



Integrating Environmental Ethics into Christian Religious Education: An Analytical and Interpretive Approach through Project-Based Learning

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Abstract

This study explores the integration of environmental ethics into Christian Religious Education (CRE) using an analytical and interpretive approach. The core problem addressed in this research is the increasing neglect of ecological responsibility among communities, particularly within the context of religious learning, amid the challenges of globalization and industrialization. These dynamics often reduce the emphasis on moral, ethical, and environmental awareness, creating an urgent need to realign faith-based education with environmental stewardship. The main objective of this study is to uncover how CRE can serve as a foundational platform for shaping students' ethical and moral values that are environmentally conscious. By embedding ecological values in religious learning, the study aims to foster a more holistic formation of character that emphasizes the responsibility to care for creation. This research employs project-based learning as a methodological framework, wherein students engage in real-world learning activities that connect theological principles with environmental ethics. Through analytical and interpretive methods, the study examines how these educational experiences impact students' perceptions, behaviors, and ethical reflections on nature and sustainability. The findings reveal that integrating environmental ethics within CRE significantly enhances students' awareness of ecological issues and their role as stewards of the environment. It also encourages community-level reflections and actions grounded in Christian teachings. The implication of this research is the potential for faith-based education, particularly in churches and Christian communities, to become a transformative force in promoting ecological responsibility. By aligning religious values with sustainable practices, CRE can contribute to broader efforts in cultivating environmental ethics across generations.

Keywords: *Cognitive development, Early literacy, Interaction quality, Language richness, Parent-child co-reading.*

A. Introduction

Education leads humans to grow in knowledge/insight, as Charles A. Tidwell stated, "People have a capacity that determines their character, growing and developing physically, intellectually, emotionally, and morally. Education is a human instrument to broaden their horizons, allowing them to think more critically and critically in response to issues in their environment" (Hina et al., 2020). Dale Jamieson's analysis of environmental ethics in the context of Christian Religious Education is rooted in the Christian faith (Dale Jamieson, 2008). The Christian faith, through the Bible, also teaches that humans are stewards, not rulers, of nature (Genesis 2:15). The interpretation of this verse explains that the Garden of Eden represents the

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environment and human habitat provided by God for the benefit of humans themselves, to be cultivated and managed properly. The analysis of Genesis 2:15 is a learning and understanding of the construction of service and the responsibilities of believers towards the environment (Utomo, 2020).

Christian Religious Education has been known in several churches in Indonesia since 1955, and is referred to as Christian Education, as discussed by Dr. Elmer G. Homrighausen as a resource person invited from Dean Princeton Seminary New York USA in the conference of the Indonesian Council of Churches (DGI) held in Sukabumi, West Java. Since 1980 Christian Religious Education has been moved in Indonesia through the Jakarta Theological College. The things discussed at that time were first, several issues of Christian Religious Education; second, the development of Christian Religious Education in Indonesia since 25 years; third, the Formation of Church Members (PWG) especially in Indonesia; fourth, the relationship between Christian Religious Education and the Formation of Church Members especially regarding the decision of the 9th DGI General Assembly in Tomohon (Ismail A, 1999). The discussion of this assembly was still at the level of the church and society, not yet reaching the learning that must be covered in the University. The task of Christian Religious Education in this case is still in the inheritance of faith and other Christian treasures so that the congregation can apply them in everyday life. The goal of this education is to form a character based on love, hope, and faith that is implemented in everyday actions (Daniel L. Migliore, 2014).

The discussion and relationship between Christianity and other religions has recently become a key issue within the church. Pluralism and globalization pose pressing challenges to the development of Christian Religious Education (CRE), thus character education programs are urgently needed to further this religious mission (Adam Hamilton, 2025).

The development of Christian Religious Education (CRE) encompasses the entire educational mission of Christians, both in church institutions and universities. However, specifically in universities under the auspices of Christian institutions, Christian Religious Education study programs should focus on addressing global and current viral issues (Jessy Yunus Dannari et al., 2024). For example, the prevalence of waste and its impact on flooding in regions across Indonesia. Thus, character education is closely related to ongoing habits and is expected to address three key areas (cognitive, affective, and psychomotor) of students, enabling them to develop not only knowledge and conceptualization of environmental ethics but also the ability to implement what they know to be true in the classroom through dialogue and pluralism (Heru Setiawan, 2020).

The values of Christian Religious Education regarding a clean and healthy environment as the foundation of faith in the One Almighty God still need to be emphasized. To achieve a clean and healthy environment, factors such as education, personal experiences, and social pressures also influence individuals and society. According to Ismail ((M.Jen Ismail, 2021) that the provision of knowledge, skills and attitudes in basic education is the foundation for forming a child's personality in the formation of a society's personality in the future. This provision of personality can be realized in the form of environmental care behavior education and maintaining cleanliness. One of the concerns in the school environment is the problem of waste. The existence of this waste problem really requires special attention to the environment, in addition to awareness from each individual to always protect the environment as God's creation. Christian Religious Education students as students at HKBP Nommensen University Medan will one day become educators or become leaders in the midst of society must have knowledge and learning about environmental ethics where in that learning students demonstrate the character of mastering nature and protecting it according to God's commands. This means that the world of

education forms and guarantees the process of forming students' character so that they become humans who have personalities with an environmental soul (Riana Lumbanraja, 2021).

HKBP Nommensen University is one of 63 private universities in North Sumatra and one of 38 universities in Medan City, and was ranked the best private university in Medan by Edurank in 2025. Edurank is a global university ranking platform based on empirical and statistical data. HKBP Nommensen University Medan has 10 faculties, and the Christian Religious Education Study Program is one of eight study programs in the Faculty of Teacher Training and Education. In 2025, it received the "Unggul" (Excellent) accreditation among 29 study programs. This excellence can be implemented through various design programs to develop creative and collaborative student learning innovations.

The Christian Religious Education Program, under the auspices of the Faculty of Teacher Training and Education at HKBP Nommensen University, is highly anticipated for its innovations in the face of globalization, with a focus on environmental ethics. Societal progress significantly impacts educational theory, techniques and methods, reading materials, and other resources that may have been unnecessary in the development of Christian Religious Education due to the church's dominance in empowering congregations. Educational quality is the ability of the education system, both in terms of management and the educational process itself, to effectively increase the added value of input factors (class size, teachers, textbooks, learning environments and curriculum, school management, and families) to produce the highest possible output.

The project-based learning (PjBL) model in environmental ethics education among students at HKBP Nommensen University, Medan, is an innovation that enhances students' creative thinking skills in building and preserving the environment. Focusing on the implementation of project-based learning is one implementation model in environmental ethics education that aims to improve the quality of learning based on local wisdom and technology integration. Students generally have a good theoretical understanding of environmental issues, but are limited in the practical application of environmental ethics values. Conventional curricula tend to focus more on cognitive aspects and under-explore the affective and psychomotor aspects of students in the teaching and learning process.

The implementation of this program and design begins with the semester lesson plan (RPS), the implementation of the teaching and learning process, and evaluation. The project-based learning design is ideal for courses and training on environmental ethics for students and emphasizes active involvement, problem-solving, and collaboration. The objectives of this learning model are: first, to enhance students' analytical creativity regarding the environment; second, to introduce students to environmental project management; and third, to introduce students to the concept of environmental studies.

The theoretical benefits of this research are to analyze the role of students in mobilizing religion at the university seen in several points, namely: (1) Spiritual drivers by holding religious activities; (2) Development of religious communities at universities such as KMK; GMKI; (3) Social drivers, namely holding religious-based social activities such as counseling for groups with disabilities; community service to several villages and schools. The mobilization strategies are: first, students can develop religious programs that are interesting and relevant to the needs of the community; second, students can use technology/social media to mobilize religion at the university such as online services, morning services; third, students can develop cooperation with other religious organizations in terms of religiosity at the university through promotions and visits to several churches or community groups. The practical benefits of this research are to describe the Christian Religious Education program for students as Christian educators one day and are required to understand the development of the spiritual development of the

congregation and the university through an applied curriculum whose learning is reconstructed scientifically and practically.

B. Methods

This research is presented qualitatively, descriptively, and exploratively, examining the issues, the relevance of student learning movements, and their validity in everyday life. Data collection was conducted through literature reviews and observations of student learning practices in the classroom and their environment, as well as through personal experience, surveys, and research. The literature review involved collecting data from written sources such as books, journals, articles, or other research reports (Maksum Rangkuti, 2024). Observation, on the other hand, involves directly observing phenomena occurring in the field. This technique is highly effective in obtaining actual data that reflects the actual situation. According to Hardani and colleagues ((Hardani & Nur Hikmatul Auliya, 2020) that data analysis in qualitative research moves inductively, namely from data/facts to a higher level of abstraction, including synthesizing and developing theories (if necessary, and the data supports it). This means that data analysis in qualitative research is more open-ended and must be adjusted to the data/information in the field so that the analysis procedure is difficult to focus on from the start.

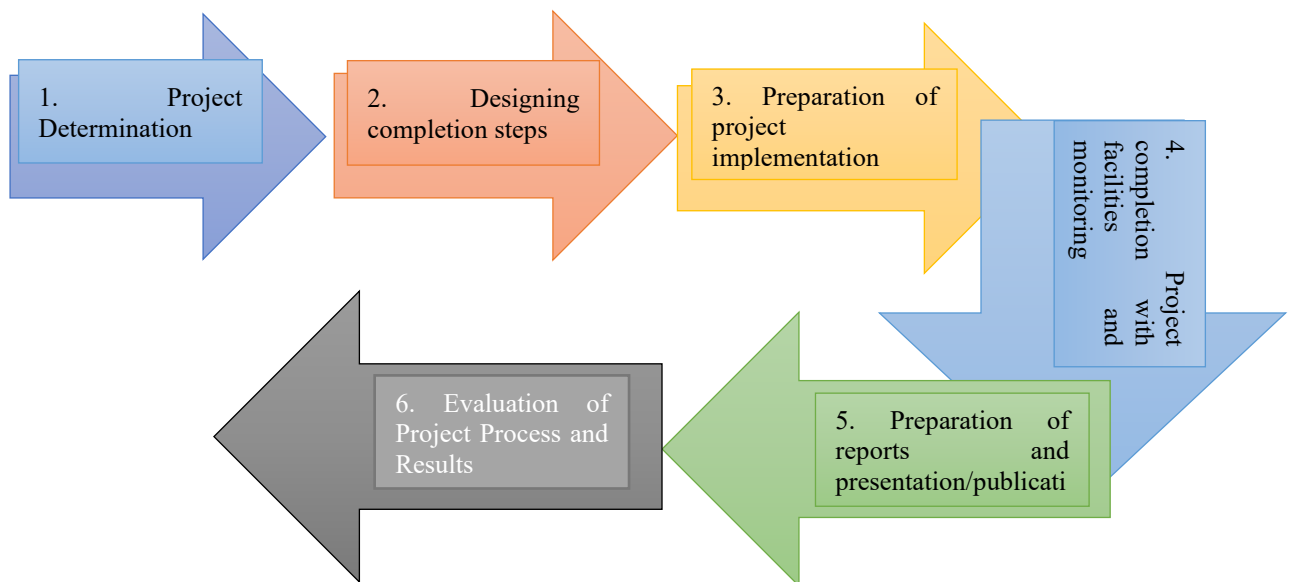


Diagram 1. Steps of project-based learning (*project-based learning*).

C. Results and Discussion

1. Environmental Ethics

The importance of environmental ethics in Christian Religious Education (CRE) learning is to examine the ethical and moral values of human behavior towards nature. This ethic demands human moral responsibility towards the environment and other living things, and encourages a sustainable and non-exploitative lifestyle. Leopold, in his writings on "A Sand County Almanac," introduced the term "land ethic," which emphasizes that humans are part of

an ecological group and have a responsibility to maintain ecosystem harmony (Aldo Leopold, 1949). Meanwhile, Arne Naess, in his work "Deep Ecology," teaches that "humans are not the center of the universe (anthropocentric), but rather an equal part of the web of life." The main principle of deep ecology is the intrinsic value of all life forms and the reduction of the significance of human activities that damage nature. It is hoped that all changes in economic and social policies will be more ecological (Arne Naess, 1973).

According to Stefan Bucher (Bucher, n.d. 2010), the use of environmental ethics in CRE learning refers to an understanding of the natural environment, where nature is a larger ecosystem. The primary role of environmental ethics in religious education is to enable citizens to see that nature must be protected and maintained to remain intact and healthy. Global industrial development has led to population growth and the environment also requiring ethical considerations because it will impact the environmental crisis. This environmental crisis requires a project-based learning model that emphasizes the active involvement of students in solving real-world environmental problems through collaborative projects. In the context of environmental ethics, Project-Based Learning (PjBL) is highly suitable for internalizing the values of responsibility, care, and sustainability by analyzing the values of environmental ethics in everyday life. For example, students face local environmental issues such as waste, pollution, or reforestation, which require ethical responses and students learn the value of collective responsibility for nature collaboratively.

In the current era of dramatic population growth, human impact on the planet has increased significantly, not only because of the enormous increase in human numbers, but also because of new technical power to dig deeper, cut faster, build bigger, and travel greater distances faster using cars, trucks, and planes. As a result, serious new environmental problems have emerged on a global scale. These problems include global climate change; the loss of biodiversity, forests, and wetlands worldwide; the long-distance transport of toxic substances; the decline of coastal oceans; and the degradation of freshwater systems and the world's ecology (in Apter et al., 2001). Sepahpour (2015) explains that the ethical dimensions of overuse of Earth's ecosystem services and human population growth can worsen nature. The factors that contribute to the exponential worsening of climate change are the large population that shaped the industrial revolution, and this was one of the factors that introduced machines, factories, and changed the fossil fuel-based attitudes that have developed to contribute significantly to pollution and unsustainable practices, especially in developed countries. Thus, environmental ethics is one of the most important studies in making decisions regarding human development issues in preserving nature (Bucher, n.d. 2010).

2. Project-based learning approach

This project-based learning model approach emphasizes that tangible products of Christian ethics about "being stewards of creation" should be integrated into each semester's lesson plan projects. Project-based learning approaches are increasingly used in technology-based education. In the context of environmental issues, students can engage in projects that include: first, designing a mobile application for monitoring environmental quality. Second, developing tools or devices to reduce negative impacts on ecosystems. Third, developing data-driven public policies to address climate change at the local level. Project-based learning (PjBL) refers to an inquiry-based instructional method that engages students in knowledge construction by having them complete meaningful projects and develop real-world products (Brundiers & Wiek, 2013; Krajcik & Shin, 2014).

Table 1. Project Based Learning (PjBL) Model Matrix for Environmental Ethics Education

PjBL Components	Learning Objectives	Student Activities	Products/Projects	Environmental Ethical Values
Identification of Real-Life Problems	Recognize environmental issues critically and contextually	Campus/school observations, group discussions	Local environmental issue map	Ecological awareness, social empathy
Project Design and Planning	Design solutions based on Christian and environmental values	Drafting project proposals, creating timelines, and assigning tasks	Environmental project proposal	Responsibility, leadership, collaboration
Project Implementation	Implement action plans to resolve environmental problems	Campaigns, field actions (tree planting, public education)	Implementation documentation	Active participation, stewardship of creation
Project Product Development	Produce educational products that impact the surrounding environment	Creating campaign media: videos, pamphlets, and digital posters	Media campaign or physical environmental changes	Creativity, socio-ecological awareness
Project Results Presentation	Present project results reflectively and argumentatively	Group presentations in class or to the wider community	Final project presentation	Self confidence, ecological communication
Evaluation and Reflection	Reflect on the learning process and the values learned	Writing reflective journals, ethical discussions	Individual reflection journal	Ecological conversion, attitudinal transformation

This project-based learning description involves students designing and implementing a real-life project within an established community (campus/surrounding environment) with the goal of building environmental awareness and ethical practices.

Table 2. Learning Method: Project-Based Learning (PjBL)

Week 4	Main Material	Project Activities (PjBL)	Expected Products/Outcomes	Assessment Types
1	Introduction to Environmental Ethics and the Theology of Creation	Identification of environmental issues on campus and surrounding areas	List of issues and priority problems	Discussions, reflection logs
2	Principles of Deep Ecology and Christian Ethics	Field observations and initial data collection	Field observation reports	Individual reports
3	Project Planning	Project planning, team formation, and activity schedule	Project proposals	Proposal rubrics

4	Environmental Media and Communication	Creation of campaign or educational media	Posters, videos, pamphlets, etc.	Creative product assessments
5	Project Implementation	Field project implementation (greening, campaigns, education)	Activity documentation	Project performance assessments
6	Project Reflection and Evaluation	Presentation of results and reflection on Christian environmental ethics	Group presentations and reflection journals	Presentation and journal rubrics

3. Implementation of Student Learning Projects on Campus

To actualize the integration of environmental ethics into Christian Religious Education, the use of Project-Based Learning (PjBL) has proven to be an effective pedagogical approach. PjBL allows students to actively engage with real-world issues while applying their faith-based values in concrete actions. Through this method, learners are not only intellectually informed but also personally involved in efforts to care for God’s creation. The following table presents examples of student-led projects conducted on campus that demonstrate the application of PjBL within the framework of Christian education and environmental stewardship. Each project is designed with clear objectives and promotes specific environmental ethical values rooted in Christian theology and moral responsibility.

Table 3. Example of PjBL Implementation

No	Project Title	Objectives	Environmental Ethical Values
1	Reducing Plastic on Campus, Starting in Our Classrooms	Educate students about the dangers of single-use plastics	Responsibility, ecological awareness
2	Mini Garden of Faith and Nature	Create a reflective mini garden based on Christian and environmental values	Ecological spirituality, conservation
3	Eco-Theology School Campaign	Spread the values of creation theology to student partners	Stewardship of creation, social awareness
4	Recycle for God’s Creation	Manage a creative waste bank on campus	Sustainable initiatives, active participation

The table 3 presents four student learning projects that integrate Christian Religious Education with environmental ethical values through a Project-Based Learning (PjBL) approach. These projects serve as practical models for how faith-based education can foster both spiritual growth and ecological responsibility among students (Thomas, 2000; Sipos et al., 2008). The first project, "Reducing Plastic on Campus, Starting in Our Classrooms," aims to educate students about the dangers of single-use plastics. This initiative instills values of personal responsibility and ecological awareness, emphasizing that caring for the environment is a moral duty aligned with Christian teachings on stewardship (White, 1967; DeWitt, 1994). Through this project, students are encouraged to reflect on their consumption habits and take active steps toward reducing plastic waste.

The second project, "Mini Garden of Faith and Nature," promotes the creation of a reflective garden space grounded in Christian and environmental values. This activity blends ecological spirituality with conservation, offering students a contemplative experience where nature becomes a medium for spiritual connection and environmental appreciation (Berry, 2006; Haluza-DeLay, 2008). It encourages a deeper understanding of creation as a sacred trust that requires care and reverence. In the third project, "Eco-Theology School Campaign," students engage in spreading theological insights about creation to their peers. This initiative combines theological reflection with social engagement, helping students see the link between faith and ecological justice. It encourages collective responsibility and reinforces the idea that environmental stewardship is an integral part of living out one's faith (Bouma-Prediger, 2001; Edwards, 2006). Lastly, "Recycle for God's Creation" involves the establishment of a creative campus-based waste bank. The goal is to manage waste sustainably while fostering active participation and long-term ecological commitment. This project teaches students that recycling and sustainable living are not merely environmental acts, but also expressions of faith and gratitude toward God's creation (McFague, 2008; Palmer, 1999). These PjBL initiatives demonstrate how Christian Religious Education can serve as a transformative platform for nurturing ethical, spiritual, and environmentally conscious individuals (Jenkins, 2008; Sterling, 2001).

D. Conclusion

The Project-Based Learning (PjBL) model has proven effective in enhancing students' conceptual understanding and practical awareness of environmental ethics issues, particularly those contextual to campus life and the surrounding community. The project-oriented learning process encourages students to identify real-world problems, design solutions based on Christian ethical and spiritual values, and implement concrete actions as a form of ecological responsibility. PjBL enables the integration of the values of stewardship of creation, moral responsibility, and ecological spirituality, which are highly relevant to HKBP Nommensen University's identity as a Christian faith-based institution. Students demonstrated significant improvements in ecological attitudes, social collaboration, and critical communication skills after participating in the project activities. This was reflected in project products such as environmental campaigns, partner school education, and reflective journals. This model also strengthens contextual and transformative learning, where students not only gain cognitive knowledge but also directly engage in social and ecological change in their environment.

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