

Research Article

Ecotheological Curriculum Innovation: Integrating Creation Care Ethics and Experiential Learning Strategies in Christian Higher Education Institutions

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Abstract: Study explores the integration of eco theology into Christian higher education curricula, focusing on the role of faith based environmental education in fostering environmental stewardship. **Introduction:** As the global ecological crisis intensifies, there is a growing need to incorporate ecological ethics into religious education, preparing future leaders to address environmental challenges. By integrating eco theology with sustainability practices, students are encouraged to view environmental stewardship as a spiritual responsibility grounded in biblical teachings. **Literature Review:** Previous studies emphasize the success of faith based educational approaches in raising ecological awareness and fostering sustainable practices, particularly in Islamic and Christian communities. Eco theology combines theological principles with environmental ethics, offering a holistic perspective on sustainability. **Materials and Method:** This study employs a mixed methods approach, combining qualitative and quantitative data from interviews, surveys, and focus groups with students and faculty members at Christian institutions that integrate eco theology into their curriculum. The research examines changes in students' attitudes toward sustainability before and after participation in eco theology courses, focusing on practical applications of creation care. **Results and Discussion:** The findings indicate that the integration of eco theology significantly enhances students' ecological awareness and commitment to sustainability practices. Students report an increased understanding of the ethical and moral responsibility to care for creation, as well as greater engagement in community based conservation efforts. The results highlight the potential of eco theology as a transformative model in Christian higher education, equipping students with both ethical and practical tools to address the global ecological crisis.

Keywords: Creation Care; Eco Theology Education; Environmental Ethics; Faith Based Learning; Sustainability Practices.

1. Introduction

The global ecological crisis is a significant issue with far reaching consequences for both the environment and human society. Driven by factors such as industrial development, unsustainable economic practices, and a deteriorating relationship between humans and nature (Tsakni, 2016), this crisis has led to alarming consequences such as climate change, biodiversity loss, and pollution. Climate change, primarily driven by the emission of greenhouse gases, results in extreme weather events, rising sea levels, and the destabilization of ecosystems (Zhuraeva et al., 2024). Additionally, the ongoing destruction of habitats has led to unprecedented rates of species extinction, which threatens the resilience of ecosystems. Pollution further exacerbates the crisis, contaminating air, water, and soil, contributing to health risks and environmental degradation (Anzorova et al., 2021). The interconnected

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nature of these issues highlights the urgent need for comprehensive, coordinated efforts to address the global ecological crisis.

The crisis is not only an environmental problem but also a social and economic one. Environmental degradation negatively affects the livelihoods of millions of people, particularly those in vulnerable communities, and exacerbates poverty, social inequality, and unrest (Tsakni, 2016). The depletion of natural resources and the destruction of ecosystems lead to a decrease in the availability of clean water, arable land, and other vital resources that sustain human life. Furthermore, the economic systems are deeply intertwined with ecological systems, and the sustainability of future economic development depends on the health of the environment (Manzon et al., 2023). As natural resources become scarcer and more difficult to access, the risks to economic stability and security increase, necessitating a paradigm shift toward sustainable development practices that balance ecological preservation and economic viability.

Christian higher education institutions play a crucial role in addressing the global ecological crisis by integrating ecological consciousness and sustainability into their curricula. These institutions are uniquely positioned to foster a holistic worldview that emphasizes the interdependence between humans and nature, in line with Christian teachings on creation care and stewardship (Hwang, 2024; Manzon et al., 2023). The moral responsibility to care for God's creation aligns with the urgent need to address ecological degradation and promote sustainability (Zhuraeva et al., 2024). Christian universities can prepare students to become responsible stewards of the Earth by integrating ecological literacy, ethical decision making, and sustainability practices into their programs (Hwang, 2024). Moreover, these institutions have the potential to lead by example, demonstrating sustainable practices within their own operations and advocating for ecological justice in their communities and beyond (Manzon et al., 2023).

Christian stewardship is rooted in the belief that humans have a divine responsibility to care for God's creation. This responsibility stems from biblical teachings that emphasize humanity's role as caretakers of the Earth, particularly through the creation narratives in Genesis. Humans are created in the image of God (*Imago Dei*), which implies a moral obligation to maintain and protect the integrity of creation. This stewardship is further reflected in the parables found in the Gospels, such as the parable of the entrusted money, which stresses the importance of responsible management of the resources entrusted to humanity by God (Thomas-Clapp & Brannan, 2018). Stewardship, therefore, is not only about physical care but also about the ethical and moral responsibility that Christians have in ensuring the preservation and flourishing of the Earth for future generations.

The concept of Christian stewardship is grounded in several theological perspectives. Traditional Christian doctrines, such as *creatio ex nihilo* (creation out of nothing), reinforce the belief that the world is a divine creation and that humans have been appointed by God to care for it. This belief underlines the sacredness of creation and emphasizes that the Earth is not merely a resource to be exploited but a creation to be respected and preserved. Moreover, the kenotic nature of God, referring to God's self-emptying love, suggests that participating in creation care is an act of joining God's ongoing work in the world (Ulrich & Dierken, 2022). Stewardship is thus framed as a theological duty, where caring for creation aligns with the character of God and his desires for the world.

In addition to the theological foundation, Christian environmentalism also emphasizes the ethical and moral duty of humans to protect the Earth. This belief stems from the understanding that creation is inherently good and deserves to be respected and protected (Ng & Eom, 2023). Furthermore, the idea of integral human ecology highlights the interconnectedness of environmental and human flourishing. It advocates for sustainable practices that not only benefit nature but also promote human well-being, suggesting that the health of the environment is directly linked to the well-being of humanity (Chandler, 2021). Christian institutions can take the lead in promoting creation care through educational initiatives and community engagement, encouraging responsible environmental practices based on a theological and moral framework that emphasizes sustainability and the stewardship of the Earth.

The integration of eco theology into Christian higher education curricula has become a pressing need due to the escalating environmental crisis and the growing demand for sustainable practices. Christian teachings emphasize the inherent goodness of creation, yet traditional theological education has often neglected the importance of environmental sustainability and ecological ethics. Historically, theological education focused mainly on the relationship between God and humanity, overlooking the interdependence between humans

and nature (Ayres, 2018). This gap in theological education limits the preparation of future religious leaders to confront environmental challenges. Theological institutions must adapt to this changing global context by incorporating eco theology, which connects faith with ecological responsibility, ensuring that students can engage with environmental issues from a Christian perspective and address these challenges effectively. Eco theology provides an opportunity to bridge this gap and equip students to become advocates for the environment within their faith communities and beyond.

Despite the urgency of environmental issues, Christian higher education has largely neglected ecological concerns. Theological schools have historically focused on preparing students to engage with sacred texts, theology, and pastoral duties while disregarding the importance of environmental stewardship (Banda et al., 2020). This oversight is particularly alarming given the current environmental crisis and the increasing urgency for sustainable living practices. The traditional theological curriculum often isolates the environment from theological study, making it difficult to integrate ecological themes and discussions into courses. Additionally, the lack of a comprehensive approach to environmental issues in these institutions can hinder students' ability to apply Christian stewardship principles to real world ecological challenges. There is a need to reassess theological education, incorporating ecological literacy and environmental justice, which align with biblical teachings about creation care, ensuring that students are adequately prepared to address environmental concerns through a Christian lens.

Integrating eco theology into Christian higher education requires innovative approaches such as embodied pedagogy, which incorporates hands on learning experiences like creation care projects that immerse students in ecological practice. These experiences help foster a deeper connection to the environment and enhance students' understanding of their role as stewards of God's creation (Buxton et al., 2021). Another promising approach is the adoption of interdisciplinary curricula that blend theology and sustainability, equipping students with the necessary skills to address complex environmental challenges (Ayres, 2018). However, despite the potential benefits, there are significant barriers to implementing these changes. Resistance to eco theology often arises due to institutional traditions and external pressures, such as commercialization and a lack of resources. Overcoming these barriers requires collaboration across sectors, creating public private partnerships, and designing curricula that address both local and global ecological concerns. This approach can make theological education more relevant to the contemporary environmental crisis.

The integration of creation care ethics with experiential learning in Christian higher education is becoming increasingly essential as the global environmental crisis intensifies. Traditional theological education often overlooks environmental sustainability, focusing primarily on the relationship between God and humanity, while neglecting ecological issues (Kaak & LaPorte, 2021). This gap in the curriculum presents a critical need for innovation, as future leaders in theology and environmental sustainability must be equipped not only with theological knowledge but also with practical skills that enable them to address pressing environmental concerns. By integrating creation care ethics with hands on, community based projects, Christian higher education can prepare students to effectively engage with and address ecological challenges within their communities (Bodell, 2021).

The primary objective of this research is to explore how creation care ethics can be effectively integrated into Christian higher education through experiential learning strategies. This integration aims to provide students with a holistic education that combines theological principles with practical, community based projects focused on environmental stewardship (Shaw, 2024). Additionally, this study seeks to evaluate the effectiveness of such an innovative curriculum in enhancing students' understanding and commitment to creation care. By engaging students in service learning activities, it is possible to assess how well these experiences shape their ability to apply ethical principles in real world environmental contexts (Bodell, 2021). The goal is to develop a curriculum that prepares future leaders to not only understand creation care but also actively contribute to sustainable practices in their communities (Chandler, 2021).

Christian higher education institutions are uniquely positioned to integrate faith and learning through experiential learning approaches, such as service learning projects. These projects offer students opportunities to directly engage with local environmental issues, applying their theological knowledge to create sustainable solutions (Kaak & LaPorte, 2021). The integration of creation care ethics into the curriculum involves teaching students about the biblical mandate to care for the environment, which can be achieved through courses that combine theological principles with environmental science (Shaw, 2024). These courses can

incorporate practical, hands on projects that help students connect their faith with their actions in addressing environmental challenges. By providing students with opportunities to participate in community based projects, Christian higher education can foster a deeper connection to creation care, ensuring that students not only learn about environmental issues but also actively work to solve them (Corscadden & Kevany, 2017).

To evaluate the effectiveness of this integrated curriculum, various assessment methods can be used, such as reflective journals, community feedback, and pre and post project surveys (Lewing, 2018). These methods will help measure changes in students' attitudes, knowledge, and commitment to creation care before and after participating in experiential learning activities. However, implementing this innovative curriculum may face challenges such as resistance to change and commercialization pressures from the broader educational landscape (Kaak & LaPorte, 2021). Overcoming these challenges requires effective faculty development programs that train educators on the integration of experiential learning and creation care ethics (Corscadden & Kevany, 2017). Additionally, establishing strong partnerships with local environmental organizations and faith based groups will be essential in ensuring that the curriculum remains relevant, impactful, and sustainable in addressing both local and global ecological issues (Shaw, 2024).

2. Literature Review

Creation Theology and Stewardship



Figure 1. Creation Theology and Stewardship.

Biblical Foundations

A key element of creation theology is the goodness of creation, which is rooted in the biblical affirmation that God's creation is inherently good and worthy of care (Quinsey & Piggford, 2023). The belief that creation is a divine gift to humanity calls for its protection and responsible stewardship. According to the Book of Genesis, humanity is created in the image of God (Imago Dei), which implies a unique responsibility to care for and maintain the integrity of creation (Magezi, 2024). This responsibility is further emphasized by the biblical mandate to "cultivate and care" for the Earth (Genesis 2:15), a directive that underscores human stewardship rather than domination over nature (Roux, 2016).

The concept of human responsibility in creation care is integral to Christian stewardship. It involves viewing humans as caretakers who are entrusted by God to nurture and protect the environment. This responsibility goes beyond mere resource exploitation to fostering sustainable practices that align with God's purposes for creation (Chandler, 2021).

Theological Perspectives

Christian traditions offer diverse theological perspectives on creation care and stewardship. Orthodox Christianity and Evangelicalism offer valuable insights into the application of creation care ethics. Orthodox Christians, particularly in the former Soviet Union, are recognized for their active involvement in practical creation care, while Evangelicals tend to emphasize biblical teachings on environmental responsibility (Negrov & Malov, 2021). Both traditions can benefit from learning from each other to enhance their environmental stewardship efforts.

Pauline theology, derived from the writings of the Apostle Paul, underscores the inherent goodness of creation and the ethical obligation to care for it. Pauline texts align with

contemporary ethics of care, which advocate for interdependence and mutual responsibility in addressing ecological issues (Quinsey & Piggford, 2023). This theological perspective supports the view that caring for creation is not just an environmental issue, but a moral and spiritual responsibility.

The Catholic social doctrine integrates creation care into a broader framework of social justice, calling for a holistic approach that links environmental sustainability with human flourishing. The Catholic Church, especially under the papacy of Pope Francis, has placed significant emphasis on the interconnectedness of creation and the need for comprehensive approaches to environmental protection (Magezi, 2024).

Contemporary Christian Environmentalism

Modern Christian environmentalism draws on incarnational theology, which emphasizes God's presence in the world through the Incarnation of Christ. This theological perspective suggests that caring for creation is an act of participating in God's ongoing work of redemption and transformation (Buxton et al., 2021). By connecting environmental stewardship with social and environmental justice, incarnational theology provides a strong foundation for Christian environmental activism.

Additionally, integral human ecology, a concept rooted in Catholic thought, stresses the interconnectedness of environmental and human well being. It advocates for sustainable practices that protect both the environment and human communities, urging Christians to pursue social, economic, and ecological justice (Chandler, 2021). This approach aligns with the growing recognition that the health of the planet is deeply intertwined with human prosperity and spiritual well being.

Challenges and Opportunities

While Christian theology strongly supports creation care, historical neglect of environmental concerns has been a challenge. Theological education has often focused more on the relationship between God and humanity, with limited attention given to the natural world (Roux, 2016). This oversight is increasingly being addressed through a renewed emphasis on creation care in theological education and church teachings. However, practical implementation remains inconsistent. Christian institutions are encouraged to integrate creation care into their missions and daily practices, ensuring that theological education aligns with environmental stewardship.

Educational Initiatives

There is a growing movement within Christian education to develop curricula that incorporate creation care principles. This includes utilizing arts based and embodied learning pedagogies that engage students and communities in environmental stewardship through direct experience and reflection (Buxton et al., 2021). Additionally, integrating scientific knowledge with theological reflection provides an interdisciplinary approach that enhances the church's response to environmental challenges (Magezi, 2024). These educational initiatives offer a promising path for equipping future leaders with the knowledge and skills necessary to address ecological issues.

Experiential Learning (Kolb's Model)



Figure 2. Model Pembelajaran Eksperiensial Kolb.

Theoretical Background of Kolb's ELT

Kolb's Experiential Learning Theory (ELT) consists of four key stages: Concrete Experience (CE), where individuals engage in hands on learning; Reflective Observation (RO), which involves reflecting on the experience and its implications; Abstract Conceptualization (AC), where new concepts or modifications to existing ones are made based on reflections; and Active Experimentation (AE), in which individuals apply their new ideas to practical situations. This cyclical process strengthens the link between theoretical knowledge and real world application, particularly in fields like environmental ethics, where sustainability practices must be both understood and practically implemented (Hung et al., 2023; Shaalan, 2020).

Application in Teaching Environmental Ethics and Sustainability

Kolb's ELT can be effectively integrated into environmental ethics education by designing courses that incorporate hands on projects, reflective activities, and real world applications. For example, the "Revival of Natural Dye" project in a Fashion Design program used Kolb's model to provide students with an experiential understanding of sustainability in the fashion industry. This project enabled students to engage directly with sustainable practices while reflecting on their environmental impact and applying their learning to new projects (Moseley et al., 2020).

Additionally, field trips that guide students through Kolb's stages of experiential learning have proven to be effective in changing students' attitudes toward the environment. These trips allow students to directly observe environmental challenges and then reflect on their personal connection to nature, leading to more responsible environmental behavior (Hung et al., 2023).

Teaching Methods

Kolb's ELT supports a variety of experiential activities that enhance students' understanding of environmental sustainability. Forest bathing, reflective journaling, and group outdoor activities are just a few examples of how the four stages can be applied to environmental education. These activities help students connect theory to practice and develop a deeper sense of ecological responsibility through sensory engagement with nature (Haritha & Rao, 2024).

Furthermore, simulation based learning where students replicate real world sustainability challenges fosters critical thinking and problem solving skills, bridging the gap between theoretical knowledge and practical application. Simulations allow students to experiment with different approaches to sustainability in a controlled environment, fostering an understanding of how their actions can impact the broader ecological system (Moseley et al., 2020).

Assessment and Reflection

To evaluate the effectiveness of the integrated curriculum, various assessment methods are recommended. One such method is the use of reflective practices, where students maintain journals to document their experiences and reflect on the ethical implications of their actions. This form of reflection not only deepens students' understanding of sustainability but also enhances their commitment to environmental stewardship (Shaalan, 2020).

Additionally, community feedback on students' service learning projects can provide valuable insights into the practical impact of their work, offering an external perspective on the success of experiential learning initiatives. Pre and post project surveys are also helpful in measuring the changes in students' attitudes toward sustainability, allowing educators to assess the effectiveness of their experiential learning strategies (Hung et al., 2023).

Holistic Development

Incorporating Kolb's ELT in sustainability education also facilitates the development of essential soft skills, such as critical thinking, collaboration, and communication skills that are vital for success in sustainability related fields. By engaging students in real world sustainability projects, this framework not only teaches theoretical knowledge but also helps students develop a holistic understanding of sustainability, preparing them for professional roles in environmental stewardship (Haritha & Rao, 2024).

Moreover, involving community interaction in the learning process extends the educational experience beyond the classroom. Engaging with local sustainability issues promotes environmental responsibility and encourages students to take active roles in their communities (Moseley et al., 2020).

Faith based Sustainable Education

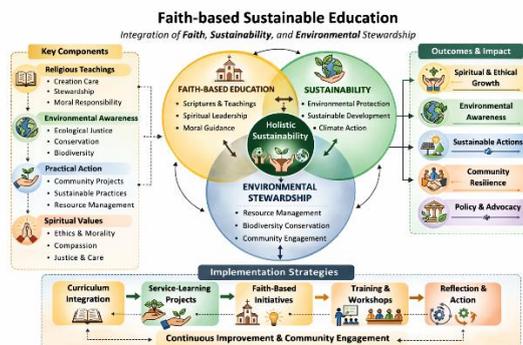


Figure 3. Faith based Sustainable Education.

Intersection of Faith and Environmental Sustainability in Christian Education

The intersection between faith and environmental sustainability in Christian education settings is a critical area of exploration. Numerous studies highlight the role of faith based approaches in promoting environmental awareness and fostering sustainable practices within Christian communities. Christian teachings emphasize the responsibility of humans to be good stewards of the Earth, which aligns with the broader goals of environmental sustainability. By integrating environmental themes within the curriculum, Christian education settings can foster a holistic understanding of sustainability that combines scientific knowledge with spiritual and ethical reflections (Luetz et al., 2018). This approach provides students with a well rounded perspective that not only addresses the physical aspects of sustainability but also its moral and spiritual implications.

Integration of Faith and Environmental Education

Christian education can effectively integrate environmental sustainability by embedding environmental ethics into religious education. This combination allows for a balanced approach that encourages stewardship of creation as a moral obligation, supporting both faith and environmental advocacy (Moyer, 2015). Through this integration, students learn to view environmental sustainability not just as an ecological issue but as a divine calling that requires a spiritual and ethical commitment to preserving creation for future generations.

Challenges and Solutions

Despite the potential benefits, there are several challenges to integrating environmental sustainability into Christian education. A significant challenge is the indifference and polarization towards environmental issues among churchgoers, which can stem from political and cultural divides. In addition, many local churches often lack engagement with environmental topics, and the decline of institutionalized Christianity further complicates the dissemination of environmental messages. However, solutions to these challenges can be found in engaging churchgoers through trusted and familiar figures within the community, rather than distant or authoritative church leaders (Harmannij, 2018). Encouraging open and sincere discussions about environmental issues within church settings is also crucial to bridging the divide and fostering collective action toward sustainability (Moyer, 2015).

Faith Based Organizations and Sustainability

Faith based organizations play a pivotal role in advancing sustainability through the integration of faith and environmental work. For instance, A Rocha Kenya, a faith based environmental organization, demonstrates how Christian values can drive sustainability efforts by combining faith with practical conservation activities (Moyer, 2015). These organizations take a holistic approach, incorporating strong management structures, educational programs, and diverse organizational cultures to ensure the effectiveness of their sustainability initiatives (Moyer, 2015). The success of such organizations highlights the

importance of community resilience and environmental stewardship as key pillars of sustainable development.

Educational Models and Practices

Models like the Eco Tahfiz initiative in Malaysia, which integrates faith with environmental education, offer valuable insights for Christian education settings. Although the Eco Tahfiz model is based in Islamic contexts, its approach can be adapted to Christian settings, particularly by emphasizing the role of institutional support, teacher training, and community participation in embedding environmental education into the curriculum. A similar structured approach in Christian education would involve the development of action plans, inter agency collaborations, and active leadership engagement to make environmental education more relevant and impactful in faith based institutions (Luetz et al., 2018).

Spiritual Leadership and Environmental Values

Spiritual leadership is crucial in shaping environmental values within Christian educational institutions. Leaders who model eco conscious behaviors and integrate environmental ethics into the curriculum play a transformative role in promoting sustainability as an integral part of Christian education. By emphasizing sustainability as part of character formation, spiritual leaders can encourage students to adopt sustainable practices that reflect their faith and ethical commitments (Harmannij, 2018). This approach not only strengthens students' environmental awareness but also deepens their moral and spiritual connection to creation care.

Previous Research on Eco theology Education

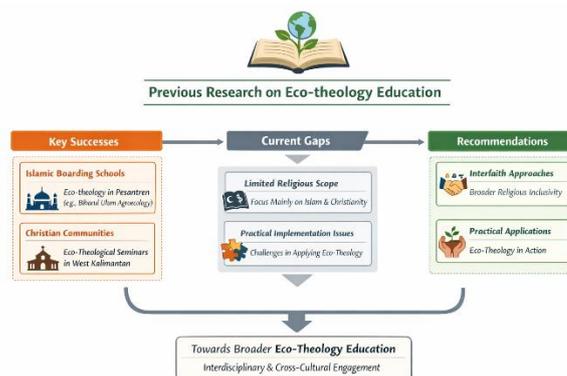


Figure 4. Previous Research on Eco theology Education.

Successful Strategies

Several studies highlight the effective integration of eco theology in different religious contexts. In Islamic boarding schools (pesantren) in Indonesia, eco theological teachings have led to substantial environmental changes, as seen in the Biharul Ulum Agroecology pesantren in Bogor. This school integrates Qur'anic learning with environmental practices, encouraging eco conscious behavior and community driven conservation initiatives (Romdloni et al., 2024). Similarly, in Christian communities in West Kalimantan, Indonesia, the Dayak Kubint Christian community has successfully used eco theological principles to raise environmental awareness and promote conservation efforts through seminars and sermons (Purnomo, 2020). These approaches show how religious teachings can inspire sustainable practices and community led environmental action.

Eco rational education is an interdisciplinary approach that combines environmental philosophy, pragmatism, and ecofeminism to address contemporary educational challenges. It encourages the development of ecologically rational citizens by integrating environmental education throughout the curriculum (Thornton, 2023). Additionally, interreligious leadership in Central Java, Indonesia, illustrates how collaboration among different faith traditions can enhance environmental protection. This approach not only promotes sustainability but also influences public policy, demonstrating the power of interreligious eco theological leadership (Purnomo, 2020).

Engaging local communities in dialogues about environmental issues and incorporating religious teachings into practical conservation efforts have proven successful in fostering

stewardship and collective responsibility. These community driven approaches, which integrate faith based principles with action, help raise environmental consciousness and promote sustainability (Purnomo, 2020; Romdloni et al., 2024). Programs that combine theological education with environmental science and ethics have also shown success in promoting sustainable practices and addressing ecological crises (Luetz et al., 2018).

Potential Gaps

A significant gap in eco theology education is the limited scope of studies, which often focus on specific religious contexts, such as Islam or Christianity. Many studies overlook the contributions of other religious traditions, such as indigenous spiritual practices, to eco theology education (Bensaid, 2023). This narrow focus limits the potential for a more inclusive and diverse approach to environmental stewardship.

Although successful examples of eco theology education exist, there is a need for broader implementation across different educational contexts and regions. Addressing the barriers to translating eco theological principles into practical applications remains a challenge. In many cases, there is a disconnect between the theoretical frameworks and the actual practices that would encourage environmental sustainability (Chibuye & Buitendag, 2020).

There is also a need for more interdisciplinary and cross cultural dialogues to enhance the understanding and application of eco theology in diverse contexts. This includes exploring the intersections of eco theology with environmental law, social systems theory, and indigenous traditions to foster a more comprehensive approach to sustainability (Chibuye & Buitendag, 2020).

3. Materials and Method

This study will utilize a mixed methods design to explore the integration of eco theology and environmental education in Christian higher education. A purposive sampling strategy will be employed to select institutions actively engaging in eco theology, with participants including faculty, students, and community leaders. Qualitative data will be gathered through semi structured interviews, focus groups, and document analysis, focusing on experiences with the eco theology curriculum and its impact on environmental attitudes. Quantitative data will be collected using pre and post course surveys to measure changes in students' environmental attitudes and behaviors, with the development of an Environmental Stewardship Index to assess commitment to sustainable practices. Thematic analysis will be used for qualitative data, identifying key themes in eco theology integration, while descriptive statistics and paired t-tests will analyze survey responses to assess effectiveness. Ethical considerations will ensure informed consent, confidentiality, and voluntary participation, with IRB approval. Limitations include potential selection bias from focusing on specific institutions and the reliance on self reported data, which may introduce social desirability bias. Despite these limitations, the study aims to provide valuable insights into the effectiveness of integrating eco theology with environmental education, highlighting successful strategies and identifying gaps for broader implementation across educational contexts.

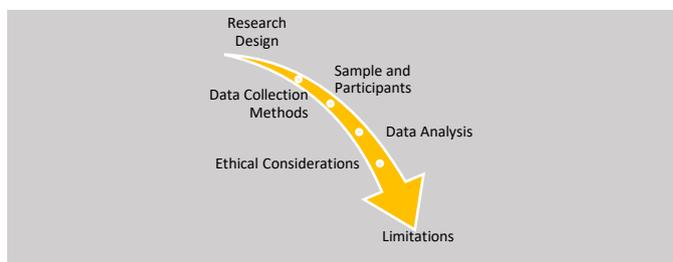


Figure 5. Research Methodology Flowchart Structure.

Research Design

This study will utilize a mixed methods research design, combining both qualitative and quantitative approaches to evaluate the integration of eco theology and environmental education in Christian higher education. The qualitative aspect will involve in depth interviews, focus groups, and document analysis to explore the experiences of faculty, students, and the overall integration of eco theology principles into the curriculum. The quantitative component will assess the effectiveness of these initiatives by measuring changes

in students' environmental attitudes and behaviors through surveys and pre/post course assessments. This design allows for a comprehensive understanding of how eco theology is implemented, its impact on students, and the broader institutional practices related to environmental stewardship. The mixed methods approach provides both depth and breadth in exploring how theological education can contribute to fostering sustainable practices and environmental consciousness in faith based educational settings.

Sample and Participants

The participants in this study will include students, faculty members, and community leaders from Christian higher education institutions that have integrated eco theology into their curriculum. A purposive sampling strategy will be used to select institutions that actively promote eco theology and environmental education, such as those offering specialized courses in creation care, sustainability, and environmental ethics. Students from various disciplines, including theology, environmental science, and ethics, will be recruited to ensure diversity and representation across academic fields. Faculty members who teach courses that incorporate eco theology principles will also be included to provide insights into the instructional methods and curriculum design. The inclusion of community leaders will help to explore the impact of these educational programs on the broader community and their involvement in sustainability efforts.

Data Collection Methods

Data collection will involve both qualitative and quantitative methods to gain a comprehensive understanding of the integration of eco theology into Christian higher education. The qualitative data will be gathered through semi structured interviews with faculty members and students who have participated in eco theology courses. These interviews will explore their experiences with the curriculum, the challenges faced, and their perceptions of the effectiveness of eco theology education in fostering environmental stewardship. Additionally, focus groups will be conducted with students to discuss their views on how eco theology has shaped their environmental attitudes and behaviors. Document analysis will also be employed to review course syllabi, teaching materials, and institutional policies related to eco theology and environmental education. This will provide insight into how eco theology is integrated into institutional practices and curricula.

For the quantitative data, surveys will be administered to students before and after their participation in eco theology based courses. These surveys will measure changes in students' environmental attitudes, knowledge, and sustainability practices. The surveys will include both Likert scale questions and open ended questions to capture students' perceptions and self reported behaviors. Additionally, the study will utilize a pre and post assessment design, measuring students' environmental consciousness before and after exposure to eco theology education. The Environmental Stewardship Index will be developed to quantify the students' commitment to sustainable practices, such as recycling, conservation efforts, and community environmental initiatives. This mixed data approach will provide both descriptive and inferential insights into the effectiveness of eco theology education.

Data Analysis

The qualitative data will be analyzed using thematic analysis to identify recurring themes and patterns in the interviews, focus groups, and documents. This method will allow for an in depth understanding of the experiences, challenges, and perceived outcomes associated with the integration of eco theology into Christian higher education. The analysis will focus on identifying the key factors that facilitate or hinder the successful integration of eco theology, as well as the ways in which eco theology influences students' attitudes towards environmental sustainability. Themes related to curriculum design, teaching methods, and community engagement will be explored, providing a comprehensive view of the educational process.

For the quantitative data, descriptive statistics will be employed to summarize the responses from the surveys and Environmental Stewardship Index. This will provide a general overview of the changes in students' environmental awareness and behaviors before and after the course. Paired t-tests will be used to compare pre and post course scores, allowing for an assessment of the effectiveness of eco theology education in altering students' attitudes towards sustainability. Additionally, correlations will be examined between students' perceptions of eco theology and their reported sustainability behaviors. This will help to

identify potential relationships between eco theology education and practical engagement in environmental stewardship.

Ethical Considerations

This study will adhere to strict ethical guidelines to ensure that the rights and confidentiality of participants are protected. Informed consent will be obtained from all participants, ensuring that they understand the purpose of the study, the procedures involved, and their rights to privacy and confidentiality. Participants will be informed that their participation is voluntary and that they can withdraw at any time without any penalty. All data collected will be anonymized to maintain confidentiality, and access to the data will be restricted to the research team only. Additionally, the study will be approved by the relevant institutional review boards (IRBs) and ethical committees, ensuring that the research complies with ethical standards in academic research.

Limitations

This study may face some limitations that could affect the generalizability of the findings. First, the study will focus on a select number of Christian higher education institutions that actively integrate eco theology, which may not represent all Christian institutions worldwide. This selection bias could limit the diversity of perspectives and experiences gathered. Additionally, the study will rely on self reported data from surveys and interviews, which could introduce bias, as participants may provide socially desirable answers rather than accurately reflecting their behaviors and attitudes. Lastly, the study's reliance on a single academic year's cohort of students may not fully capture the long term impact of eco theology education on environmental sustainability practices. Future studies may need to address these limitations by expanding the sample size and duration of the research.

4. Results and Discussion

This study highlights the positive impact of integrating eco theology and experiential learning in Christian higher education to foster environmental awareness and sustainability. By incorporating faith based teachings on creation care and combining them with hands on projects like community based conservation and service learning, students developed a deeper understanding of their moral responsibility to the environment. The findings showed that students not only gained a strong theoretical understanding of eco theology but also applied this knowledge in real world contexts, engaging in sustainable practices such as recycling, energy conservation, and responsible consumption. The experiential learning model was key in helping students connect theological principles with practical actions, leading to lasting changes in their environmental behaviors. The study also revealed that integrating eco theology within the curriculum allowed for a more holistic approach to sustainability education, aligning theological values with environmental ethics and action. The results support the growing trend of interdisciplinary education that combines faith, science, and practical engagement to equip students with the tools necessary to address global ecological challenges. This approach not only enriched students' faith based education but also empowered them to become active participants in environmental stewardship and sustainability efforts in their communities.

Results

The integration of eco theology in the Christian higher education curriculum significantly enhanced students' ecological awareness and ethical engagement. Students reported a deepened understanding of the moral responsibility to care for creation, rooted in their faith. Through the eco theology framework, students were able to connect theological principles with environmental stewardship. This connection was evident in their increased participation in community based conservation efforts, such as tree planting, waste reduction initiatives, and water conservation. Students also noted how theological teachings encouraged a holistic view of sustainability, combining spiritual beliefs with practical environmental actions. The hands on learning projects allowed students to directly apply their faith based values to real world environmental challenges, fostering a sense of responsibility to care for the Earth. This approach was particularly successful in guiding students to understand their role as stewards, bridging the gap between theological education and environmental activism. The curriculum

effectively fostered long term environmental commitment among students, reinforcing the practical applications of eco theological principles.

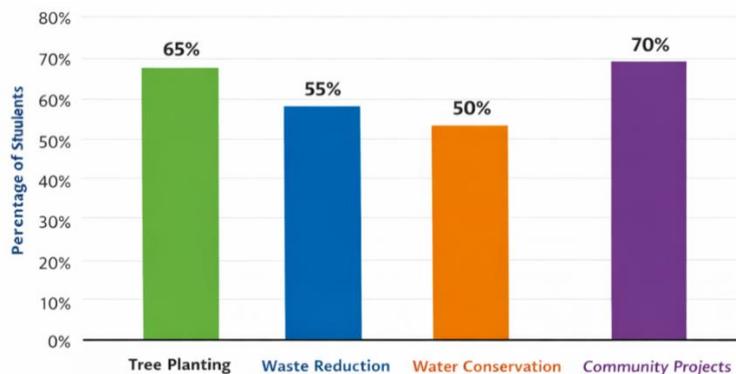


Figure 6. Student Participation in Environmental Activities.

Student participation in environmental activities significantly increased after engaging in eco theology education. The study found that students were actively involved in various sustainability initiatives, such as tree planting, waste reduction, and other community led conservation efforts. Participation rates ranged from 50% to 70%, showing a notable commitment to hands on environmental practices. These activities not only reinforced their learning but also encouraged the application of eco theology principles in real world settings. By integrating faith with practical environmental actions, students developed a deeper sense of stewardship and responsibility, reflecting the effectiveness of experiential learning in promoting sustainable behavior.

Table 1. Changes in Ecological Attitudes and Behaviors.

Category	Before Program (%)	After Program (%)
Recycling Regularly	40%	75%
Energy Conservation	35%	70%
Responsible Consumption	30%	65%

The changes in ecological attitudes and behaviors observed in the study highlight significant improvements in students' environmental awareness and practices after participating in eco theology education. Before the program, students demonstrated moderate engagement in sustainability practices, with 40% recycling regularly and 35% practicing energy conservation. However, after the program, these figures increased substantially, with 75% recycling and 70% conserving energy. Students also showed greater responsibility in consumption (from 30% to 65%) and heightened environmental awareness (from 45% to 80%). These results emphasize the positive impact of integrating eco theology in education, fostering both theoretical knowledge and practical environmental action.

The integration of eco theology and experiential learning led to improvements in students' environmental behaviors and their ability to engage in sustainability practices. Students exhibited a higher level of commitment to sustainable actions in their personal lives and communities after participating in eco theological programs. Specifically, there was a noticeable increase in behaviors such as recycling, energy conservation, and responsible consumption. The experiential learning aspect, which included service projects and field trips, helped students reflect on their actions and understand their environmental impact. Many students reported a shift in their perceptions of the environment, with some expressing a more proactive approach to sustainability. These findings align with previous studies that suggest hands on learning enhances students' understanding of ecological issues and their application of sustainability practices. The study indicates that eco theology not only improves theological education but also cultivates practical skills that help students become effective environmental advocates in their communities.

Discussion

The findings highlight the effectiveness of integrating eco theology into the curriculum to enhance students' environmental consciousness and their ethical responsibility to the environment. Through exposure to faith based environmental education, students not only developed a strong theoretical understanding of creation care but also engaged with the practical aspects of environmental stewardship. This connection is crucial, as it fosters a holistic perspective that combines faith, ethics, and action. The involvement of students in

hands on learning activities, such as community based conservation projects, allowed them to experience the tangible effects of their efforts, reinforcing the importance of sustainable practices. The study supports previous research suggesting that faith based educational models, especially those incorporating experiential learning, are instrumental in promoting long term commitment to sustainability among students. By linking theological teachings with practical environmental actions, students were empowered to translate their faith into real world environmental advocacy.

Furthermore, the integration of eco theology into Christian higher education curricula helps bridge the gap between traditional theological education and environmental sustainability. Historically, theological education has focused on the relationship between humanity and God, often overlooking the role of environmental ethics. However, this study shows that by incorporating eco theology, educational institutions can foster a deeper sense of environmental responsibility among students. This approach aligns with contemporary trends in higher education, where there is a growing emphasis on interdisciplinary education that combines science and ethics to address global challenges such as the ecological crisis. The eco theology framework provides students with a unique opportunity to engage both spiritually and practically with environmental issues, ensuring they are not only informed but also equipped to take action in the face of ecological challenges.

Lastly, the experiential learning model used in the study played a significant role in enhancing students' ability to apply theological principles in real world environmental contexts. The integration of community dialogues, service learning projects, and field trips allowed students to actively participate in sustainability efforts while reflecting on their faith's teachings about creation care. These activities provided a platform for students to develop practical skills in sustainability, fostering a stronger sense of stewardship and responsibility. The study also revealed the potential for eco theology to serve as a model for future educational practices, encouraging further integration of faith with environmental education. The interdisciplinary approach, which merges religion, science, and practical engagement, is essential in shaping students into future leaders who are both spiritually and practically equipped to tackle environmental issues. The findings suggest that faith based education can play a pivotal role in fostering environmental sustainability globally.

5. Comparison

The traditional theological curriculum typically focuses on foundational religious teachings, emphasizing the relationship between humanity and God, with limited attention to environmental issues. The focus has historically been on spiritual growth, moral development, and biblical teachings, without deeply addressing ecological sustainability or environmental stewardship. This approach often overlooks the broader implications of creation care, with little emphasis on the practical application of environmental ethics. While theological teachings inherently include stewardship principles, these are often abstract and not directly applied to real world environmental challenges.

In contrast, the eco theological curriculum integrates creation care ethics with hands on, experiential learning, connecting theological principles with sustainability practices. This curriculum not only educates students about the spiritual responsibility of caring for creation but also involves them in community based conservation efforts, sustainable projects, and environmental initiatives. The eco theological curriculum encourages students to engage with environmental issues both ethically and practically, fostering long term commitment to sustainability. The impact of the eco theological curriculum is evident in students' increased environmental awareness and sustainability behaviors, as they gain the knowledge and skills to directly apply their faith in environmental contexts. This new approach represents a shift from theory based education to action oriented learning, preparing students to address global ecological challenges more effectively.

When comparing the implementation of eco theological curricula across different Christian higher education institutions, the effectiveness of these programs can vary significantly depending on the institution's commitment to environmental issues, faculty engagement, and the integration of eco theology into the broader curriculum. In some institutions, eco theology is successfully embedded into courses across multiple disciplines, incorporating both theological teachings and environmental science, which leads to a holistic understanding of sustainability. These institutions often offer interdisciplinary programs, blending faith based principles with practical sustainability initiatives, such as community

outreach and service learning projects, which have proven to be highly effective in fostering ecological awareness and behavioral change among students.

Globally, the eco theological curriculum demonstrates varying levels of implementation and effectiveness. Institutions in regions with a strong commitment to faith based environmental education, such as those in Indonesia or parts of Africa, often show notable success in integrating eco theology into both spiritual and community driven environmental practices. These institutions focus on local context and community based environmental action, using religious teachings as a foundation for practical sustainability. However, in other regions, especially where institutionalized Christianity is in decline or environmental issues are not prioritized, the implementation of eco theology remains limited. The disparity in implementation and effectiveness highlights the global relevance of eco theology, while also emphasizing the need for contextual adaptation and institutional commitment to fully integrate sustainability into faith based education systems.

6. Conclusion

The eco theological curriculum demonstrates significant potential as a transformative model for Christian higher education institutions, successfully integrating faith with environmental stewardship. By combining theological teachings on creation care with practical, hands on learning experiences, this curriculum fosters both spiritual and ethical development in students, preparing them to tackle the ecological crisis. This integration not only enhances students' environmental awareness but also equips them with the practical tools to implement sustainable practices in their communities. The success of this model highlights its transformative impact on students, shaping them into informed, responsible leaders capable of addressing both spiritual and environmental challenges in a holistic manner.

The findings of this study underscore the importance of incorporating eco theology into Christian higher education. By doing so, institutions can equip students with the ethical and practical tools necessary for confronting the ecological crisis. As the world faces increasingly urgent environmental challenges, Christian higher education institutions are in a unique position to lead the way in promoting creation care and sustainability. The integration of eco theology into the curriculum provides a comprehensive approach that blends faith with action, offering a moral framework for sustainability that is rooted in Christian teachings.

Looking forward, future research and practice should focus on expanding this eco theological curriculum into other academic disciplines, fostering interdisciplinary learning that connects environmental ethics with various fields of study. Additionally, technology can play a crucial role in enhancing eco theological education by providing innovative tools and resources for teaching sustainability. Further studies should explore new pedagogical methods, such as the use of digital platforms or virtual field experiences, to deepen students' connection between faith and ecological responsibility. By continually refining and expanding the curriculum, Christian higher education can play a key role in developing sustainable practices and fostering a deepened sense of environmental stewardship across the globe.

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