significant differences in environmental awareness in the COVID-19 health emergency situation in students.

Another study that Vargas-Meneses (2021) reached the following conclusions that the descriptive levels were a predominance of the low level over environmental awareness, the inferential results were to highlight the importance of the methodological proposal and its significant influence on the development of environmental awareness in students because there is a clear difference between the control group and the experimental group in the pre-test and post-test achieving a significant increase in environmental awareness ($0.000 < 0.05$). In order to cultivate environmental awareness in students, it is necessary to encourage them from an early age through education, values, attitudes and behaviors that promote care for the environment. By instilling environmental awareness in a child, we are forming adults committed to being part of the solution and thus facing the serious consequences that its deterioration is causing on the planet.

According to Gomera (2008) it is necessary to highlight that it is the man with his actions who causes environmental deterioration, so environmental awareness must be awakened through education in people so that they incorporate it into their daily work in order to provide a solution. to environmental problems.

Conclusion

Good environmental practices improve the environmental awareness of high school students regular basic education of a public institution, environmental awareness is essential to overcome the current ecological crisis of the planet and that has as consequently the weakening of the quality of human life and of all living beings. Thus, is very important that this be implemented from the schools to promote a true teaching and culture in order to reverse the environmental problems that affect every day.

Environmental education is perceived as salvation for the conservation of the planet, achieving that the current generations seek environmental care, in this way we can strengthen environmental awareness, educators play a role main since they

must evaluate and redesign pedagogical and didactic strategies that enable the improvement of quality of life.

Environmental awareness must be developed in good practice from homes, since It will be the basis for dealing with the care that the planet requires, being aware that the classification and use of recyclable materials will be very helpful; since, there will be no need to use or consume the same product in large quantities, and that by discarding them they would no longer be part of the contamination.

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