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Organizations environmental awareness and attitude

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Abstract

Environmental education necessarily involves the willingness to take personal initiative and social participation to achieve sustainability. This study determined the respondents' environmental awareness, perception of environmental issues and concerns, and environmental attitude. It followed a descriptive-comparative research design with volunteers from randomly selected faculty, staff, and students. The instrument of this study consists of a questionnaire using a four-point Likert – type response scale, agree/disagree response section, and a series of questions to determine demographic characteristics. The respondents are aware of their environment, perceived the environmental issues and concerns as worse, and are undecided regarding their environmental attitude. Analyses using independent samples t-test and one-way ANOVA showed that their perceptions of the issues and concerns are found out to be statistically significantly different when grouped according to a position wherein the students have better perceptions compared to school staff. Comparative analyses revealed that the dependent variables are statistically equal when grouped by the staffs' employment status and highest educational attainment. The students' environmental awareness, perceptions of environmental issues and concerns, and environmental attitudes do not differ when grouped by profile variables except for their mothers' occupations. Students whose mothers do housekeeping are more aware of their environment than those with non-house-keeping mothers. Both first-year students and second-year students have better perceptions of environmental issues and concerns than third-year students. Also, students enrolled in the College of Agriculture have better perceptions than those enrolled in the College of Teacher Education

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Introduction

Environmental education is a process by which individuals develop an awareness, concern, and knowledge about the environment and learn to apply this knowledge to preserve, conserve, and sustainably use the environment to benefit current and future generations. It entails a commitment to self-initiative and social participation in order to achieve sustainability. It aims to develop appropriate environmental skills in all learners, including students, out-of-school youth, community leaders, policymakers, and the general public. According to Baylongo (2012), environmental education equips diverse groups of people and graduates from various professional fields with the knowledge necessary to cultivate a sense of responsibility for the environment and its richness. Environmental education is believed to have a sizable impact on environmental awareness, daily lifestyles, and behavior (Zsóka, Szerényi, Széchy, & Kocsis, 2013).

The purpose of environmental education is to create a global population that is aware of and concerned about the environment and its associated problems and that possesses the knowledge, skills, attitudes, motivations, and commitment necessary to work individually and collectively toward resolving current problems and preventing the emergence of new ones (Sola, 2014). Environmental education contributes to developing and promoting a more environmentally conscious corporate culture (Law, Hills, & Hau, 2017).

Environmental education strengthens individuals' critical thinking, problem-solving, and decision-making abilities and teaches them to consider all sides of an environmental issue before making informed and responsible choices (Mbalisi, 2009). Environmental education enables individuals to gain firsthand knowledge of their physical environment and study the natural resources that abound within it for optimal use and thus develop a commitment to environmental protection and resource conservation for current and future generations (Festus & Ogoegbunam, 2012).

As we continue to investigate the detrimental effects of human activities on the environment, we see how our natural world suffers. Our generation has altered the environment more rapidly and extensively than any previous generation, demonstrating that behavioral change is necessary for a sustainable future (Blankenberg & Alhusen, 2019). Environmental problems are frequently multifaceted and complex, encompassing various interconnected dimensions (Ingold, Driessen, Runhaar, & Widmer, 2019). Numerous environmental problems are anthropogenic in origin, which means they are caused by human behavior (Blankenberg & Alhusen, 2019).

The current state of the planet's environmental degradation necessitates establishing formal educational environments conducive to implementing practical environmental proposals that foster action competence (Varela-Losada, Vega-Marcote, Perez-Rodriguez, & Alvarez-Lires, 2016). Education policies, community attitudes toward the environment, and society have all contributed to creating a world in which the socially constructed nature of knowledge is acknowledged. Students and teachers collaborate to create effective environmental education programs that contribute to developing socially critical curricula in today's world.

The United Nations' Brundtland Commission referred to sustainable development as development that satisfies current and future generations' needs without jeopardizing their ability to meet their own (Meadows, Randers, & Meadows, 2013). However, sustainability issues have gained increased societal and business interest as a promising paradigm for achieving a more equitable and prosperous world in which natural resources and the environment are preserved for future generations (Evangelista, Santoro, & Thomas, 2018).

In the Philippines, studies indicate that the country's environment is deteriorating rapidly (Naz, 2013; Pardo, 2012; & Duncan, 2008). Recent evidence suggests that the key to environmental protection is to involve ordinary citizens, not just highly active environmentalists (Liu, Kobernus, & Bartonova, 2014). Public awareness is critical to the success of current air

pollution policies and any future air pollution strategy. We need to understand the factors that influence human behavior to effectively change the behaviors that contribute to environmental problems (Heimlich and Ardoin, 2008; Steg and Vlek, 2009). It is not just about educating the public or recruiting users; it is also about assisting those users in comprehending the issues and concerns to make their own informed choices (Liu, Kobernus, & Bartonova, 2014).

This context prompted the researcher to investigate the environmental awareness, issues and concerns, and attitudes of a higher education institution to understand the perspectives of students and employees on the environment.

Statement of the Problem

This study aims to determine the respondents' environmental awareness, perception of environmental issues and concerns, and environmental attitude. Specifically, it answers the following:

1. What is the environmental awareness of the respondents?
2. What is the respondents' perception of environmental issues and concerns?
3. What is the environmental attitude of the respondents?
4. Is there a significant difference between the respondents' environmental awareness, perception of environmental issues and concerns, and environmental attitude when grouped by profile variables?
5. Is there a significant difference between the staff respondents' environmental awareness, perception of environmental issues and concerns, and environmental attitude when grouped by profile variables?
6. Is there a significant difference between the student respondents' environmental awareness, perception of environmental issues and concerns, and environmental attitude when grouped by profile variables?

Materials and methods

Research Design

This study compared the levels of awareness, issues/concerns, and attitudes of students and employees of a university in the northern Philippines. The study will follow a descriptive-comparative research design with volunteers from selected groups of faculty, staff, and students.

Respondents and Sampling Technique

Respondents were randomly selected from the total population of the faculty and staff of the campus; likewise, the students enrolled. This study consisted of two groups of people in the organization: faculty, staff, and students. The first group consists of the students selected randomly from a population of the different participating programs on the campus. The second is the faculty population, referred to as the educators who will be representatives and coordinators of the different programs in their respective colleges. The third group, the staff group, the office worker, administrative personnel, and other employees, consisted of volunteers who met regularly/irregularly throughout the school year to discuss curriculum, activities, and other incidental environmental education issues.

Table 1 presents the distribution of the respondents in terms of their profile variables. It can be gleaned out of 269, 76 or 28.3 percent was aged 19, 67 or 24.9 percent aged 22 and above, and 66 or 24.5 percent aged 20. The mean age is 22.3, with a standard deviation of 7.24. As of sex, 195 or 72.5 percent were females while 74 or 27.5 percent were males. Thus, it shows that the respondents are female-dominated.

The respondents were classified into 29 faculty and administrative personnel and 240 students. Among the 29 school staff, there were 22 or 75.9 faculty and 7 or 27.1 administrative personnel. Twenty-three or 79.4 percent were regular, while respondents with the employment status of part-time and contract of service have both frequencies of 3 or 10.3 percent. Their highest educational attainment shows that 9 or 31.0 percent were master graduates, 7 or 24.1 percent had doctoral units, and 6 or 20.7 were doctoral graduates.

Among the 240 students, there were 125 or 52.1 first-year students, 91 or 37.9 were second-year students, and 24 or 10.0 percent were third-year students.

Ninety-four or 39.2 percent were enrolled in the College of Teacher Education; 61 or 25.4 percent were enrolled in the College of Agriculture; 59 or 24.6 were enrolled in the College of Hospitality Management, and 26 or 10.8 percent were enrolled in the College of Information and Computing Sciences.

Their fathers' educational attainment indicates that 65 or 27.1 were high school graduates, 46 or 19.2 percent were elementary undergraduate, and 44 or 18.3 percent were high school undergraduates. As for their mothers', 71 or 29.6 percent were high school graduates, 43 or 17.9 percent were elementary graduates, and 36 or 15.0 percent were elementary undergraduates.

As of their fathers' occupation, 153 or 63.8 percent were farming, 11 or 4.6 percent were driving, and 10 or 4.2 percent were laborers. One hundred twenty-four of their mothers were housekeeping, 52 or 21.7 percent were farming, and 20 or 8.3 percent were overseas Filipino workers.

Table 1. Distribution of the respondents in terms of profile variables.

Variable	Frequency (n=269)	Percentage
Age		
18	30	11.2
19	76	28.3
20	66	24.5
21	30	11.2
22 and Above	67	24.9
Mean=22.30	SD=7.24	
Sex		
Female	195	72.5
Male	74	27.5
For Faculty and Administrative Personnel (n_1=29)		
Position		
Faculty	22	75.9
Administrative Personnel	7	24.1
Employment Status		
Regular	23	79.4
Part-time	3	10.3
Contract of Service	3	10.3
Highest Educational Attainment		
PhD Graduate	6	20.7
With PhD Units	7	24.1
College Graduate	2	6.9
College Undergraduate	1	3.4
MA/ MS Graduate	9	31.0
With MA/ MS Units	4	13.8
For Students (n_2=240)		
Year Level		
1st Year	125	52.1
2nd Year	91	37.9
3rd Year	24	10.0
Department		
CTED	94	39.2
COA	61	25.4
CHIM	59	24.6
CICS	26	10.8
Parents Educational Attainment (Father)		
College Graduate	17	7.1
College Undergraduate	30	12.5
High School Graduate	65	27.1
High School Undergraduate	44	18.3
Elementary Graduate	36	15.0
Elementary Undergraduate	46	19.2
Others	2	0.8
Parents Educational Attainment (Mother)		
MA Graduate	1	0.4
College Graduate	27	11.3
College Undergraduate	32	13.3
High School Graduate	71	29.6
High School Undergraduate	29	12.1
Elementary Graduate	43	17.9
Elementary Undergraduate	36	15.0
Deceased	1	0.4
Parents Occupation (Father)		
Farming	153	63.8
Driving	11	4.6
Laborer	10	4.2
Carpenter	8	3.3
Construction Worker	7	2.9
OFW	4	1.7
Business Proprietor	2	0.8
Teaching	2	0.8
Others (Laborer, Welder, Bedridden, Deceased, etc.)	43	17.9
Parents Occupation (Mother)		
Housekeeping	124	51.7
Farming	52	21.7
OFW	20	8.3
Vendor	12	5.0
Teaching	4	1.7
Barangay Health Worker	3	1.3
BHW	2	0.8
Others (Minister, Laborer, Deceased etc.)	23	9.6

Research Instruments

The instrument used in the study was a questionnaire using a four-point Likert-type response scale and agree/disagree response section-a series of questions

to determine demographic characteristics. A pilot study was conducted with a selected small group of environmental participants. This representative group of the target population was used to conduct a trial to observe consistencies and refine the survey.

Data Gathering Procedure

A letter of request was forwarded to the addressed to the Campus Executive Officer to seek his approval. After the notification of approval to conduct, the researcher submitted another letter to the deans of the different departments. After the requests were approved, the researcher gathered the data via Google Form.

Analysis of Data

For the descriptive part of the study, frequency counts, means, standard deviations, and four-point Likert Scale were used.

Numerical Value	Descriptive Values	Scale
4.20 – 5.00	Very much aware/ much better/ strongly agree	5
3.40 – 4.19	Much aware/ better/ agree	4
2.60 – 3.39	Aware/ good/ neither agree nor disagree	3
1.80 – 2.59	Somewhat aware/worse/ disagree	2
1.00 – 1.79	Not at all aware/ much worse/ strongly agree	1

It further examined whether there are differences in the environmental awareness, perception of environmental issues and concerns, and environmental attitude of the respondents when grouped according to profile variables.

Results and discussions

Environmental Awareness

The table presents that the respondents are aware of their environment (3.13). They were much aware that people will soon experience a major ecological catastrophe (3.64) if things continue on their present course but can contribute to air pollution problems such as the use of natural gas in houses and workplaces and LPG in vehicles (3.55). However, the so-called "ecological crisis" facing humankind has been greatly exaggerated (3.48). Liu, Kobernus, & Bartonova (2014) asserted the importance of awareness for the implementation of existing air policy and the success of any future air pollution strategy.

They were aware that humans were meant to rule over the rest of nature (3.12) and can overcome any environmental problem with science and technology (2.80) by giving more importance to environmental issues and solutions (3.08) given that the Earth has minimal room and resources (3.03). Though the balance of nature is strong enough to cope with the impacts of modern industrial nations (3.05), it can be very delicate and easily upset (2.98).

Table 2. The extent of the respondents' awareness of the environment.

Statement	Weighted Mean (n=269)	Descriptive Value
If things continue on their present course, people will soon experience a major ecological catastrophe.	3.64	Much aware
The use of natural gas in houses - workplaces, and LPG in vehicles contributes to the solution of the air pollution problem	3.55	Much aware
The so-called "ecological crisis" facing humankind has been greatly exaggerated.	3.48	Much aware
Humans were meant to rule over the rest of nature.	3.12	Aware
Visual and print media should attach more importance to environmental issues and solutions.	3.08	Aware
The balance of nature is strong enough to cope with the impacts of modern industrial nations.	3.05	Aware
The Earth has minimal room and resources	3.03	Aware
The balance of nature is very delicate and easily upset	2.98	Aware
Science and technology can overcome any environmental problem.	2.80	Aware
Maintaining economic growth is more important than protecting the natural environment.	2.55	Somewhat aware
Overall Weighted Mean = 3.13 (Aware)		

Pardo (2012) found out a very high level of environmental awareness. However, raising awareness is about informing the public or recruiting users; it is also about assisting those users in

comprehending the situation's problems and concerns to make informed decisions (Liu, Kobernus, & Bartonova, 2014).

Environmental Issues and Concerns

Evident in table 3 is the respondents' perception of environmental issues and concerns. The overall weighted mean of 2.56 is described as worse. The respondents had a good perception of the conditions of wetlands, nature preserves (2.79), presence of invasive species (2.77), the status of wildlife protection (2.71), overall environmental state of the Philippines (2.71), and the use of pesticides (2.64).

On the other hand, they perceived these as worse: worldwide population growth (2.53), pollution from industries, farmland, and urban development (2.43), misuse of chemicals such as fertilizers and pesticides (2.41), level of pollution or waste produced by nearby houses, farms, and establishments (2.38), and the effect of global warming (2.23). Similarly, Pardo (2012) disclosed that the ill-effect of environmental destruction is evident, and its future potentialities are immense.

Table 3. The respondents' perception of environmental issues and concerns.

Statement	Weighted Mean (n=269)	Descriptive Value
The conditions of wetlands and nature preserves	2.79	Good
Presence of Invasive Species	2.77	Good
Status of wildlife protection	2.71	Good
The overall environmental state of the Philippines	2.71	Good
Pesticides: insecticides used to treat insect pests, herbicides used to treat weeds, and rodenticides used to kill animal pests	2.64	Good
Worldwide human population growth	2.53	Worse
Pollution from industries, farmland, and urban development.	2.43	Worse
The misuse of chemicals such as fertilizers and pesticides	2.41	Worse
The level of pollution or waste produced by nearby houses, farms, and establishments	2.38	Worse
Effect of Global Warming	2.23	Worse
Overall Weighted Mean = 2.56 (Worse)		

Environmental Attitude

Table 4 shows the environmental attitude of the respondents. The overall weighted mean of 3.34 is described as neither agree nor disagree.

The respondents agreed that teachers encourage caring for the environment (4.05) and practice energy conservation, such as turning unnecessary lights off when leaving a room (3.44).

Table 4. The environmental attitude of the respondents.

Statement	Weighted Mean (n=269)	Descriptive Value
Teachers encourage you to care for the environment.	4.05	Agree
When leaving a room, I turn the unnecessary lights off to conserve energy	3.44	Agree
I set aside the household waste for recycling (Glass, plastic, paper, etc.)	3.39	Neither agree nor disagree
I can do many things to protect the environment in my community	3.32	Neither agree nor disagree
I'd prefer a garden that is wild and natural to a well-groomed and ordered one	3.26	Neither agree nor disagree
I prefer eco-friendly products over non-eco-friendly though they are cheap	3.25	Neither agree nor disagree
Personally, working with others, can influence the solution of environmental issues	3.22	Neither agree nor disagree
I can influenced the resolution of environmental issues in my community using action strategies	3.21	Neither agree nor disagree
I can allocate effort/time to help the protection of wilds (wildlife).	3.15	Neither agree nor disagree
Change determines how environmental problems and issues are solved	3.15	Neither agree nor disagree
Overall Weighted Mean = 3.34 (Neither agree nor disagree)		

However, they neither agreed nor disagreed to: set aside household waste for recycling (3.39), do many things to protect the environment (3.32), prefer a garden that is wild and natural to a well-groomed and ordered one (3.26), prefer eco-friendly products over non-eco-friendly though they are cheap (3.25), work with others can influence the solution of environmental issues (3.22), influence the resolution

of environmental issues in their community using action strategies (3.21), allocate effort/ time to help the protection of wildlife (3.15), and believe that change determines how environmental problems and issues are solved (3.15).

Milfont and Duckitt (2010) explained that environmental attitude is a psychological tendency expressed by evaluative responses to the natural environment with some degree of favor or disfavor.

To improve it, Pardo (2012) recommended developing an environmental education program and strict implementation of the laws.

Difference between the Respondents' Environmental Awareness, Perception on Environmental Issues and Concerns, and Environmental Attitude when Grouped by Profile Variables

An independent samples t-test was run and resulted in no significant differences between the respondents' environmental awareness for both grouping variables sex (t=0.958, df=267, p>0.05) and position (t=1.283, df=267, p>0.05). Therefore, the null hypotheses should not be rejected and conclude that the respondents' environmental awarenesses do not differ when grouped by sex and position. Furthermore, table 2 indicates that the respondents, when grouped by sex and position, are equally aware of their environment.

Table 5. Difference between the respondents' environmental awareness when grouped by profile variables.

Variables	Mean	S.D.	t-value	Probability	Statistical Inference
Sex					
Female	3.1062	0.55637	0.958	0.339	Not Significant
Male	3.1797	0.57766			
Position					
Staff	3.0000	0.63808	1.283	0.200	Not Significant
Student	3.1417	0.55184			

Independent samples analysis revealed a statistically not significant difference between the respondents' perception of environmental issues and concerns when grouped by sex (t=1.1414, df=267, p>0.05).

As a result, do not reject the null hypothesis and conclude that respondents' perceptions of environmental issues and concerns are statistically equal when grouped by sex.

However, the analysis yielded a statistically significant difference between the respondents' perception of environmental issues and concerns when grouped according to position (t=6.600, df=267, p<0.01). The null hypothesis is then rejected, and it can be concluded that the respondents' perceptions on environmental issues and concerns when grouped by sex are statistically significantly different. Moreover, the student group ($\bar{x}$=2.63) better perceive environmental issues and concerns than the staff group ($\bar{x}$=2.01). Pardo (2012) also revealed that the students are well informed of the environmental issues.

Table 6. Difference between the respondents' perception of environmental issues and concerns when grouped by profile variables.

Variables	Mean	S.D.	t-value	Probability	Statistical Inference
Sex					
Female	2.5236	0.68943	1.414	0.158	Not Significant
Male	2.6568	0.69046			
Position					
Staff	2.0069	0.44636	6.600	0.000	Significant 0.01
Student	2.6271	0.68588			

Analysis using independent samples t-test resulted in no significant differences between the respondents' environmental attitude when grouped by sex (t=0.759, df=267, p>0.05) and position (t=1.535, df=267, p>0.05). The null hypotheses should not be rejected and conclude that the respondents' environmental attitudes do not differ when grouped by sex and position.

Moreover, this is supported by the results in table 4 that the respondents are undecided about their attitude towards the environment. In contrast,

Magulod (2018) found out that environmental attitude differs along with age and course.

Difference between the Staffs' Environmental Awareness, Agreement on Environmental Issues and Concerns, and Environmental Attitude when Grouped by Profile Variables

Mann-Whitney U test and Kruskal Wallis test were run and resulted in statistically no significant difference between the staffs' environmental awareness when grouped by employment status (U=63.500, p>0.05) and highest educational attainment (χ^2=4.046, df=2, p>0.05). The null hypotheses should not be rejected and can be generalized that the staffs' environmental awarenesses do not differ when grouped by employment status and highest educational attainment.

Table 7. Difference between the respondents' environmental attitude when grouped by profile variables.

Variables	Mean	S.D.	t-value	Probability	Statistical Inference
Sex					
Female	3.3282	0.60426	0.759	0.448	Not Significant
Male	3.3892	0.54360			
Position					
Staff	3.4586	0.39417	1.535	0.132	Not Significant
Student	3.3313	0.60623			

Table 8. Difference between the staffs' environmental awareness when grouped by profile variables.

Variable	Mean Rank	Sum of Ranks	U Statistic	P-value	Statistical Inference
Employment Status					
Regular	15.24	350.50	63.500	0.783	Not Significant
Non-regular	14.08	84.50			
Groups	Mean Rank	Df	Chi-Square	P-value	Statistical Inference
Highest Educational Attainment					
College Level	5.67	2	4.046	0.132	Not Significant
Masteral Level	15.96				
Doctoral Level	16.19				

Analyses using the Mann-Whitney U test and Kruskal Wallis test revealed statistically no significant difference between the staffs' perception on environmental issues and concerns when grouped by employment status (U=47.000, p>0.05) and highest educational attainment (χ^2=1.089, df=2, p>0.05). As a result, do not reject the null hypothesis and conclude that when employees are classified according to their employment status and highest educational attainment, their perceptions of environmental issues and concerns are statistically equal.

Mann-Whitney U test and Kruskal Wallis test were run and yielded statistically no significant differences between the staffs' environmental attitude when grouped by employment status (U=42.000, p>0.05) and highest educational attainment (χ^2=2.643, df=2, p>0.05). The null hypotheses should not be rejected. Hence, the staff's environmental attitude when grouped by employment status and highest educational attainment is not significantly different.

Difference between the Students' Environmental Awareness, Agreement on Environmental Issues and Concerns, and Environmental Attitude when Grouped by Profile Variables

Analyses using independent samples t-test and one-way ANOVA revealed statistically no significant differences between the environmental awareness of the students when grouped by fathers' occupation (t=0.188, df=238, p>0.05), year level [F=0.158, df=(2, 237), p>0.05], department [F=1.418, df=(3, 236), p>0.05], fathers' educational attainment

[F=1.828, df=(3, 236), p>0.05], and mothers' educational attainment [F=1.661, df=(4, 235), p>0.05]. Hence, the null hypothesis should not be rejected and conclude that students' environmental awarenesses are equal when compared by these profile variables.

However, an independent samples t-test to compare the students' environmental awareness when grouped by their mothers' occupation has resulted in a statistically significant difference (t=2.101, df=238, p<0.05). The null hypothesis should be rejected, and it should be concluded that there is a statistically significant difference in students' environmental awareness. Further, students whose mothers do housekeeping (x^{-}=3.21) are more aware than those with non-house-keeping mothers (x^{-}=3.07).

Table 9. Difference between the staffs' agreement on environmental issues and concerns when grouped by profile variables.

Variable	Mean Rank	Sum of Ranks	U Statistic	P-value	Statistical Inference
Employment Status					
Regular	14.04	323.00	47.000	0.246	Not Significant
Non-regular	18.67	112.00			
Groups	Mean Rank	Df	Chi-Square	P-value	Statistical Inference
Highest Educational Attainment					
College Level	19.67	2	1.089	0.580	Not Significant
Masteral Level	14.92				
Doctoral Level	14.00				

Table 10. Difference between the staffs' environmental attitude when grouped by profile variables.

Variable	Mean Rank	Sum of Ranks	U Statistic	P-value	Statistical Inference
Employment Status					
Regular	16.17	372.00	42.000	0.152	Not Significant
Non-regular	10.50	63.00			
Groups	Mean Rank	Df	Chi-Square	P-value	Statistical Inference
Highest Educational Attainment					
College Level	7.67	2	2.643	0.267	Not Significant
Masteral Level	16.46				
Doctoral Level	15.23				

Table 11. Difference between the students' environmental awareness when grouped by profile variables.

Variables	Mean	S.D.	t-value	Probability	Statistical Inference
Parents' Occupation (Father)					
Farming	3.1366	0.53653	0.188	0.851	Not Significant
Non-Farming	3.1506	0.58087			
Parents' Occupation (Mother)					
Housekeeping	3.2148	0.54828	2.101	0.037	Significant at 0.5
Non-Housekeeping	3.0661	0.54760			

Source of Variation	Sum of Squares	Df	Mean Square	F	Probability	Statistical Inference
Year Level						
Between Groups	0.097	2	0.049	0.158	0.854	Not Significant
Within Groups	72.686	237	0.307			
Total	72.783	239				
Department						

Variables	Mean	S.D.		t-value	Probability	Statistical Inference
Between Groups	1.288	3	.429	1.418	0.238	Not Significant
Within Groups	71.495	236	.303			
Total	72.783	239				
Parents Educational Attainment (Father)						
Between Groups	1.653	3	0.551	1.828	0.143	Not Significant
Within Groups	71.131	236	0.301			
Total	72.783	239				
Parents Educational Attainment (Mother)						
Between Groups	2.001	4	0.500	1.661	0.160	Not Significant
Within Groups	70.782	235	0.301			
Total	72.783	239				

Independent samples t-test and one-way ANOVA were run and yielded statistically no significant differences between and among the perceptions of the students on environmental issues and concerns when grouped according to their fathers' occupation (t=0.067, df=238, p>0.05), mothers' occupation (t=0.450, df=238, p>0.05), fathers' educational attainment [F=1.166, df=(3, 236), p>0.05], and mothers' educational attainment [F=1.886, df=(4, 235), p>0.05]. The null hypothesis should be maintained, implying that their perceptions are statistically equivalent.

On the other hand, analyses resulted in statistically significant differences among the perception of the students when grouped by year level [F=6.254, df=(2, 237), p<0.01] and department where they were enrolled [F=3.430, df=(3, 236), p<0.05]. Hence, the null hypotheses should be rejected and generalize that the students' perceptions differ when grouped by these profile variables.

Post hoc analysis revealed that both first-year students ($\bar{x}$=2.63) and second-year students ($\bar{x}$=2.74) have better perceptions than the third-year students ($\bar{x}$=2.19). Also, students enrolled in the College of Agriculture ($\bar{x}$=2.81) have better perceptions than those enrolled in the College of Teacher Education ($\bar{x}$=2.47). Alvarez-Garcia, Sureda-Negre, and Comas-Forgas (2015) conducted a literature review and found that pre-service teacher students lacked environmental competencies and that teacher training curricula on environmental education were lacking. Hence, it is the responsibility of their teachers to help these learners develop and address the knowledge and skills needed to understand complex sustainable development issues and sustainability challenges facing society (Hungerford, 2010).

Table 12. Difference between the student's perception of environmental issues and concerns when grouped by profile variables.

Variables	Mean	S.D.		t-value	Probability	Statistical Inference
Parents' Occupation (Father)						
Farming	2.6248	0.66176		0.067	0.947	Not Significant
Non-Farming	2.6310	0.73029				
Parents' Occupation (Mother)						
Housekeeping	2.6467	0.68649		0.450	0.653	Not Significant
Non-Housekeeping	2.6068	0.68759				
Source of Variation	Sum of Squares	Df	Mean Square	F	Probability	Statistical Inference
Year Level						
Between Groups	5.637	2	2.818	6.254	0.002	Significant at 0.1
Within Groups	106.797	237	0.451			
Total	112.434	239				

Variables	Mean	S.D.		t-value	Probability	Statistical Inference
Department						
Between Groups	4.697	3	1.566	3.430	0.018	Significant at 0.5
Within Groups	107.737	236	0.457			
Total	112.434	239				
Parents Educational Attainment (Father)						
Between Groups	1.642	3	0.547	1.166	0.323	Not Significant
Within Groups	110.792	236	0.469			
Total	112.434	239				
Parents Educational Attainment (Mother)						
Between Groups	3.497	4	0.874	1.886	0.114	Not Significant
Within Groups	108.937	235	0.464			
Total	112.434	239				
Post Hoc Analysis Using Tukey HSD						
Groups	Mean	SD		Mean Difference		Probability
Year Level						
First Year	2.6341	0.64664		0.44242*		0.009
Third Year	2.1917	0.67109				
Second Year	2.7405	0.70849		0.54881*		0.001
Third Year	2.1917	0.67109				
Department						
COA	2.8180	0.68666		0.34569*		0.022
CTED	2.4723	0.77465				

Employing independent samples t-test and one-way ANOVA resulted in statistically no significant differences between and among their attitudes when grouped by fathers' occupation (t=0.712, df=238, p>0.05), mothers' occupation (t=0.940, df=238, p>0.05), year level [F=0.274, df=(2, 237), p>0.05], department [F=0.565, df=(3, 236), p>0.05], fathers' educational attainment [F=0.207, df=(3, 236), p>0.05], and mothers' educational attainment [F=0.505, df=(4, 235), p>0.05]. The null hypothesis should be discarded, implying that no significant difference exists between and among students' environmental attitudes when profile variables are used to group them.

Table 14. Difference between the students' environmental attitude when grouped by profile variables.

Variables	Mean	S.D.		t-value	Probability	Statistical Inference
Parents' Occupation (Father)						
Farming	3.3523	0.61012		0.712	0.477	Not Significant
Non-Farming	3.2943	0.60104				
Parents' Occupation (Mother)						
Housekeeping	3.2951	0.65617		0.940	0.348	Not Significant
Non-Housekeeping	3.3686	0.55017				
Source of Variation	Sum of Squares	Df	Mean Square	F	Probability	Statistical Inference
Year Level						
Between Groups	.203	2	0.101	0.274	0.761	Not Significant
Within Groups	87.633	237	0.370			
Total	87.836	239				
Department						
Between Groups	.626	3	0.209	0.565	0.639	Not Significant
Within Groups	87.210	236	0.370			
Total	87.836	239				
Parents Educational Attainment (Father)						
Between Groups	.231	3	0.077	0.207	0.891	Not Significant

Variables	Mean		S.D.	t-value	Probability	Statistical Inference
Within Groups	87.605	236	0.371			
Total	87.836	239				
Parents Educational Attainment (Mother)						
Between Groups	.748	4	0.187	0.505	0.732	Not Significant
Within Groups	87.088	235	0.371			
Total	87.836	239				

Conclusions

This study aims to determine the respondents' environmental awareness, perception of environmental issues and concerns, and environmental attitude. Most of the respondents are females and comprise the school's students, faculty, and administrative personnel. Most of the staff completed their post-graduate education and have permanent employment status. The students are first-year to third-year whose fathers' occupation is mostly farming while their mothers do housekeeping. About half of their parents finished their primary education. The respondents are aware of their environment, perceived the environmental issues and concerns as worse, and are undecided regarding their environmental attitude.

Analyses results show that when grouped by sex, the respondents' environmental awarenesses, perceptions of the issues and concerns, and environmental attitudes are statistically equal. Furthermore, their environmental awarenesses and environmental attitudes are not different when grouped by position. Only their perceptions of the issues and concerns are found out to be statistically significantly different when grouped according to position wherein the students have better perceptions compared to school staff. Separate analyses on the comparison of the staff's and students' environmental awarenesses, perceptions of environmental issues and concerns, and environmental attitudes when grouped by profile variables were carried out using Mann-Whitney U test, Kruskal Wallis test, independent samples t-test, and one-way ANOVA. The dependent variables are statistically equal when grouped by the staffs' employment status and highest educational attainment. The students' environmental awareness, perceptions of environmental issues and concerns, and environmental attitudes do not differ when grouped by profile variables except for their mothers' occupations. Students whose mothers do housekeeping are more aware of their environment than those with non-house-keeping mothers. Both first-year students and second-year students have better perceptions of environmental issues and concerns than third-year students. Also, students enrolled in the College of Agriculture have better perceptions than those enrolled in the College of Teacher Education.

Recommendations

Based on the findings and conclusions, the concerned university should: take action on environmental issues and concerns that respondents perceive as worse; employees and students should attend webinars on the importance of protecting and caring for the environment; students, particularly those with non-housekeeping mothers, should attend environmental awareness webinars and a program.

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