

Environmental Education In Bohol Catholic Schools

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Abstract — With the pressing demand and continuous call for environmental responsiveness, the researcher is motivated to pursue this research to investigate how far the basic education of catholic schools has made their integration of Environmental Education into the curriculum. Thus, the primary aim of this undertaking is to determine the practices and problems of the catholic schools of the province of Bohol as they integrate environmental care, issues, and concerns in the curriculum or school environmental programs.

Findings revealed that all groups of respondents are unanimous in claiming that catholic schools in Bohol are, to a moderate extent only, integrating environmental education; In assessing the extent of problems encountered by the school in integrating environmental education, the school principals humbly admitted that there were problems encountered in the integration of EE. However, both teachers claimed that the schools encountered no problems. Moreover, As revealed in the individual interviews, different catholic schools varied in their initiatives. The initiatives to integrate environmental education effectively are evident in their programs, projects, and activities in both curricular and co-curricular activities, which are both initiated and intended mostly for learners, teachers, and parents.

Indeed, Catholic schools in the province of Bohol adhered to and heed the call to integrate environmental education into the curriculum. The fact is that under the K to 10 curriculum, the inclusion of environmental issues, concerns, policies and laws, protection, and sustainability are all outlined in the MELCS (minimum learning competencies). Notably, Catholic schools have been extraordinarily manifesting initiatives as their responses and actions to environmental care, protection, and sustainability challenges. These Catholic schools demonstrate different pedagogies and initiatives, as evident in many programs, projects, and activities promoting learners' environmental awareness and responsiveness.

However, as barriers and problems surfaced amidst efforts to integrate EE, these catholic schools can still do more to be more relevant, effective, and successful in achieving their goals of providing holistic education. Training and workshops in empowering teachers to integrate environmental themes and core ideas into their lessons are expressed present needs to EE.

Keywords — Awareness, Sustainability, Environmental Protection, Pedagogies, Initiatives

I. Introduction

The quality of the environment has been altered at an alarming rate due to the decreased quality of air, water, and soil, increased ocean pollution, wildlife extinction, and loss of biodiversity. In addition, the frequency of devastation and increased intensity of catastrophic natural disasters resulted in the loss of lives and properties (Abbas, 2013).

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This current reality of unprecedented global environmental degradation demonstrates an urgent need to integrate environmental education in all institutions worldwide firmly. Environmental and sustainability issues such as climate change, water and energy shortages, deforestation, and food security pose even more challenges for the world, government, and society.

Global concerns regarding the deteriorating state of the environment have emphasized the need for environmental education (Incekara, 2010). Challenged with interrelated environmental, social, and economic issues at unexpected scales and intensities, students must be more aware of and prepared. All young learners should be empowered to reverse, reduce or eliminate these adverse effects through quality education.

In his encyclical letter, Pope Francis strengthens the seven environmental principles, one of which states that people are stewards of God's beautiful creation. As responsible stewards, all are called to make the Earth a beautiful garden for the human family. As Pope Francis says in Laudato Si', "There needs to be a distinctive way of looking at things, a way of thinking, policies, an educational program, a lifestyle and a spirituality which generate resistance to the assault of the technocratic paradigm." Hence, the encyclical letter calls humankind for an ecological conversion in which spirituality can motivate people to a more passionate concern for protecting the world.

Kimaryo (2011) believed that teaching Environmental Education (EE) will help learners develop knowledge, skills, and positive attitudes toward the environment from a very early stage. Likewise, Puri and Joshi (2017) cited that EE is a process aimed at developing a world population that is aware of and concerned about the total environment and its associated problems and has the knowledge, attitudes, commitment, and skills to work individually and collectively towards the solution of current issues and prevention of new ones. Environmental education is, therefore, necessary to teach and learn. Teaching students to act for the environment is essential. It aims to develop an informed citizenry that is environmentally conscious and motivated to participate in managing and sustainable use of its environment actively.

By integrating environmental education into the curriculum of all school levels, an excessive influence on students' understanding, practices, and attitudes toward environmental protection can be attained. It would help the students distinguish indications of exercising environmental sustainability and conservation with proper environmental teachings (Raman, 2016). Dejarme and Hagos (2008) reported that integrating Environmental Education (EE) is necessary to produce students who will become earth-friendly, committed to an environmentally sound lifestyle, and prepared to contribute to the environment. It is essential to teach students from a young age about their impact on the environment and the necessity of being environmentalresponsible citizens.

With the pressing demand and continuous call for environmental responsiveness, the researcher, a science teacher herself, is motivated to pursue this research to investigate how far the





basic education of catholic schools has made their integration of Environmental Education into the curriculum. Thus, the primary aim of this undertaking is to determine the pedagogies and practices of the catholic schools of the province of Bohol as they integrate environmental care, issues, and concerns in the curriculum or school environmental programs.

Based on the findings of this study, the researchers proposed a framework for innovative management of environmental care and responsiveness that can be utilized not only in catholic schools but both private and public schools in the province of Bohol. Moreover, it is hoped that the framework becomes a practical guide for the schools to implement environmental and sustainability programs effectively.

Research Questions

This research aimed to assess the integration of Environmental Education in Secondary Catholic Schools of the entire Bohol province. Specifically, it sought to answer the following questions:

- 1. What are the pedagogies employed by the Catholic Schools in the integration of environmental education as assessed by the school principals, teachers and student leaders?
- 2. What are the practices and problems encountered by Catholic Schools in integrating environmental education as perceived by all groups of respondents?
- 3. What does each Catholic School do in other initiatives to intensify environmental education?

Literature Review

This research on environmental education is anchored on the theory of Environmentally Responsible Behavior (ERB). This theory was proposed by Hines, Hungerford, and Tomera (1986). Environmentally Responsible Behavior (ERB) describes "any action, individual or group, directed toward remediation of environmental issues/problems." It is characterized by self-interest and concern for other people, species, or ecosystems. It includes both general actions (talking with others about environmental issues; encouraging family and friends to behave in environmentally responsible ways) and specific actions (recycling; purchasing environmentally friendly and sustainable goods; conservation of energy by turning off lights and using alternate sources of energy, such as solar, hydro, or wind energy; and reduction in fossil fuel dependence by utilizing alternative means of transportation).

Encouraging ERB is the fundamental goal of environmental education (Hines, Hungerford, & Tomera, 1986); research has focused on the precursors of environmentally responsible behaviors to cultivate desired behaviors through environmental education programming successfully. By influencing individuals' values, attitudes, and behaviors in positive ways, environmental education ultimately seeks to minimize adverse environmental impacts.



This study derived legal bases from the United Nations Sustainable Development Goals (SDGs) Agenda 2030. The inaugural report on the global Sustainable Development Goals is the first accounting of where the world stands at the start of the collective journey to 2030. United Nations reaffirms its unwavering commitment to achieving this agenda and utilizing it fully to transform the world by 2030. It presents an overview of the 17 goals using available data to highlight the most significant gaps and challenges. Agenda 2030 has five targets which are as follows: *People*, to end poverty and hunger in all forms and ensures dignity and equality; *Planet*, to protect our planet's natural resources and climate for future generation; *Prosperity*, to ensure prosperous and fulfilling lives in harmony with nature; *Partnership*, to implement the agenda through a solid global partnership; and *Peace*, to foster peaceful, just, and inclusive societies.

In the Philippines, RA No 9512, known as the *National Environmental Awareness and Education Act of 2008*, provides the policy framework for incorporating environmental awareness into the country's educational system; it requires that EE be integrated into the school curricula at the public and private levels. Moreover, the act aims to promote environmental education through an inter-agency and multi-sectoral approach. Education for sustainable development in the Philippines is implemented under environmental education. Based on RA 9512, the DENR issued in 2009 its Special-Order No. 142, creating the DENR Environmental Education Committee. The DENR chairs the Inter-Agency Steering Committee on Environmental Education, composed of key government agencies such as the Department of Environment and Natural Resources (DENR), the Department of Education (DepEd), the Technical Education and Skills Development Authority (TESDA), the Commission on Higher Education (CHED), the Department of Science and Technology (DOST), the Department of Interior and Local Government (DILG), and the Department of Social Welfare and Development (DSWD).

The inspiration and motivation to conduct this study among catholic schools were drawn from the moral and spiritual dimension of environmental education. Saint Francis of Assisi, in his *Praise be to you, my Lord* canticle, beautifully reminds us that the Earth is a common home to humanity, a sister with whom to share life and a beautiful mother who opens her arms to embrace her children. However, this sister now cries out to humankind for the harm and abuse inflicted on her due to irresponsible use and abuse of the goods God had endowed her with. People, as her lords and masters, become the main culprit of the plunder. Moreover, this is why the earth, burdened and laid waste, groans in travail (*Rom 8:22*) and is among the most abandoned and maltreated (*Laudato Si*, paragraph 111).

Pope Francis invites humankind to listen to them, urging everyone – individuals, families, local communities, nations, and the international community – to an "ecological conversion," and recognizes that "there is a growing sensitivity to the environment and the need to protect nature, along with a growing concern, both genuine and distressing, for what is happening to our planet." In this way, Christians realize that their responsibility within creation and their duty towards nature and the Creator are indispensable to their faith (Martin, 2015). *Laudato Si* by Pope Francis



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addresses all the world's peoples, not just Catholics. It summarizes the significant environmental challenges defined by science. It explores their deeper causes in a materialistic society of shortterm selfish interests bent on profit without regard for the needs of people experiencing poverty or the environment. The issues discussed include pollution and climate change, water (for which access is a basic human right), loss of biodiversity, the decline in the quality of human life and the breakdown of society, global inequality, weak responses, and a variety of opinions (Dyal, 2015).

Environmental Education (EE) is already included in the curriculum of the Philippine educational set-up. The Department of Education inculcates in the students the virtues of *Makatao*, MakaDiyos, Makabayan, and Makakalikasan. EE, indeed, is not separate from lessons; it is integrated. The Philippine educational system integrates various environmental concepts in the school curriculum at all elementary, secondary, and tertiary levels (Garcesa & Limjuco, 2014).

The integrative approach of Environmental Education in the K to 12 Curriculum is crucial because environmental literacy can be fully developed by integrating environmental issues in all subject matter across all grade levels. Villanueva (2011) evaluated the extent of EE's integration into the Miriam College High School curriculum and found that EE is moderately integrated. Moreover, respondents have significant differences in their perceptions of EE. Based on her study, there is a general implication for improving strategies, plans, and programs in integrating EE into the curriculum.

The study results of Paul and Bandiez (2011) clarified the main issues and needs to enhance environmental education and related value formation for schools on the elementary level in the Philippines. Based on this research's findings, developing and providing a national standard for environmental education for all schools and educational levels is paramount. The urgency for Environmental Education (EE) has been recognized due to the increasingly pressing environmental problems besetting the Philippines and the world. Policy-making bodies must enact legislation that will ensure the protection of our environment and a program that promotes sustainable development (Bernardo, 2014).

Environmental education is a long-term process of developing the skills and behavior of the students necessary to understand and accept the relationships between people, culture, and the natural environment. In addition, environmental education is a sequential process that attempts to increase understanding of the environment and promote pro-environmental values (Magdugo et al., 2016).

All the theories, models, related literature and studies, and legal bases have helped a more profound understanding of the significance of environmental education in basic education.



II. Methodology

This research employed the mixed method. It means that both quantitative and qualitative approaches were used in the gathering of pertinent data to answer the questions outlined in the statement of the problem. For the quantitative approach, the survey questionnaire was used to determine the school's practices, and problems encountered in integrating environmental education. The researcher interviewed the principal, teacher, or student leader to gather more information from participating schools.

Participants

As the study focused on the environmental education of Catholic schools, most participants were from the 48 the parochial schools located in the different towns in the entire province of Bohol. Within the City of Tagbilaran, five Catholic schools participated in this research study. In every Catholic school, the principal, and a teacher participated. All in all, there were 58 participants which comprised both principals and teachers.

Instruments of the Study

In gathering the data and information from the research participants, the researcher made a questionnaire on environmental education. This instrument is composed of two parts; part one is on the practices and the second is on the problems encountered by the schools. The instrument was presented to the panel members for approval and underwent pilot testing at a non-participant school.

The researcher used a semi-structured interview format to gather the participants' responses. Before the actual conduct of the study, the researcher prepared an interview guide based on the questions stated in the statement of the problem. This interview guide was used to interview a teacher, student, or principal in each school -participant.

Procedure

The researcher asked permission from the two superintendents of both Bohol Association of Catholic Schools, Tagbilaran, and Talibon, by presenting a letter duly signed by the research adviser and the dean of the College of Education – Graduate Studies.

With the approval of the BACS superintendents, the researcher distributed the survey questionnaire to all identified school principals, teachers, and students. The researcher also conducted the individual interview during the survey distribution using the interview guide.

Ethical Considerations

In observance of the ethical procedures in conducting research, the researcher faithfully adhered to the highest ethical standards. The manuscript was submitted for review to the Holy



Name University's Ethics Review Board. Before conducting the interview, the researcher complied with all the requirements for conducting the study, such as a permission letter and endorsement from the two BACS Superintendents.

A consent form was given to the research participants to decide whether they would agree with the terms and conditions of the study. The said form emphasizes that participation in the survey is voluntary; hence, they could withdraw or stop participating in the interview sessions at any time.

III. Results and Discussion

This section presents the findings according to the study's research questions. Colaizzi's (1978) data analysis method was used in tallying, transcribing, and analyzing the recorded responses.

The section encompasses distinct tables representing various study variables. Specifically, four tables (Tables 1 to 4) provide pertinent data regarding environmental education in Bohol Catholic Schools. These tables collectively offer comprehensive information to enhance understanding of the research outcomes.

Table 1. Practices of catholic schools in the province of Bohol in integrating environmental education.

In our school		Principals		Teachers		Overall	
		D	WM	D	WM	D	
1. there are signages on campus as a sign of care for the environment. (ex: Throw your garbage in the proper place, etc.)		НР	2.56	НР	2.53	НР	
2. greening the campus is highlighted/evident with trees and plants.		HP	2.57	HP	2.60	HP	
3. club offerings include those that promote environmental education (Green Thumb Club, Care for Environment Club, etc.)	2.06	MP	2.35	НР	2.08	MP	
4. participation in the LGU's annual coastal clean-up drive is consistently done.		MP	2.50	НР	2.22	MP	
5. Brigada Eskwela is well implemented to prepare and make the campus environment friendly to students, teachers, parents, and visitors.		MP	1.57	NP	1.66	NP	
6. celebration of environment week is highlighted in the school calendar as part of school activities.		MP	2.22	MP	2.17	MP	
7. YES-O (Youth for Environment in Schools Organization), as mandated by DepEd No. 72, s.2008, is an organized and active organization for students.		MP	1.56	NP	1.63	NP	



8. tree planting activities is an annual activity both for: a. teachers and						
b. students	2.11	MP	2.16	MP	2.15	MP
	2.22	MP	2.27	MP	2.20	MP
9.No Plastic campaign is religiously and consistently: a. implemented						
b. monitored	2.41	HP	2.56	HP	2.46	HP
	2.23	MP	2.48	HP	2.22	MP
10. Garbage segregation (bio and non-biodegradable) is part of school life.	2.74	HP	2.76	НР	2.73	HP
Composite Mean	2.24	MP	2.33	MP	2.24	MP

Legend: 1.00 – 1.66 - Not Practiced (NP) 1.67 – 2.33 - Moderately Practiced (MP) 2.34 – 3.00 - Highly Practiced (HP)

As shown in Table 1, only four out of ten practices were marked as HP (highly practiced). All of these four items were unanimously assessed by all respondents- principals, and teachers. All the respondents agreed that these four practices were evident in their schools. On top of these highly practiced activities in catholic schools is the segregation of the trashes (bio and non-biodegradable), having a weighted mean of 2.73. As all schools claim, this separation of trashes has been part of school life. Following closely as the second highest practice in schools in integrating environmental education is the greening of the campus, as evidenced by the presence of trees and ornamental plants. About 50% of the respondent schools also disclosed that they even had the Gulayan sa Paaralan program in school before the pandemic. Right now, they are slowly resuming the activity as students are already allowed to come to school.

The study by Bercasio, R. (2021) on the Assessment of Practices in Integrating Environmental Education in the Teacher Education Program emphasized that good practices were enabling factors for the successful mainstreaming of environmental education in the curriculum.

A similar approach by Cruz (2016) on the topic "Students' Environmental Awareness and Practices: Basis for Development of Advocacy Program" was directed through the joint effort of the participating school's organization to encourage the environmental awareness of the students by active contribution in the implementation of different environmental activities and programs.

Generally, the table highlighted that six out of ten practices were remarkably assessed as moderately practiced. Since more than half of the items are practiced to a moderate extent, this indicates that a lot of ways can still be by catholic schools to improve and intensify practices for better integration of environmental education. It is important to note that the catholic schools practiced and religiously and consistently implemented the "No Plastic" campaign. However, monitoring such activity suggests an improvement as it was assessed as moderately practiced only by them.



The overall composite mean of 2.24 obtained with the qualitative description of MP (moderately practiced) specifies that catholic schools still have room for improvement to integrate environmental education into the curriculum better. Nuñez and Llenaresas (2021), in their study on the Effectiveness of the Environmental Education Program in Enhancing the Awareness, Comprehension, and Competence of the Middle-school Children of Bicol University, documented that good practices contributed to achieving the goal of the Environmental Education Program. It was recommended that a comprehensive EE program be developed to provide young people with in-depth preparation as future responsible citizens.

Table 2. More Initiatives in the Promotion of Environmental Care and Sustainability

	Classroom	Campus	Community
Individual	- Bringing home personal trashes/ "Basura Mo,	-"No Littering of Trashes" - Bringing own water	- Youth volunteers
	Isupot Mo" -Turning off light and fans after classes -Water Conservation	jug/lunch box	- Home backyard
Collective	 Daily-assigned sweepers Recycling of materials "From Trash to Cash" / "May Pera sa Basura". 	Gulayan sa Paaralan - Cleaning & Greening the campus	 CoastalClean-up Mangrove /Tree Planting Church Cleaning

The data above was collated from the school principals and teachers' responses during the individual interview. These collective responses signify that catholic schools have different, multi-initiatives, and undertakings to make their schools eco-friendly and sustainable. Furthermore, schools have carried out the mission to inculcate environmental awareness, sensitivity, care and protection, and values. From the gathered information, it can be noted that these are the essential programs, projects, and activities as initiatives of these Catholic schools: 1. Waste Management



Program (Waste segregation, "No Plastics Policy." Windrows, Bring Home Your Waste); 2. Water Conservation Program; 3. Pollution Prevention Program; 4. Pollution Prevention Program 5. Greening Program; 6. Disaster Risk Reduction and Management Program; 7. Awareness Campaigns and Symposia on Environmental Issues and Actions

In summary, these environmental programs, projects, and activities inculcate the value of a clean, healthy, peaceful, and eco-friendly campus among students and teachers. These are purposely conducted with the collaborative efforts of all stakeholders to make each classroom and office conducive, orderly, and sustainable. Schools aim to maintain promoting sustainable and eco-friendly schools through their environmental programs.

This present study forwarded its findings that the integration of the EE is deeply materialized in science, values education/Christian Living, and social studies. This finding is strongly supported by that of Marpa (2020) in his research on Navigating Environmental Education Practices to Promote Environmental Awareness and Education that integrating environmental education was evident in sciences, social studies, and values education.

Table 3. Problems Encountered by Catholic Schools in Bohol in the Integration of Environmental Education.

Statements		Principals		Teachers		
		D	WM	D	WM	D
1. fragmentation of Environmental Education themes in the various subjects.	1.52	AP	1.41	NAP	1.51	NAP
2. inadequate instructional materials available for teachers and students.	1.70	AP	1.67	AP	1.62	NAP
3. inadequate training of teachers to handle EE-related topics in their subject areas.	1.89	AP	1.58	NAP	1.74	AP
4. over-reliance on the lecture method of teaching, among others.	1.74	AP	1.52	NAP	1.64	NAP
5. school administration does not show the urgency of integrating EE into the curriculum or school activities.	1.41	NAP	1.70	AP	1.52	NAP
6. teachers' indifference towards the activities or programs promoting environmental care and protection.	1.37	NAP	1.41	NAP	1.44	NAP
7. absence of data (data-based) for Environmental Education where information related to the environment is easily accessible by teachers and learners.	1.93	AP	1.96	AP	1.88	AP
8. limited strategies and pedagogies learned by teachers in integrating environmental education into the subject taught.	1.81	AP	1.63	NAP	1.75	AP





9. absence of policy regarding EE integration in basic education.	1.74	AP	1.67	AP	1.71	AP
10.no strong collaboration of stakeholders in the integration of environmental education.	1.63	NAP	1.61	NAP	1.70	AP
Composite Mean	1.67	AP	1.61	NAP	1.65	NAP

Legend: 1.00 – 1.66 - *Not a Problem (NAP)*

1.67 – 2.33 - A Problem (AP)

2.34 - 3.00 - Very Serious Problem (VSP)

Table 3 presents the problems encountered by catholic schools in integrating environmental education among ten items enumerated in the survey tool, five of which, or 50%, were regarded by the school principals and teachers as AP (A Problem). This indicates that there were barriers that confronted the catholic schools in their efforts to seriously and efficiently integrate EE into the curriculum. Hence, it can be inferred that these Catholic schools must surpass these challenges to improve their EE integration.

Among the five items remarked as problems, the top item with the highest mean of 1.88 is the absence of data (data-based) for environmental education, where information related to the environment is easily accessible by teachers and learners. All respondents were consistent in their assessment as they found these data on the environment really essential in classroom instruction. There is an indication here that the school administration has to find ways to acquire these data and other relevant and updated information on environmental issues and concerns.

The expressed need for teachers to learn more strategies in integrating EE into their instruction comes next as the second biggest problem. This signifies that teachers are still in dire need of learning more in order to enhance instruction, as also supported by the top 3 problems encountered, which refers to inadequate training of teachers to handle EE-related topics in their subject areas.

They want to learn more about content and strategies, and the teachers indicate they aspire to improve environmental education. In the study, Relationality and Resilience: Environmental Education in a Time of Pandemic and Climate Crisis by Casas, Pormon, & Manus (2021), it was highlighted that there is a real need for innovative and flexible approaches to environmental education delivery that can adapt to changing circumstances and promote well-being, social and environmental justice.

The 1.65 overall composite mean with the qualitative description of NAP (not a problem) is the result or impact of the five items assessed as not problems for catholic schools in integrating EE. However, it is significant to note that the other half items were considered *problems* encountered in the integration of EE. If these barriers are eliminated, and schools may find ways to address these problems properly, a better implementation of environmental education is ensured.

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Table 4. Correlation of practices and problems in integrating environmental education.

Variables	Spearman <i>rho</i>	Strength of Correlation	p-value	Correlation	Decision
Practices vs. Problems	251*	Weak correlation	.024	significant	Reject the null hypothesis

^{**}Correlation is significant at p < .01

Table 4 presents the variables on practices and problems in integrating environmental education. Spearman's rank order correlations were run to examine the relationship between practices and problems in integrating environmental curriculum. There were negative, weak relationship and significant correlations between practices and problems, rs = -.251, n = 81, p < .05. A negative correlation between paired variables indicates that if one variable increases in terms of its value, appreciation, or strength, the other variable decreases. In this study, although the strength of the correlation is weak, it nevertheless resulted in a significant correlation such that if the practices in environmental education were applied to a serious extent, there seemed to be no problems encountered in integrating the same into the curriculum. Highly practiced integration of environmental education resulted in no problems encountered in such integration.

IV. Conclusion

Catholic schools in the province of Bohol adhered to and heed the call to integrate environmental education into the curriculum. The fact is that under the K to 12 Program the inclusion of environmental issues, concerns, policies and laws, protection, and sustainability are all outlined in the MELCS (Minimum Learning Competencies).

Notably, Catholic schools have been extraordinarily manifesting initiatives as their responses and actions to environmental care, protection, and sustainability challenges. These Catholic schools demonstrate different initiatives as evident in many programs, projects, and activities promoting learners' environmental awareness and responsiveness.

Overall, Bohol's Catholic schools positively responded to the global call for environmental protection, conservation, and preservation contained in Agenda 2030 and *Laudato Si*.

^{*}Correlation is significant at p < .05

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