

## Environmental Awareness Campaign: The Change It Brings

<sup>1</sup>Dr. Merlita C. Medallon & <sup>2</sup>Marlyn Gallardo

<sup>1</sup>merlita.medallon@lpl.edu.ph

<sup>1</sup>Research Office, <sup>1,2</sup>Lyceum of the Philippines University – Laguna  
PHILIPPINES

### ABSTRACT

*The study was conducted to determine the awareness and sensitivity of the younger generation in environmental issues such global warming, climate change and waste management. Data were gathered from selected students who attended the environmental awareness seminar held at Lyceum of the Philippines – Laguna in 2011. There were 54 students who participated in the survey. The respondents had participated in several activities related to environmental issues which include attendance to seminars, and participation in school and community projects. Most of the information about environmental issues was obtained by the students from their teachers. Global warming was the most common issue. There was a significant increase in the level of knowledge after the environmental awareness campaign was made. As a result, the highest level of action proposed by the students is on the proper disposal of wastes and the proper segregation of wastes.*

*Keywords:* environment, campaign, waste, global warming, climate change

### I. INTRODUCTION

World educators and environment specialists have repeatedly pointed out that a solution to environmental crisis will require an environmental awareness and its proper understanding which should be deeply rooted in the education system at all levels of school education. In the Philippines, the law on the integration of environmental education at all school levels have been established since 1977, but there is no appropriate national action plans on environmental education, skills training and human development in support of a green vision. Although there is no evident shortages or mismatches in environmental education and skills development, a lot of significant education/ skills initiatives by both the public and private sectors are present (Ofreneo, 2010).

An environmentally aware population makes better-informed decisions and choices on complex environmental issues. Ecologically sustainable development requires an informed society that can make balanced decisions based on its economic, social and environmental welfare for current and future generations.

The study was conducted to determine the awareness and sensitivity of the younger generation in environmental issues such global warming, climate change and waste management. Results of the study would be of significance to the institution in the planning of activities related to the environment.

### Review of Literature

Dunlap and Metig (1995, in Harris, 2006) stated that environmental problems are no longer viewed as just a threat to quality of life but are considered a fundamental threat to human welfare. Many of the findings by Gallup coincided with previous study by Harris. In particular, those referring to increasing tendency of environmental awareness, willingness to

contribute or to sacrifice for the betterment of environment and general consensus that something must be done in order to improve the situation. . The issues of environment are the effect from the human's activities that have no civic conscious and only think the profit without concern about the impact towards the environment and their future of life. The long term effect from the environmental pollution can be seen when the ecosystem is not able to endure the pollution (Zaini Ujang, 2008). Realizing of the extremely expanded environmental catastrophe, a preventive way should be carried out to slow it and thereby mitigating long-term environmental damage (Harris, P.G., 2006).

Thus, one of the best ways of preservation is by creating environmental awareness among society especially students as they are future leaders, future custodians, planners, policy makers, and educators of the environment and its issues (Thapa, B., 1999).

Environmental education is an attempt to reorient education so that environmental competence is restored as one of its basic aims along with personal and social competence (Shoberi, S. M., et al. 2007)

Environmental education is important to make people aware of environmental problems, to make them more knowledgeable about them, to provide them with skills and motivation to resolve those problems and to prevent new ones from occurring. As part of a community education program on solid waste management, environmental education is expected to develop the knowledge, skills and attitudes of the members of the community towards proper handling of wastes (Rabago).

According to Stapp et al. (1969 in Harris, 2006) "Environmental education is aimed at producing citizens who are knowledgeable concerning their biophysical environment and its associated problems, aware of how to help solve these

problems, and motivated to work toward their solution.” Environmental education, whether in the formal education setting (schools, colleges, universities) or in the informal setting (organisations, media, etc.), seeks to produce individuals with positive attitudes and values about their environment.

Environmental awareness is broadly defined. Among other things, awareness encompasses incorporating knowledge of contemporary issues affecting nature locally and beyond, discovering which actions can make a difference in your surroundings, and self-awareness concerning personal environmental philosophies (W. Bocher, personal communication, 2005). A large topic of interest within the environmental education realm is establishing how personal traits or lifestyle factors contribute to a person’s environmental attitudes and behaviors. A general attitude can be defined as something which “must be perceived by the individual as connected in some meaningful way to a specific situation to serve as a basis for an evaluative reaction in that situation” (Prislin & Ouellette, 1996, p. 845). Ajzen (2001) reviewed the ability of attitudes to predict intentions and overt behavior; according to the theory of planned behavior, people act in accordance with their intentions, while intentions in turn are influenced by attitudes toward the behavior. Prislin & Ouellette (1996) found that highly embedded attitudes toward preservation of the environment were more strongly related to behavioral intentions than low-embedded attitudes were. The concept of embeddedness involves how deeply an attitude lies within cognition, and also how much that attitude is supported by similar beliefs and experiences of the individual. Results of their research offered evidence that embeddedness levels influence behavioral intentions and actions. “Consequently, the more elements with which an attitude is connected, the broader the scope of situations to which the attitude is potentially applicable” (Prislin & Ouellette, 1996, p. 849). Due to these findings, an environmental education course should make environmental issues more accessible and relevant to students enrolled. The activation of greater environmental awareness should also strengthen the link between pro-environmental attitudes and behaviors.

The process of environmental education is complicated and should be reviewed deeply at the affective, cognitive, behavioral and meta cognitive levels (Sanera,1998),. In the same way, Jaus (1982) found that there is a positive correlation between environmental education instruction and favorable attitudes towards environment.

Since the solution for the environmental problems depends on the improvement of students’ attitudes, school plays an integral role as the educators have to seek new approaches and methodologies for students to understand that the preservation of nature and efficient use of resources are vital to prevent environmental problems. Besides, many people believe that environmental education is one of the most important factors for preventing environmental problems (O’zden, M., 2008). Theoretically, when the knowledge regarding environment is

increase, the positive attitude towards environment is indirectly expanded.

Moreover, by viewing from the context of education, the actual knowledge is not only focusing towards the fact, but also consider on the perception, observation, experience, as well as the reason. All of these elements come from the interaction process between human and the surrounding. If the environment is healthy and safe, the society will live within the harmonious and pleasant surrounding.

**Conceptual Framework**

The study is based on the inclusion of the various components of environmental education that would enable participatory action on the part of the student respondents. Environmental education is important to make people aware of environmental problems, to make them more knowledgeable about them, to provide them with skills and motivation to resolve those problems and to prevent new ones from occurring. It is believed that in the recognition of the current environmental conditions and the problems that it poses, every individual has the responsibility for his or her environment. The environmental education program that is delivered in schools or in other venues would pave the way for an increased environmental awareness of the people and increasing one’s sensitivity to the needs of the fellow living creatures on Earth. Awareness encompasses incorporating knowledge of contemporary issues affecting nature locally and beyond, discovering which actions can make a difference in your surroundings, and self-awareness concerning personal environmental philosophies. Environmental sensitivity as a set of affective attributes (*i.e.*, appreciation, concern, caring and valuing) that results in an individual’s viewing the environment in emphatic perspective. Agustin (1994) describes it as one’s emphatic view of the environment, encompassing the belief that humans must live in ecological harmony with the environment. Most educators agree that the goal of EE is the acquisition of responsible environmental behavior, *i.e.*, developing learners who are knowledgeable about environmental issues/problems and who are willing and able to take necessary actions to resolve them (Sia, 1987).

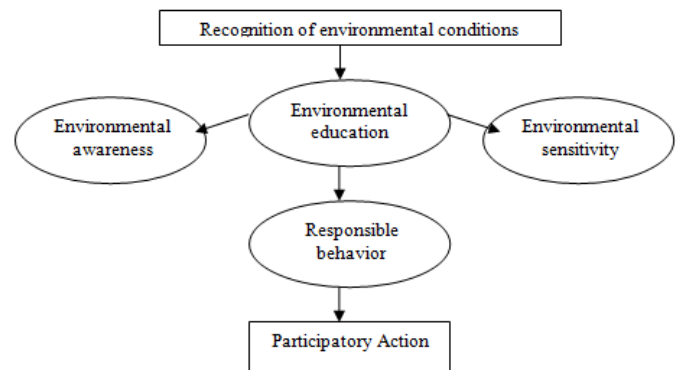


Fig. 1 Conceptual Paradigm

The study is a descriptive research that attempts to describe the level of knowledge of the students on environmental issues. A comparative analysis was made to determine if there is a change in their knowledge after an environmental awareness seminar.

## II. METHOD

Data were gathered from selected students who attended the environmental awareness seminar held at Lyceum of the Philippines – Laguna in 2011. There were 54 students who participated in the survey. Table 1 shows the profile of the respondents by age, year level and gender.

Table 1. Profile of the respondents

Age	Frequency	Percent
15	1	1.85
16	8	14.81
17	19	35.19
18	13	24.07
19	4	7.41
20	4	7.41
22	4	7.41
25	1	1.85
Year level	Frequency	Percent
1	6	11.11
2	19	35.19
3	4	7.41
4	9	16.67
Alternative Learning School	16	29.63
Gender	Frequency	Percent
Male	26	48.15
Female	28	51.85

The instruments used in the data collection were of two parts. The first part is a pre-test that elicits information on the student respondent's level of knowledge about environmental issues. The issues were global warming, climate change, waste segregation, and resource preservation. The 20 items were evaluated as to their level of knowledge using a four-point Likert scale described as very well (4), well(3), a little (2), and not at all (1). The second part which was administered after the environmental recollection is a post-test on the same environmental issues. A second component of the post test includes a twelve item statement of action plans the student respondent's would assess using a four-point Likert scale.

Data that were gathered were summarized using weighted means and a comparative analysis using paired t-test at 5% level of significance was done to determine significant difference in their level of knowledge about environmental issues before and after the environmental recollection. Analysis of variance was likewise used to determine significant difference in the level of knowledge when the respondents are grouped by age and grade level. Correlation analysis was conducted to determine the relationship between the level of

knowledge and the number of sources of information on environmental issues.

## III. RESULTS AND DISCUSSION

The respondents had participated in several activities related to environmental issues which includes attendance to seminars, and participation in school and community projects. In most cases, attendance to seminars had been inked as the highest level, while a slightly lower level is initiating community projects. Some of the students at the tertiary school are involved in one or more community projects in the barangay and as such, issues are not a foreign thing to them. School projects had also been initiated and some of the respondents had initiated them. Extent of participation, however was low.

Table 2  
Extent of participation in activities related to environmental issues

Activities	WM	VI
1. attendance to seminars	2.71	Much
2. participating in community projects	2.35	A little
3. participating in school projects	2.40	A little
4. initiating community projects	2.50	Much
5. initiating school projects	2.30	A little

Legend: 3.5 – 4.0 – Very much; 2.50 – 3.49 – Much; 1.50-2.49 – A little; 1.0 – 1.49– Very little

Environmental issues as a very common topic of debate today are known to everyone through various means. As students, most of the information is obtained in school, specifically, from the teacher, because it had been part of the requirements in a course. Majority of the respondents (91%) get information from the classes they have. Faculty at colleges and universities have developed curriculum regarding environmental issues. A second majority source are pamphlets (75%) and from at home (57%). Print materials on environmental topics abound and it is also a common topic of discussion at home. Other sources of information are seminars (43%), , media (14%) and from classmates (5%).

Table 3  
Sources of information on environmental issues

Source of information	Frequency	Percent
Teachers	51	91.07
pamphlets/hand-outs	42	75.00
home /parents	32	57.14
other sources (speakers in seminars)	24	42.86
media (TV, internet)	8	14.29
Classmates	3	5.36
others	19	33.93

Results show that issues on global warming are the most commonly known issue for the student respondents. The changes in the environmental condition have been widely disseminated as resulting from the global warming concept. Everybody knows that it is a serious problem which is caused by emission of carbon dioxide gases in the atmosphere. Less information is known on the chlorofluorocarbons (CFCs). Much of the information on CFCs was known after the seminar as exhibited with the highest difference.

It is also a known fact that the climate change that is occurring results in the changes in temperature around the

world and such changes led to extremes of environmental conditions such as drought and floods.

Much information had been known to the students regarding the separation of wastes into biodegradable and non-biodegradable types as shown by the lowest difference of 0.02. A higher level of knowledge was gained on the limited use or the abolition of the use of plastic with a difference of 0.34. The respondents had the lowest level of knowledge on composting, however, after the seminar, it had also increased their knowledge on the topic.

Table 4  
Mean level of knowledge before and after the environmental awareness seminar

Areas	Pretest	Posttest	Difference
	Mean	Mean	
<b>Global warming</b>			
1. Global warming is experienced by people around the world.	3.67	3.77	0.10
2. Global warming is a serious problem that needs to be addressed.	3.75	3.82	0.07
3. Global warming results from the emission of carbon dioxide gases in the atmosphere.	3.51	3.77	0.26
4. Global warming causes the increases in environmental temperatures.	3.55	3.82	0.27
5. Global warming results from the use of too much carbon fluorocarbon (CFCs).	3.38	3.73	0.35
<b>Climate Change</b>			
6. Climate change affects the temperature worldwide.	3.47	3.73	0.26
7. Climate change causes drought in some areas and flooding in some areas.	3.44	3.69	0.25
8. Climate change causes a lot of typhoons, tornadoes and tsunamis.	3.44	3.66	0.22
9. Climate change results from vehicles/factories emitting black gases.	3.51	3.70	0.19
<b>Waste Management</b>			
11. Biodegradable materials must be separated from non-biodegradable materials when disposing wastes.	3.62	3.64	0.02
12. I can classify biodegradable from non-biodegradable materials.	3.42	3.55	0.13
13. Recycling garbage can reduce the amount of garbage we dispose.	3.6	3.7	0.10
14. Biodegradation of plastic materials and styrofoam take a lot of time.	3.36	3.57	0.21
15. Environmental pollution is hazardous to our health.	3.45	3.7	0.25
17. The use of plastic materials should be limited if not abolished.	3.42	3.76	0.34
19. Industries causing bad smells in residential areas should be closed down.	3.57	3.7	0.13
20. Biodegradable materials should be made into compost or fertilizer material.	3.55	3.7	0.15
<b>Resource Preservation</b>			
10. Planting more trees will help in preserving our environment.	3.69	3.81	0.12
16. The forests and the bodies of water should be preserved.	3.58	3.65	0.07
18. Water should be preserved.	3.56	3.68	0.12

Legend: 3.5 – 4.0 – Very much; 2.50 – 3.49 – Much; 1.50-2.49 – A little; 1.0 – 1.49 – Very little

On resource preservation, highest level of knowledge is on tree planting but the lowest is on the preservation of water. After the seminar there is an increase in the level of awareness on the importance of saving water as exhibited by a mean difference of 0.12.

Results of the study are supported by the findings of Schmidt (2007) who reported a significant difference in pro-environmental attitudes and behaviour of students who attended environmental education than those who did not. class was successful in heightening the environmental

awareness of students by making environmental concerns more accessible and relevant in their minds. In accordance with the theory of planned behavior and the concept of embeddedness, as environmentally-conscious attitudes are applied to more situations, it is likely that these attitudes will influence and predict more environmentally-conscious behaviors. Through reading and writing about nature, discussing environmental subject matter, embracing the outdoors, and acknowledging the human's impression and responsibility on this planet, student

attitudes and behaviors can be effectively altered through education.

**Effect of the Environmental Awareness Seminar**

Statistical analysis shows a significant difference in the mean level of knowledge after the environmental awareness

seminar. The significant increase is evident on global warming issues (p=.002) and on climate change (p=.007). Although there is also a notable increase in the mean level of awareness on waste management issues and resource preservation, such difference is not significant.

Table 5

Summary of mean level of knowledge on environmental issues and the results of analysis

Environmental Issues	Before	After	Difference	t-value	Probability
Global warming	3.57	3.78	0.21	3.147	.002**
Climate change	3.51	3.72	0.21	2.740	.007**
Waste management	3.49	3.63	0.14	1.588	.115
Resource preservation	3.54	3.70	0.16	1.748	.083

\*\* significant at 1% level

**Courses of Action**

After the seminar, the student respondents were asked to evaluate course of action they can take in order to help with the drive in preserving the health of the environment. The highest level of action is on the proper disposal of wastes and the proper segregation of wastes. The respondents plan to take part in the preservation of water and our natural resources. The use of plastic and styrofoam as food containers had the least level of action. It was the response by then not until the time the “No Plastic” policy has been enforced in the locality of Laguna and Batangas, two provinces in Southern Luzon, Philippines. Planting of trees is another action they will initiate.

Table 6  
Courses of action

Action	WM
1. I will throw my garbage in the proper waste containers.	3.77
2. I will preserve water.	3.74
3. I will separate biodegradable from non-biodegradable wastes in school.	3.70
4. I will not destroy our natural resources.	3.70
5. I will not throw garbage in bodies of water.	3.70
6. I will separate biodegradable from non-biodegradable wastes at home.	3.68
7. I will pick up pieces of garbage at home and in school and place them in the proper waste containers.	3.68
8. I will put biodegradable materials in the soil for them to decompose.	3.66
9. I will join tree planting in school.	3.65
10. I will join groups that promote environmental awareness through education.	3.65
11. I will plant trees in our backyard.	3.64
12. I will refrain from using plastic and styrofoam as food containers.	3.59

Legend: 3.5 – 4.0 – strongly agree; 2.50 – 3.49 – agree; 1.50-2.49 – disagree; 1.0 – 1.49– strongly disagree

**IV. CONCLUSIONS**

Environmental education can be very well imparted through the use of various sources. The more sources of information there are, the better informed are the students and the society. Environmental awareness seminar could be considered a very good tool in awakening the students in the current environmental situation which everyone is faced with. The hands-on knowledge obtained from the speakers strengthened their desire to be part of the crusade for protecting the environment. These results indeed stress a greater need for environmental awareness in the realm of mainstream education, in the hopes of providing students with the ambition and abilities to care for the environment while securing their future health and happiness.

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