

# ATTITUDES OF ENVIRONMENTAL BEHAVIORS IN STUDENTS OF AN EDUCATIONAL INSTITUTION IN CAJAMARCA, PERU

Lina Mayjoria Correa-Chicchón<sup>1\*</sup>, Teresita Del Rosario Merino-Salazar<sup>1</sup>

<sup>1</sup> Graduate School. Universidad César Vallejo. Perú.

## Abstract

The objective of research was to determine attitudes and environmental behaviors in students of an educational institution in Santa Rosa de Unanca, San Pablo, Cajamarca. Research was explanatory type because it sought to establish relationship of the change of attitude and behavior towards the Environmental Conservation. Population was 52 students of primary education of minors. A census sample of first, second, third, fourth, fifth and sixth grade students was considered. Variables were: Type of attitude towards environmental conservation (positive attitudes, indifferent attitudes, negative attitudes). The technique used was a pre-experimental design of comparative action with pre and post tests for students aimed at measuring level of attitude towards environmental conservation. We proceeded to carry out its analysis and interpretation to the pre test and after the application of the Eco-educational Program, the post test. It was evidenced 12 students, equivalent to 34.29%, show negative attitudes towards environmental conservation, 21 students, equivalent to 60%, show indifferent attitudes towards environmental conservation, and only two students, corresponding to 5.71%, have positive attitudes. positive towards environmental conservation. It was concluded, despite having theoretical knowledge about environmental conservation, most students show negative attitudes and, above all, indifferent towards environmental conservation. It has been shown that students aggressively pollute the environment by throwing solid waste anywhere within the Educational Institution, in streets and surely also in their homes, they do not organize themselves to grow ornamental plants or form cleaning brigades, they do not recycle nor do they select reusable material.

**Keywords:** Attitudes, behavior, environment, students, care.

## 1. INTRODUCTION

Environmental Education (EA) has been promoted since the different Educational Reforms that have occurred in all the countries of our environment incorporating into its objectives the protection of the environment in accordance with sustainability, fundamentally in the educational levels corresponding to compulsory education. Although the objectives and methodologies applied in its development have evolved at the same time as the conceptions about the environment and the perception of the environmental crisis therefore, it was educated for the conservation of the natural and social environment related to the human environment (social, political, economic and cultural) because of the environmental crisis is a direct consequence of unlimited economic growth; although in the previous stage the causes of environmental problems were related to various socio-economic aspects, the relationship between the economy, social problems and the environment was still unclear. This implied that possible solutions to the environmental crisis had to be addressed through international cooperation and actions at the global level. The EA was focused as an education in favor of the environment that provides knowledge, attitudes, values, behaviors. At present, a new step has been taken towards sustainable development to change society; an education that helps individuals to interpret, understand and know the complexity of the problems that occur in the world and teaches attitudes, knowledge, values, behaviors, which lead us to achieve a development model that implies not only an environmental improvement, but also a social, economic and political improvement at a global level. This has been understood by the UN which, in its 57th session (2004), declared the period 2005-2014 as the Decade of Education for Sustainable Development (<http://cms01.unesco.org/es/esd/decade-of-eds/>). But the introduction of the paradigm of sustainability in the discourses and practices of the world of teaching is causing a structural turn that forces to review the educational culture of all the actors involved in school practice, the curriculum, its management and the current pedagogical ecosystem. It involves the critical analysis of the socio-economic framework that has determined the current unsustainable trends and prepares a responsible and qualified citizenry for decision-making in a global and complex world. Pedro Álvarez and Pedro Vega 247 Citizens need, therefore, to urgently acquire knowledge (scientific-environmental literacy) and ecological behavior that allows us to develop without growing beyond our limits, developing a new intellectual culture, of technological consumption behaviors of the citizenship of Western countries there is a great concern for the current environmental crisis is detected in them a certain defensive function (Sarabia, 1993), in the sense of avoiding personal involvement and blaming institutions for the problems of the degradation of the natural environment, in addition to a scarce relationship between the environmental concern manifested by their lifestyle. Consequently, prior to the design of any EA didactic strategy that aims at learning in participation for sustainability, we must review the reference models that give coherence to the close relationships not yet sufficiently clarified between environmental attitudes and behaviors.

Currently, most research on attitudes focuses on the predictive value they can have on people's behaviors. But, although there are many works carried out to identify the factors that determine attitudes towards the environment, in order to predict the realization of pro-environmental behaviors Kaiser, Hübner and Bogner, 2005; they presented a theoretical model that relates attitudes, beliefs, behavioral intention and behavior, which they called the expectation value model. Some of the models designed to try to explain, describe and predict the realization of responsible behaviors with the environment towards improvement and defense, for decades, has been appreciated among the citizens of developed countries, seems not to have translated into specific behaviors. In fact, the correlations between environmental attitudes and ecologically responsible behaviors Geller, Winett and Everett, 1992; González, 2003; Oskamp, Harrington, Edwards, Sherwood, Okuda and Swanson, 1995 and that their ability to predict is lost when we refer no longer to intentionality but to action Cheung, Chan and Wong, 1999; Hernandez, 2004. All this has underlined the need to carry out new research to improve the models that aim to explain the behaviors in favor of the environment García-Mira and Real, 2001; Kaiser et al., 2005 Thus, although the different theoretical models coincide in pointing out the existence of three large groups of variables that determine the development of psychological, socio-cultural and contextual environmental behavior, the discrepancies have also been explained by the influence of other factors that mediate the relationship established in each of the variables of behavior, The attitudes and environmental behaviors of the students of the educational institution 821015 Santa Rosa de Unanca San Pablo Cajamarca can contribute to minimizing environmental risk factors, through individual or collective actions, in daily life in the practice of conservation and care of the environment. Objective: To determine the attitudes and environmental behaviors in the students. Method: Explanatory, cross-sectional study in which 52 students of primary education of minors participated. Environmental attitudes and behaviors in relation to the independent variable will be analyzed. The statistical correlation is analyzed using the Spearman correlation coefficient. Results: 100% of attitudes and behavior will be rated as adequate and a relationship was found between environmental attitudes and age ( $\rho = 0.021$ ), as well as between environmental behaviors and age ( $\rho = 0.001$ ) and, environmental behaviors sex ( $\rho = 0.012$ ). Conclusions: Although most students have positive environmental attitudes, these are not always reflected in their behavior, making it necessary to improve the training of professionals to favor the reduction of morbidity due to diseases caused as a result of environmental factors.

## **METHODOLOGY**

The research was applied, under a pre-experimental design of comparative action with pre and post test to the IEP students. N° 821015 - Santa Rosa de Unanca, San Pablo Cajamarca, and explanatory type because it sought to establish the relationship of the change of attitude and behavior towards the conservation of the environment. The population consisted of 52 boys and girls from 1st, 2nd, 3rd, 4th, 5th and 6th grades whose ages fluctuate between 6 and 13 years.

The variables considered in this research were: Type of attitude towards environmental conservation (positive attitudes, indifferent attitudes, negative attitudes). The method of this research was direct observation, since it allows us to obtain information through the observation of the students regarding their attitudes and changes before, during and after the development of the Eco-educational Program, which were recorded in a data sheet. observation and in a field notebook. The method was inductive which creates laws from the observation of the facts, through the generalization of the observed behavior, this method allowed us to develop the activities arranged in the Eco-educational Program to Improve Attitudes towards the Conservation of the Environment in the I.E.P. No. 821015 Santa Rosa de Unanca San Pablo Cajamarca.

## **RESULTS**

Table 1 shows the results of the pre-test measurement obtained by the study sample.

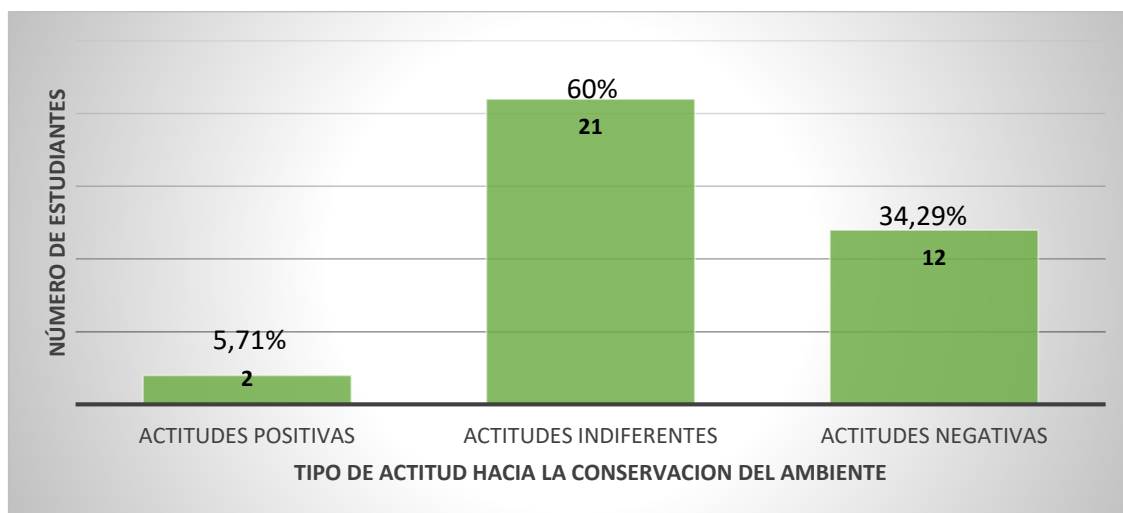
**Table 1.** Medición del pre test obtenida por la muestra de estudio.

Puntajes	Frecuencia	Porcentaje	Porcentaje válido	Porcentaje acumulado
10	1	2,9	2,9	2,9
12	1	2,9	2,9	5,7
14	1	2,9	2,9	8,6
18	4	11,4	11,4	20,0
20	5	14,3	14,3	34,3
22	4	11,4	11,4	45,7
24	1	2,9	2,9	48,6
25	2	5,7	5,7	54,3
26	2	5,7	5,7	60,0
27	1	2,9	2,9	62,9
28	1	2,9	2,9	65,7
30	3	8,6	8,6	74,3
32	3	8,6	8,6	82,9
34	4	11,4	11,4	94,3
35	1	2,9	2,9	97,1
36	1	2,9	2,9	100,0
Total	35	100,0	100,0	

In Table 2 and figure 1 it was observed that 12 students equivalent to 34.29% show negative attitudes towards environmental conservation, 21 students equivalent to 60% show indifferent attitudes towards environmental conservation and only two students, which corresponds to 5,71% have positive attitudes towards environmental conservation. From the above it is inferred that, despite having theoretical knowledge about the conservation of the environment, most students demonstrate negative attitudes and above all indifferent towards the conservation of the environment. This is worrying because we can notice, and it is demonstrated, that the students of the Public Educational Institution No. 821015 Santa Rosa de Unanca San Pablo Cajamarca pollute the environment aggressively by throwing solid waste anywhere within the Educational Institution, through the streets and surely also in their homes, they do not organize themselves to grow ornamental plants or form cleaning brigades, they do not recycle or select reusable material.

**Table 2.** Tipo de actitud hacia la conservación del ambiente durante la aplicación del pre test.

CATEGORIES	STUDY SAMPLE	
	f	%
Positive Attitudes	2	Positive Attitudes
Indifferent Attitudes	21	Indifferent Attitudes
Negative Attitudes	12	Negative Attitudes
TOTAL	35	TOTAL



**Figure 1.** Type of attitude towards the conservation of the environment during the measurement of the pre-test.

Table 3 shows arithmetic mean ( $\bar{X}$ ) was 24.86 points, which indicates that the average category is 25, that is, indifferent attitudes towards environmental conservation, while the standard deviation (S) in the study sample was 6.98 points, which means that the frequency distribution of the scores is moderately dispersed in relation to the average. Likewise, the Variability Coefficient (CV), achieved, was 28.08%, which indicates that the group is homogeneous in relation to indifferent attitudes, as we can verify in the data collection form of the attitude survey. towards the conservation of the environment, a large percentage manifests having indifferent attitudes towards the conservation of the environment.

**Table 3.** Statistical results during the pre-test measurement.

Statistics	Sample value
$\bar{X}$	24,86
S	6,98
C.V.	28,08

Table 4 shows the results of the post test measurement obtained by the study sample.

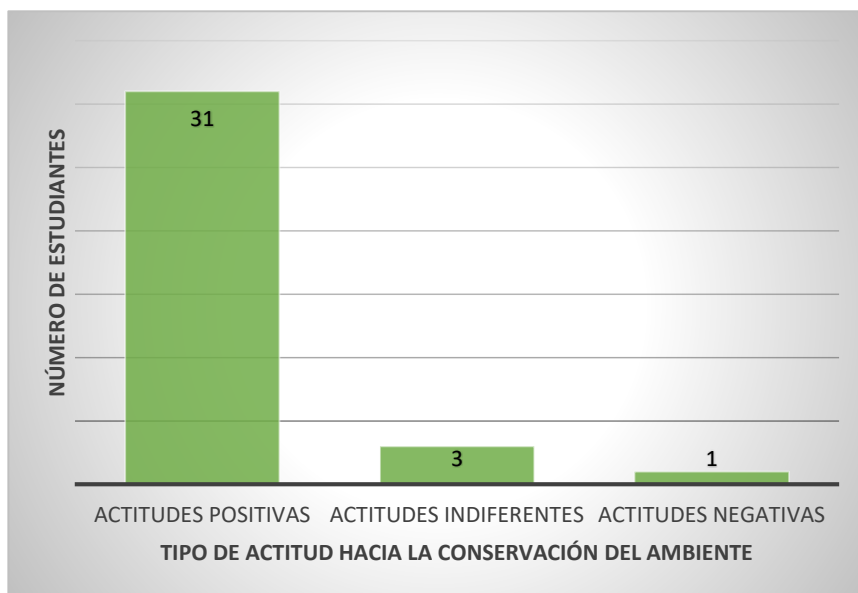
**Table 4.** Post test measurement obtained by the study sample.

Scores	Frecuency	Percentage	Valid percentage	Cumulative percentage
20	1	2,9	2,9	2,9
32	3	8,6	8,6	11,4
35	4	11,4	11,4	22,9
36	8	22,9	22,9	45,7
38	10	28,6	28,6	74,3
39	4	11,4	11,4	85,7
40	5	14,3	14,3	100,0
Total	35	100,0	100,0	

In Table 5 and figure 2, 2.86% of students shows a negative attitude towards environmental conservation, 3 students equivalent to 8.57% still show indifferent attitudes towards environmental conservation, but 31 students, which corresponds to 88.57% have positive attitudes towards environmental conservation. From the above, it can be inferred that a large percentage of students have changed from negative and/or indifferent attitudes to positive attitudes towards the conservation of the environment, which shows that the application of the program has been a success, above all because the students have reinforced their knowledge. about solid waste treatment, segregation of the same, they have become aware, they use reusable material to give it another functionality such as crafts, they like to grow ornamental plants, they take care of their gardens inside the Educational Institution and outside it, they have organized themselves into ecological brigades to control each other about where they throw the garbage, etc.

**Table 5.** Type of attitude towards environmental conservation during the application of the post test.

CATEGORIES	STUDY SAMPLE	
	F	%
Positive Attitudes	31	88,57
Indifferent Attitudes	3	8,57
Negative Attitudes	1	2,86
TOTAL	35	100
CATEGORIES	STUDY SAMPLE	



**Gráfico Figure 2.** Type of attitude towards environmental conservation during the post-test measurement.

Table 6 shows arithmetic mean ( $\bar{X}$ ) was 36.57 points, which indicates average category is 37, that is, now the attitudes are positive towards environmental conservation, while the standard deviation (S) in the study sample was 3.65 points, which means that the frequency distribution of the scores is not very disperse in relation to average. Likewise, Variability Coefficient (CV) is evident, achieved was 9.98%, which indicates group is quite homogeneous in relation to positive attitudes, since as we can verify in data collection form of survey on attitudes towards environmental conservation, a large percentage now state they have positive attitudes towards environmental conservation.

**Table 6.** Resultados estadísticos durante la medición del post test.

Statistics	Sample value
$\bar{X}$	36,57
S	3,65
C.V.	9,98

Table 7 shows a change of attitude has indeed been achieved in the students of the educational institution No. 821015 - Santa Rosa de Unanca - San Pablo - Cajamarca; Well, as can be seen in the pre-test, the majority of students have indifferent attitudes towards the conservation of the environment and the same amount of negative attitudes, and the post-test shows us that the majority of students changed their attitude to positive towards the conservation of the environment.

**Table 7.** Change of attitude during the measurement of the pre test and post test.

CATEGORIES	STUDY SAMPLE			
	PRE TEST		POST TEST	
	f	%	f	%
Positive Attitudes	2	5,71	31	88,57
Indifferent Attitudes	21	60,00	3	8,57
Negative Attitudes	12	34,29	1	2,86
TOTAL	35	100	35	100

En la tabla 9 se observa la mejora de actitudes hacia la conservación del ambiente nos ha dado resultados positivos pues la media aritmética ( $\bar{X}$ ) nos demuestra que se ha pasado de 25 (actitudes indiferentes) a 37 (actitudes positivas) según la escala valorativa que

hemos considerado en nuestra ficha técnica de aplicación. Observamos también que mientras que los resultados en el pre test son medianamente dispersos (S = 6,98) en el post test, luego de aplicado el programa, los resultados son poco dispersos en relación al promedio (S = 3,65); finalmente, podemos ver que los resultados en el post test son mas homogéneos que el en pre test en relación al cambio de actitud (actitudes positivas).

**Table 8.** Statistical results during the measurement of the pre test and post test.

TYPE OF TEST	Statistic		
	$\bar{X}$	S	C.V.
PRE TEST	24,86	6,98	28,08
POST TEST	36,57	3,65	9,98

## CONCLUSIONS

Based on results, following conclusions were reached: application of eco-educational program did contribute to improving attitudes towards environmental conservation in students of educational institution Santa Rosa de Unanca, San Pablo, Cajamarca. Application of pre-test allowed us to diagnose the type of attitude of the students towards the conservation of the environment, obtaining results that indicated the necessary application of a program to achieve changes in attitude. The design and application of an eco-educational program to improve attitudes towards environmental conservation in IE N° 821015 Santa Rosa de Unanca, San Pablo, Cajamarca, allowed us to develop activities such as: Training of environmental brigades, management of solid waste management at the institution, a cycle of talks and awareness workshops, a drawing and painting contest, handicrafts with reusable material, literary compositions, writing about the environment, its conservation and the cultivation of ornamental plants.

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