Assessment of Environmental Literacy, Concern and Disaster Preparedness Among College Students

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Abstract *- Climate change adversely brings about uncontrollable, unpredictable natural calamities. Municipality of Calinog, strategically located at the center of Panay Island, has its share of environmental hazard nightmares. Thus, it is deemed necessary to assess students' environmental knowledge, concern and disaster preparedness. Participants were 293 students of West Visayas State University Calinog for AY 2012-13. Modified, partly adapted instrument attempted to collect information from respondents. Statistical tools used- Mean; Standard Deviation; t-test; One-Way ANOVA; and Pearson's r. Respondents' level of environmental literacy and concern are "knowledgeable" and "very concerned" respectively. Level of disaster preparedness was "most often prepared" in all variables except to course. Significant relationships between the environmental literacy and concern; and between environmental literacy and disaster preparedness have been observed. Generally, students are environmentally literate, concerned, prepared during disasters occurrence. Significant variations occur in environmental literacy, concern, and disaster preparedness among respondents categorized according to course while no variations occurred among others. Environmental literacy is associated with environmental concern and disaster preparedness while environmental concern not associated with disaster preparedness. Hence, educational institutions must do their share.*

Keywords-- Environmental Science, environment, literacy, concern, disaster preparedness, assessment, Iloilo, Philippines

I. INTRODUCTION

Natural calamities come in the most unexpected moments of people's lives. Its impact is felt everywhere for it hits all areas worldwide in different intensities and in various forms. The global community is experiencing an increasing number of disasters that range in all forms of great devastation (Rambau, 2012).Earthquake and tsunami in Japan, tsunami in Thailand, typhoon and flood in China and many countries around the globe are recorded in the history of natural calamities. Another future threat will be the rise of water level when global temperature increase and melt the glaciers.

The Philippines is a small country that is often struck by natural calamities yet it lacks the capacity to overcome the ferocity of nature's cruelty. The country has poor and obsolete gadgets and equipment that can detect occurrence of natural disasters. Weather forecast may not be able to reach the far flung barangays and if they do people may lack awareness and preparedness on how to handle situation during natural calamities. Typhoon Frank and the latest Typhoon Quinta had caused damages to many residents of Panay particularly Calinog, Iloilo wherein people were caught unguarded when flashflood swept the lower portion and the water came from the higher portion. The residents along Jalaur River suffered tremendously because most of them lost their homes and valuable personal belongings. Unusual landslides also occurred which have not happened in previous calamities on the mountainous areas. All of these could be attributed to forest denudation. There were even cases of death and if people were prepared they could not have suffered like what had happened.

The academe can "make or unmake" the lives of people as well as certain situations in the community. This great responsibility is a big challenge on the educational sector on how they can become agents of change in society specifically on environmental issues. The basic issues are environmental education, values integration and disaster mitigation. The best hope for learning to live sustainably lies in schooling that is "smart by nature." It includes experiencing the natural world; learning how nature sustains life; nurturing healthy communities; recognizing the implications of the ways people feed and provision themselves; and knowing well the places where they live, work, and

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learn. Teachers are in a prime position to be able to weave these basics throughout the curriculum at every grade level (Center for Ecoliteracy, 2004-2013).

Loving "mother nature" starts with environmental literacy. According to North American Association for Environmental Education or NAAEE (2011), an environmentally literate person knows that; their daily choices affect the environment, how those choices can help or harm the environment, and what they need to do- individually or as a part of a community – to keep the environment healthy and sustain Its resources, so that people enjoy a good quality of life for themselves and their children. Environmental literacy should be coupled with the values of love and concern. The Environment Concern, Incorporated also supports nationwide efforts to bring environmental education to the forefront of student's lives.

It is an undeniable fact that natural calamities are perennial problems worldwide that has great impact on the life of people, national economy and environmental degradation. The occurrence of natural disasters are uncontrollable and its adverse effects unpredictable and there is a need to orient people on disaster preparations. Disaster management should be a joint effort of DCC, LGU, PAG-ASA, RED CROSS, AIR FORCE, NGO and other agencies in order that people will not panic and leave the community on chaos and destructions. Contingency plans should be done by local officials who will also direct in the proper implementation of the plan. The plan should be systematic in order to attain peace and harmony.

All these detrimental extent already signals that the matter has to be given attention before it can create greater damages on the properties and lives of the people. The researcher was intrigued with the events and the plight of people and decided to find out how aware these people on ecology as well as on the natural disaster occurrence, moreover, their means of preparation thus this study is deemed essential.

II. OBJECTIVES OF THE STUDY

This study aimed to assess the environmental literacy, concern and disaster preparedness of the students of West Visayas State University Calinog Campus as evidenced by their environmental knowledge both in the literacy and emotional aspect and moreover on their disaster preparedness. Specifically to determine the level of environmental literacy, environmental concern and disaster preparedness of the students of West Visayas State University Calinog Campus when taken as a whole and when categorized according to sex, age course, year level, residence location, and number of household members; to test the significant difference in the environmental literacy, environmental concern and disaster preparedness of the students of West Visayas State University Calinog Campus when categorized according to sex, age, course, year level, residence location, and number of household members; to test the relationship between environmental literacy and concern of the students; to test the relationship between environmental literacy and environmental preparedness of the students; and to test relationship between environmental concern and environmental preparedness of the students of West Visayas State University Calinog Campus.

III. METHOD

This descriptive-correlational research study aimed to assess the environmental literacy, concern and disaster preparedness of the students of West Visayas State University Calinog Campus as evidenced by their environmental knowledge both in the literacy and emotional aspect and moreover on their disaster preparedness.

Procedures

The data in this study were gathered by the use of a modified researcher-made and adapted questionnaire. A questionnaire is a written instrument that contained a series of responses to relevant questions on items that attempted to collect information in a particular topic from identified group or groups of respondents. Part of the instrument was adapted from the master's thesis of Varisli (2009).

The researcher-made instrument was consisted of four parts: Part One was used to gather the following information about the respondent: Name, Sex, Age, Course, Year Level, Residence Location, and Number of Household Members.

Part Two had three areas. Area A was on Environmental Literacy (22 items). Area B was on Environmental Concern(10 items). Area C was on Disaster Preparedness (20 items).

For Part A, respondents were made to choose the correct answer for each question. The mean score was converted to its description using the measuring instrument devised by the researcher based on Guilford's Frequency Distribution Table. This was done by subtracting the lowest weight of one from the highest score of twenty two to find the range which was divided by five since there were five categories of responses. The quotient which is 4.4 became the step intervals from which the five class intervals were formulated.

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The scale is shown below

Scale	Description Environmental Literacy
17.61 – 22.00	Extremely Knowledgeable
13.21 – 17.60	Very Knowledgeable
8.81 – 13.20	Knowledgeable
4.41 – 8.80	Limited Knowledge
0.00 – 4.40	Very Limited Knowledge

For Part B and C, the respondents were instructed to answer the items in the questionnaire by checking the column of their chosen responses. Each response was given a weight of 5, 4, 3, 2, 1 respectively. The mean for each item was determined by multiplying the frequency count for each item by their respective weight. The products for all responses were added to find the total weighted score (TWS) for each item. The TWS was divided by the total number of respondents to find the mean. The mean was converted to its description using the measuring instrument devised by the researcher based on Guilford's Frequency Distribution Table. This was done by subtracting the lowest weight of one from the highest weight of five to find the range which was divided by five since there were five categories of responses. The quotient which is 0.80, became the step interval from which the five class intervals were formulated. The scale of means is shown below:

Scale	Environmental Concern/ Disaster Preparedness
4.21 – 5.00	Very Concerned/ Always Prepared
3.41 – 4.20	Somewhat Concerned/ Most Often Prepared
2.61 – 3.40	Unsure/ Frequently Prepared
1.81 – 2.60	A Little Concerned/ Rarely Prepared
1.00 – 1.80	Not Concerned At All/ Never Prepared

After the questionnaire was found valid and reliable it was reproduced according to the actual number of respondents in this study. The researcher personally administered the questionnaires to the respondents of the study and did the retrieval one week after the questionnaire had been distributed. The longer time span gave the respondents enough time to answer the items precisely and truthfully.

After the retrieval of accomplished questionnaires, the data were tabulated and organized. All statistical computations were computer processed through the Statistical Package for Social Sciences (SPSS) software-Values that were obtained from computer printout and were ultimately entered in the appropriate table for presentation, analysis and interpretation of the data. The statistical tools used were Mean; Standard Deviation; t-test; Analysis of Variance (ANOVA); and Pearson's Product-Moment Coefficient of Correlation. The significance of the difference and relationships were tested at 0.05 level using two-tailed test. If the p=value is less than 0.05, the null hypothesis is rejected. On the other hand, if the p-value is equal to or greater than 0.05, the null hypothesis is not rejected.

Respondents

The respondents of this study were the 293 students of the West Visayas State University Calinog Campus for the second semester of the Academic Year 2013-2014.

Table 1. Profile of the respondents

Category	f	%
A. Entire Group	293	100.00
B. Sex		
Male	104	35.5
Female	189	64.5
C. Age		
Below 20 yrs. old	185	63.10
20 yrs.old & above	108	36.90
D. Course		
BSA	40	13.70
BSED	21	7.20
BEED	51	17.40
BSIT(Food Tech)	12	4.10
BSIT(InfoTech)	87	29.70
BSHRM	59	20.10
BS Entrepreneurship	7	2.40
Graduate School	16	5.50
E. Year Level		
First Year	144	49.10
Second Year	64	21.80
Third Year	32	10.90
Fourth Year	37	12.60
Graduate School	16	5.50
F. Residence Location		
Poblacion	86	29.40
Barangay	207	70.60
G. Number of Household Members		
Small (6 & below)	189	64.50
Big (more than 6)	104	35.50

Since the total population was too large to be managed by the researcher, 347 respondents were considered in the study. The Slovin's formula was utilized to determine the sample size of the respondents to be used as respondents. After determining the actual number of respondents of the study, ratio and proportion was employed to determine the number of respondents to represent each school. The researcher

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used the lottery method to give equal chances to all the students of the institution to become respondents in the actual administration of the instruments in this study. The name of each respondent in each school was written on a piece of paper, rolled and placed in a box. The desired sample size was picked out using the lottery technique. The participants whose name appeared on the piece of paper were considered as the actual respondents of the study. Afterwards, these respondents were classified according to the categories of selected variables such as sex, age, course, year level, residence location and number of household members.

IV. RESULTS AND DISCUSSION

Level of Environmental Literacy

The level of environmental literacy of the students of West Visayas State University Calinog Campus when taken as a whole and when categorized according to sex, age, course, year level, residence location, and number of household members is all "knowledgeable". This implies that students as a whole have the thorough knowledge on environmental issues. When classified according to the categories of respondents females have an edge over the males, older over younger, those in the barangays over the poblacion, those with smaller family members over large ones as shown by their higher means. The highest mean is evident among Graduate School students as compared to baccalaureate students maybe because this group has already obtained more academic inputs and experience as well. On the contrary when categorized as to year level the second year students have greater means over the first, third and fourth years. This may be due to the fact that Natural Science-Biological Science subjects are taught in the first year, thus, the second year students have fresh knowledge on ecological concepts.

The result of this study negates that of O'Brien in 2007 because the students of the IOWA State University had moderate level of environmental knowledge. Moreover, it was also contradicted by the study of Donovan in 2001 as shown in the result that they as well failed the knowledge part of the East Texas environmental literacy, attitude and behavior study.

Level of Environmental Concern

Results revealed that the level of environmental concern of the students of West Visayas State University Calinog Campus when taken as a whole and when categorized according to sex, age, course, year level, residence location, and number of household members is all "very concerned".

This implies that students have imbibed the proper values on environmental protection and preservation. Greater concern is also evident more on females over males, the older respondents over the younger ones, among the residents of the poblacion over those in the barangays as well those with bigger family members those with smaller ones as shown by their higher means. On the other hand, the BSIT (Food Tech) students also showed greater concern over the rest of the students maybe because of the value of food preservation they have imbibed in their course. The graduate school students have also higher mean over the other levels which could be attributed to their more practical and positive outlook in life.

The findings of the study conforms with the result of the study of Shen and Saijo (2007) where the older generations were more concerned about environment than younger generations and high education level had positive effect on environmental concern. However, in terms of sex they vary adversely.

Level of Disaster Preparedness

Results revealed that the level of disaster preparedness of the students of West Visayas State University Calinog Campus when taken as a whole as well as when categorized according to sex, age, year level, residence location and number of household members is "most often prepared". On the other hand, when categorized according to course BEED, BSIT, BSHRM and GRADUATE SCHOOL are "most often prepared" while the BSA, BSED, BSIT (FT) and BS ENTREP are "frequently prepared". This implies that because the students have the knowledge on environmental issues and have developed the love for nature subsequently they have also devised strategic mechanism on what to do during time of adversities.

Results negate the study of Carrier in 2007 which asserts that boys are believed to be more prepared for any natural disaster that would occur.

Difference in the Environmental Literacy

There are no significant Differences in the Environmental Literacy of the Respondents when categorized as to Sex, $t=1.577$, $p= .116$, Age, $t=.566$, $p=.572$; Residence Location, $t=.571$, $p=.568$ and No. of Household Members, $t=1.071$, $p=.285$. The result is shown in Table 5. This implies that regardless of their categories as to sex, age, residence location as well as the number of household members, there are no significant variations in their responses. It means that the students have the same level of knowledge on environmental issues.

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This contradicts to the finding of Chu, et al. in 2007 because result of the study revealed that girls showed better environmental literacy than boys.

Table 2. Differences in the environmental literacy of the respondents when categorized as to sex, residence location, no. of household members and age

Compared Groups	n	mean	df	t	Sig.
A. Sex					
Male	104	10.17	291	1.577	.116
Female	189	10.92			
B. Age					
Below 20 yrs. Old	185	10.56	291	.566	.572
20 yrs. Old and above	108	10.82			
C. Residence Location					
Poblacion	86	10.45	291	.571	.568
Barangay	207	10.74			
D. No. of Household Members					
Small (6 and below)	189	10.84	291	1.071	.285
Big (more than 6)	104	10.33			

Results revealed that there are significant differences in the Environmental Literacy of the Respondents when categorized as to Course, F=4.267, p=.000. This is shown in Table 2. Post Hoc-(Scheffe') results revealed that there is a significant difference between the environmental literacy of BEED and BSHRM. All the other pairs don't significantly differ from each other. The BEED students' environmental literacy are comparatively higher than that of the BSHRM students as revealed by their mean of 12.08 and 8.92 respectively. This may be due to the fact that the current curriculum of the BEED has Natural Science-Biological Science while the BSHRM has none.

This conforms with the results of the study Kaplowitz and Levine in 2005 because it was revealed that there were differences among college courses of Michigan State University on regarding environmental knowledge.

Table 3. Differences in the environmental literacy of the respondents when categorized as to course

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	419.858	7	59.980	4.267	.000*
Within Groups	4006.326	285	14.057		
Total	4426.184	292			

**p<.05 significant at .05 alpha*

Results revealed that there are no significant differences in the Environmental Literacy of the Respondents when categorized as to Year Level, F=1.241, p=.294. This is shown in table 3. It is therefore assumed that regardless of the year level all the respondents have the same degree of knowledge on environmental issues.

The finding contradicts with that of Kaplowitz in 2005 where results of the study revealed that environmental knowledge varied significantly with course. Moreover, it was stipulated that as the academic level increase, environmental knowledge also increase.

Table 4. ANOVA results for testing significance of the differences in the environmental literacy of the respondents when categorized as to year level

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	74.986	4	18.746	1.241	.294
Within Groups	4351.198	288	15.108		
Total	4426.184	292			

p>.05 not significant at .05 alpha

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Table 5. Differences in the environmental concern of the respondents when categorized as to sex, residence location, no. of household members and age

Compared Groups	N	Mean	df	t	Sig.
A. Sex					
Male	104	4.40	291	1.047	.296
Female	189	4.50			
B. Age					
Below 20 yrs. Old	185	4.41	291	1.493	.137
20 yrs. Old and above	108	4.55			
C. Residence Location					
Poblacion	86	4.47	291	.137	.891
Barangay	207	4.46			
D. No. of Household Members					
Small (6 and below)					
Big (more than 6)	189	4.42	291	1.175	.241
	104	4.53			

p>.05 not significant at .05 alpha

Table 5 shows that there are no significant differences in the environmental concerns of the respondents when classified as to sex, t=1.047, p=.296; age, t=1.493, p=.137; residence location, t=.137, p=.891; and no. of household members, t=1.175, p=.241. The results imply that regardless of their categories as to sex, age, residence location and number of household members there is no significant variation in their concern for the environment. Moreover, it means that they all exhibit the same level of concern for the welfare and protection of the surroundings.

The findings contradicts to the results of the study of O'Brein in 2007 where it was found that environmental attitude varies significantly among with the various variables like age, gender and students' status.

Table 6. Differences in the Environmental Concern of the Respondents when Categorized as to Course

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	18.904	7	2.701	5.008	.000*
Within Groups	153.694	285	.539		
Total	172.597	292			

*p<.05 significant at .05 alpha

Table 6 shows that there are significant differences in the environmental concerns of the respondents when classified as to course, F=5.008, p=.000. Post Hoc-(Scheffe') results revealed that environmental concerns of the BEED, BSIT(FT), and(INFO TECH) significantly differs from the environmental concerns of BSHRM. This implies that environmental concern of the BSHRM students comparatively varies from that of the BEED, BSIT(FT) and BSIT(Info Tech) students . This may be attributed to the fact that the inclination of the students are geared towards the aesthetic beauty of the environment rather than on the preservation aspect of it.

The findings conforms with the results of the study of O'Brein in 2007 where it was also found out that environmental attitude varies significantly among college of enrollment.

Table 7. Differences in the environmental concern of the respondents when categorized as to year level

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.759	4	.690	1.170	.324
Within Groups	169.838	288	.590		
Total	172.597	292			

p>.05 not significant at .05 alpha

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There is no significant difference in the environmental concerns of the respondents when classified as to year level, F=1.17, p=.324, as illustrated in table 10. This implies that the year level of the students does not considerably affect their extent of concern towards the environment.

The finding conforms with the study of Sinha et al. (2008) that there is no significant variation in the environmental among students when categorized as to year level.

Table 7. Differences in the disaster preparedness of the respondents when categorized as to sex, residence location, no. of household members and age

Compared Groups	n	mean	df	t	Sig.
A. Sex					
Male	104	3.64	291	.380	.704
Female	189	3.68			
B. Age					
Below 20 yrs. old	185	3.69	291	.575	.566
C. 20 yrs. Old and above	108	3.63			
D. Residence Location					
Poblacion	86	3.75	291	1.212	.226
Barangay	207	3.63			
E. No. of Household Members					
Small (6 and below)					
Big (more than 6)	189	3.59	291	1.993	.291
	104	3.79			

p>.05 not significant at .05 alpha

There are no significant differences in the disaster preparedness of the respondents classified as to Sex, t=.380, p=.704; Age, t=.575, p=.566; Residence Location, t=1.212, p=.226; and No. of Household Members, t=1.993, p=.291. This is shown in Table 11. This implies that variables such as sex, age, residence location, number of household members are not reliable measures of the state of preparedness of the students for the occurrence of natural calamities. Result of this study contradicts with that of Onalde (2008) wherein the result revealed that the 'protective strategies' on disaster preparedness is high in the rural areas than in the urban areas.

Table 8. Differences in the disaster preparedness of the respondents when categorized as to course

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	25.161	7	3.594	5.965	.000*
Within Groups	171.738	285	.603		
Total	196.899	292			

**p<.05 significant at .05 alpha*

There are significant differences in the disaster preparedness of the respondents classified as to course, F=5.965, p=.000. This is depicted in Table 8. Post Hoc-(Scheffe') results revealed that the disaster preparedness of the BEED significantly differs from the disaster preparedness of BSA, BSED, BSIT(FT) and BSIT(INFO TECH). This implies that disaster preparedness among students vary considerably among the different courses. It has been noted that BEED students exhibit better preparedness for natural calamities which may be attributed to the fact that they have subjects like Ecology and Community Immersion which gives them special training on application of disaster management skills. This conforms with the study of Unaldi (2008) which indicated a significant difference among the student teachers' disaster preparedness when they were categorized by department.

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Table 9. Differences in the disaster preparedness of the respondents when categorized as to year level

Source of Variation	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.207	4	.552	.816	.516
Within Groups	194.692	288	.676		
Total	196.899	292			

p>.05 not significant at .05 alpha

There is no significant difference in the disaster preparedness of the respondents classified as to year level, F = .816, p = .516. This is depicted in Table 9. This implies that year level is not a real measure of the disaster preparedness among students.

The findings negates the study of Unaldi (2008) which stressed that student teachers who presumed to be in the higher year level are more aware of the risks and have more adjustments for natural disasters.

Relationships between Environmental Literacy and Concern; Environmental Literacy and Environmental Preparedness; and Environmental Concern and Environmental Preparedness

There is a significant relationship between the environmental literacy and environmental concern of the respondents, r=.373, p=.000 as depicted in table 10. This implies that the more knowledgeable the students are, the more they will develop concern for environmental protection and preservation.

This affirms the result of the study of Donovan in 2001 where the result also exhibited a positive relationship among environmental knowledge, attitudes and behavior.

Moreover, there is a significant relationship between the environmental literacy and disaster preparedness of the respondents, r=-.139, p=.017 as shown in table 10. This implies that the more you knowledgeable you know about environmental issues and concerns the more you will be engrossed to develop better disaster management potentials.

This was corroborated by result of the study of Chu, et al. in 2007 where there is a strong correlation between knowledge and behavior. Another study that conforms with the result is that of King, in 2000 where it was found out that by raising awareness of expected hazards and increasing both knowledge of and active participation in appropriate preparations people will tend respond more effectively to warnings and behave safely when a disaster does occur.

On the other hand, there is no significant relationship between the disaster preparedness and environmental concerns of the respondents, r=.058, p=.322 as shown in table 14. This implies that your love for our environment does not have any effect on the disaster preparedness of the individual.

The findings negates the study of Unaldi in 2008 which states that environmental awareness and involvement is in relation with to risk and adjustments for natural disasters.

Table 10. Correlation matrix

		Environmental Literacy	Environmental Concern	Disaster Preparedness
Environmental Literacy	Pearson Correlation	1		
	Significance(2-tailed)	.		
	N	293		
Environmental Concern	Pearson Correlation	.373(**)	1	
	Significance(2-tailed)	.000	.	
	N	293	293	
Disaster Preparedness	Pearson Correlation	-.139(*)	.058	1
	Significance(2-tailed)	.017	.322	.
	N	293	293	293

** Correlation significant at 0.01(2-tailed)

* Correlation significant at 0.05(2-tailed)

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V. CONCLUSIONS

Generally, the level of environmental literacy of the students of West Visayas State University Calinog Campus when taken as a whole and when categorized according to variables is all "knowledgeable". Females have an edge over the males, older over younger, those in the barangayays over the poblacion, those with smaller family members over large ones as shown by their higher means.

The level of environmental concern of the students is all "very concerned". The students have imbibed the proper values on environmental protection and preservation. The level of disaster preparedness of the students is "most often prepared". BEED, BSIT, BSHRM and GRADUATE SCHOOL are "most often prepared" while the BSA, BSED, BSIT (FT) and BS ENTREP are "frequently prepared". There are no significant differences in the environmental literacy of the respondents. There are significant differences in the environmental literacy of the respondents. As to course, there is a significant difference between the environmental literacy of BEED and BSHRM. There are no significant differences in the environmental literacy of the respondents when categorized as to Year Level. There are no significant differences in the environmental concerns of the respondents when classified as to sex, age, residence location and no. of household members. There are significant differences in the environmental concerns of the respondents when classified as to course. There is no significant difference in the environmental concerns of the respondents when classified as to year level. There are no significant differences in the disaster preparedness of the respondents classified as to sex, age, residence Location, and no. of household members. There are significant differences in the disaster preparedness of the respondents classified as to course. There is no significant difference in the disaster preparedness of the respondents classified as to year level. There is a significant relationship between the environmental literacy and environmental concern of the respondents. There is a significant relationship between the environmental literacy and disaster preparedness of the respondents. There is no significant relationship between the disaster preparedness and environmental concerns of the respondents.

VI. RECOMMENDATIONS

The school curriculum planners may integrate environmental conservation and preservation issues as well as disaster risk management in various subject areas. Environmental issues and concerns should be integrated in various subjects in all courses. There might be frequent conduct of environmental awareness and preservation programs and activities to be conducted by school officials concerned as well as the student organizations. Yearly disaster preparedness drills may be conducted by school officials in coordination with the different local and national government organizations. Proper information dissemination on disaster management should be given to all the students. Students can even be used as information carrier during their community immersion activities environmental issues and disaster management. Attendance to the disaster management drills should be given emphasis so that all students should be aware on how to act properly in times of natural calamities. Integration of environmental issues should be undertaken so that the students would inculcate good values of environmental preservations ultimately develop the "love for nature". Integration of environmental issues in school curricular offerings is highly recommended. There might be a continuous linkage with local and national officials on disaster risk management programs. Integration of environmental issues in school curricular offerings is highly recommended as well as the continuous linkage with local and national officials on disaster risk management.

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