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Research Paper

Environmental literacy among 1st year BSBA-FM students at the University of Mindanao Panabo College, Philippines

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ABSTRACT

This study focused on determining the level of environmental literacy among UM Panabo College first-year BSBA-FM students as well as any notable variations in the level of environmental literacy by age group. The study's variable is environmental literacy. Utilizing a quantitative descriptive design, the researchers ascertained the level of environmental literacy. ANOVA and mean were the statistical techniques used in the investigation. The computed p-value of 0.092 is higher than 0.05, which suggests acceptance of the null hypothesis. Therefore, it was found that there is no significant difference in the extent of environmental literacy among first-year BSBA-FM students in UM Panabo College when analyzed by age group (18 to 20 years old and 21 to 25 years old).

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1. INTRODUCTION

In order to satisfy its demands, humanity is gradually modernizing the world, but as the world approaches the future, problems are also dragging themselves along and becoming worse, especially in the environmental sector. More research is being done to lessen the effects of environmental problems and prevent future environmental crises as more people become aware of them and live with their consequences [1]. One of the most effective and promising ways to address these problems and raise environmental literacy is through educating people about the environment.

An abundance of ideas and concepts that support comprehending how things function for one another as a species may be found in environmental education. It addresses both morality and the ethical obligation to preserve the environment. The attempt by the UN to introduce ideas into education with the goal of promoting sustainability has only resulted in a general lack of environmental literacy, and a systematic strategy for environmental education is necessary to educate society about the ongoing and existing environmental challenges [2].

The World Wide Fund for Nature (WWF) and Affordable Private Education Center (APEC) schools in Manila, Philippines, collaborated to conduct an online Environmental Education (EE) program that inspired Filipino youth, in order to strengthen environmental education in the Philippine academic system and to support RA 9512, the National Environmental Awareness and Education Act of 2008. To address existing issues and prepare the country for future challenges, the program encompassed water, energy, biodiversity, climate change, waste, resilience in schools, and sustainability [3]. Additionally, UP Mindanao arranged a two-day camping event in a Badjao community in Davao City to educate the inhabitants on the preservation of the ocean environment; the youth were given books and other educational resources to help them understand the importance of taking action to protect marine life [4].

Individuals, businesses, and groups can effectively explore environmental issues and implement environmentally responsible behaviours through environmental education. Comprehensive environmental management can be greatly advanced by creating a society that is ecologically literate and has a heightened sense of responsibility towards the environment [1], [5].

The results of this study will give the information required to assess Panabo City's environmental science education program. Educational institutions benefit from the study's contribution to the creation of healthier and greener learning environments. Students might gain by learning about and honing their skills in environmental preservation, with opportunities to engage with real-world problems. Lastly, the research will be helpful to environmental organizations: as the study assesses the condition of environmental education, they will receive strategies and ideas to ensure they are properly equipped with the knowledge and abilities required to handle complicated environmental challenges.

The concept of environmental literacy has been and is still promoted. The most often used definition of environmental literacy emphasizes awareness of the environment and its concerns together with the knowledge, abilities, and drive to work toward preventing future environmental issues. Despite a shared concern for the environment and an understanding of the critical role that education plays in fostering positive relationships between humans and the environment, researchers have adopted widely divergent discourses on what it means to be environmentally, ecologically, or eco-literate [6].

As a result of children no longer growing up in natural surroundings due to the shift from a predominantly agrarian to a more industrial culture, nature study evolved in the late 1800s to provide opportunities for the appreciation and exploration of nature [6]. Due to the Dust Bowl and worries about insufficient resource management, conservation education was created in the 1930s and focused on the importance of preserving soil, water, and other natural resources. Concerns that young people in urban areas were not spending enough time outdoors led to the creation of outdoor education in the 1950s. Environmental education with a focus on the social aspects of environmental problems emerged by the late 1960s as a result of growing public awareness of environmental issues [5].

Fostering an ecological culture and increasing the ecological literacy of the younger generation is one of the best ways to address environmental issues, and incorporating environmental literacy into the educational process is therefore crucial [7]. Acquiring knowledge and skills based in environmental

sciences and associated subjects is necessary for environmental literacy. Although there are several ways to define environmental literacy, its essential components include the ability to collect and analyze facts and to formulate and evaluate hypotheses about the ecosystem people live in; an understanding of the environment's mechanisms and workings, especially how people fit into them; the capacity to recognize and investigate environmental issues; and an understanding of why environmental issues arise and how they affect one's own world [7].

Environmental consciousness is the knowledge of nature and how it influences our relationships with it [8]. It is argued that, in an age dominated by a metaphysics of mastery, we might restore a true relationship with nature as the self-arising force in our physical reality, regaining a sense of nature's agency, normativity, and inherent value. In this view, achieving sustainability involves not only changing the sources of raw materials or developing sophisticated technical solutions but also a deeper transformation in our relationship with nature [5], [8].

In addition, concern and anxiety about ecological issues appear to be intensifying quickly. Eco-anxiety has been found to be strongly correlated with a range of challenging emotions, including rage, despair, guilt, and melancholy, although anxiety also has an adaptive, practical component related to expectations, aspirations, and motivation. Environmental educators require organizational and peer support to handle their own challenging emotions, and teachers should assess their own eco-anxiety before considering the ways they may help their students grow emotionally [9].

Environmental awareness has also been acknowledged as a valuable tool, as knowledge and education have a significant impact on altering people's views on the environment [5]. In the Philippines, the Department of Education (DepEd), the Commission on Higher Education (CHED), and the Technical Education and Skills Development Authority (TESDA) lead the implementation of environmental education and awareness campaigns through inter-agency and multi-sectoral effort at every level, in accordance with Republic Act 9512 of 2008, working with agencies such as the Department of Science and Technology (DOST) and the Department of Environment and Natural Resources (DENR) [10].

This study aims to answer the following questions: (1) What is the extent of environmental literacy among the first-year BSBA-FM students in UMPC? (2) Is there a significant difference in the extent of environmental literacy among first-year BSBA-FM students in UMPC when analyzed according to age group? The study hypothesized that there is no significant difference in the extent of environmental literacy among first-year BSBA-FM students in UMPC when analyzed according to age group, at the 0.05 significance level.

2. METHOD

A quantitative descriptive design was used, since the goal of this study was to accurately and methodically describe a population, circumstance, or phenomenon; such a design answers questions about what, where, when, and how, but not why [11].

2.1 Research Respondents and Sampling Procedure

The research respondents were first-year University of Mindanao Panabo College students majoring in financial management, 91 students overall. A sample size of 74 students was determined using the Raosoft sample size calculator. The respondents were chosen at random, giving every student an equal chance of participation, and stratified random sampling was employed to assign the students to groups according to their survey-related similarities [12].

2.2 Research Instrument

Questionnaires were used to gather data, since they are a useful technique for gathering information from many participants quickly. The Environmental Literacy Scale for Adults (ELSA) of Atabek-Yiğit et al. [1] was adopted. It has twenty statements in all: nine assess environmental consciousness, five assess environmental anxiety, and six assess environmental awareness. Prior to collecting the respondents' data, the researchers wrote a letter to the school director requesting authorization to perform the study

and collect the data, and a letter to the school registrar requesting the complete list of registered BSBA-FM students for the semester. Following approval, the survey questionnaires were given to the participants during their free time and collected after completion.

2.3 Data Analysis

The mean was used to ascertain the degree of environmental literacy and of the indicators of environmental literacy among the BSBA-FM students. Analysis of variance (ANOVA) was used to test whether there was a significant difference in the degree of environmental literacy depending on age group.

3. RESULTS AND DISCUSSION

3.1 Extent of Environmental Literacy among First-Year BSBA-FM Students

The degree of environmental literacy among UM Panabo College first-year BSBA-FM students yielded an overall mean of 4.00, which is the descriptive equivalent of high (Table 1). It indicates that UMPC first-year BSBA-FM students are knowledgeable about the environment. This finding is consistent with earlier research showing how education has helped to build positive interactions between people and the environment, which has been a key strategy in the promotion of environmental literacy [6].

Of all the indicators, environmental awareness had the highest mean (4.17), which is the descriptive equivalent of high. The statement "I would warn people if they caused harm to the environment" had the highest mean of all the statements under the environmental awareness category (4.31, very high), and the statement "When I read a newspaper, I pay attention to the topics related to the environment" had a mean score of 4.08 (high). This indicates that the students were sufficiently literate to understand the potential courses of action for protecting the environment. The indicator of environmental anxiety had a mean score of 4.12 (high). The statement "I would throw old newspapers, empty glass and plastic bottles, and cans into recycling boxes" had the highest mean of 4.27 (very high) among the statements under environmental anxiety, while the statement "I think we will not find a place to have a picnic within a few generations" received the lowest mean score of 3.81 (high). This suggests that the students were worried about what might happen to the environment if appropriate steps are not taken to protect it. Finally, the indicator of environmental consciousness received a mean score of 3.81 (high). The statement "There is nothing wrong with pouring waste cooking oil into the sink" received the lowest mean score of 1.92 (low), while the statement "I'm in favor of using energy sources like solar power and natural gas since the gases given out from stoves are more harmful" received the highest mean of 4.54 (very high). This suggests that the students were conscious of the kinds of acts that should be taken, and not taken, in order to protect the environment.

Table 1. Extent of Environmental Literacy among First-Year BSBA-FM Students

Indicator	Mean	Descriptive Equivalent
Environmental consciousness	3.81	High
Environmental anxiety	4.12	High
Environmental awareness	4.17	High
Overall	4.00	High

3.2 Significant Difference in the Extent of Environmental Literacy According to Age Group

Table 2 shows the comparison of the degree of environmental literacy of BSBA-FM students categorized by age group. The p-value is 0.092, which is greater than 0.05; the null hypothesis is therefore accepted, indicating that there is no significant variation in the level of environmental literacy between the two age groups. These findings agree with those of Wiernik et al. [13], who found that age does not substantially affect a person's understanding of conserving and safeguarding the environment: people of different ages hold distinct views about the environment and vary in the extent to which they engage in different environmental acts, but the age effects identified are small, although their extent and progression may vary.

Table 2. Difference in the Extent of Environmental Literacy among BSBA-FM Students according to Age Group

Variable	Age Group	N	Mean	p	Decision on H_0 at 0.05 Level
Environmental literacy	18 to 20 years old	60	3.98	0.092	H_0 is accepted
	21 to 25 years old	14	4.06		

4. CONCLUSION

Based on the study, first-year BSBA-FM students at UM Panabo College have a high level of environmental literacy, and when the degree of environmental literacy is broken down by age group, there is no significant variation.

4.1 Recommendations

Students should keep an eye on their surroundings and take small steps that can help conserve the environment. Environmental organizations should take the initiative to educate the public and run campaigns to support environmental preservation in order to increase environmental sensitivity and awareness among all people. To effectively support and promote environmental efforts, businesses and organizations should include environmental sustainability in their corporate or organizational goals.

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Authors Contributions Statement

Name of Author	C	M	So	Va	Fo	I	R	D	O	E	Vi	Su	P	Fu
Blescel D. Antong	✓	✓			✓	✓		✓	✓				✓	
Jay-an C. Bagcal		✓	✓	✓		✓	✓				✓			
Jovany Gleen L. Allawan	✓			✓						✓		✓		✓

C : **C**onceptualization
M : **M**ethodology
So : **So**ftware
Va : **Va**lidation
Fo : **Fo**rmal analysis
I : **I**nvestigation
R : **R**esources
D : **D**ata Curation
O : Writing - **O**riginal Draft
E : Writing - Review & **E**diting
Vi : **Vi**sualization
Su : **Su**pervision
P : **P**roject administration
Fu : **Fu**nding acquisition

Conflict of Interest Statement

No conflict of interest.

Informed Consent

Not Applicable.

Ethical Approval

Not Applicable.

Data Availability

This study draws on publicly available data. No new datasets were created.

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