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Holistic philosophy in developing environmental education curricula

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ABSTRACT

Environmental education is vital in a global environmental crisis. Climate change, environmental damage, and environmental degradation require a holistic approach to education to create meaningful knowledge and action. The holistic philosophy emphasizes an understanding of human life, the environment, and the importance of education in promoting environmental sustainability, thus encouraging global thinking and action on environmental issues while recognizing that all aspects of this subject must be considered in the broader environmental context. This article aims to learn the application of holistic philosophy in developing an environmental education curriculum, focusing on the role of a holistic approach in achieving better understanding and action. Research is carried out using the literature review method, with four main steps: providing research questions, making lists of libraries, adjusting periods, and making summaries of research so as not to be corrupted by various subjects and topics. At the end of the research on the entire component of the development of the curriculum of environmental education, through a holistic approach, it can be found that a holistic approach can be applied in curricular development to a deeper understanding, active involvement, and responsibility for environmental sustainability.

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ABSTRAK

Pendidikan lingkungan hidup sangat penting dalam upaya menanggapi krisis lingkungan global. Perubahan iklim, kerusakan lingkungan, dan degradasi lingkungan membutuhkan pendekatan pendidikan holistik untuk menciptakan pengetahuan menjadi tindakan yang bermakna. Filosofi holistik menekankan pada pemahaman tentang kehidupan manusia, lingkungan, dan pentingnya pendidikan dalam mempromosikan kelestarian lingkungan, sehingga mampu mendorong pemikiran dan tindakan nyata terhadap isu-isu lingkungan, sambil mengakui bahwa semua aspek dari subjek ini harus dipertimbangkan dalam konteks lingkungan yang lebih luas. Tujuan artikel ini adalah mengetahui penerapan filosofi holistik dalam pengembangan kurikulum pendidikan lingkungan hidup, dengan fokus pada peran pendekatan holistik dalam mencapai pemahaman dan tindakan yang lebih baik. Penelitian ini menggunakan metode tinjauan literatur, dengan empat langkah utama, yaitu menyediakan pertanyaan penelitian, membuat daftar pustaka, menyesuaikan jangka waktu, dan membuat ringkasan penelitian agar tidak dirusak oleh berbagai subjek dan topik. Pada akhir penelitian terhadap seluruh komponen pengembangan kurikulum pendidikan lingkungan hidup, dapat diketahui bahwa pendekatan holistik dapat diterapkan dalam pengembangan kurikulum untuk mencapai pemahaman yang lebih mendalam, keterlibatan aktif, dan tanggung jawab terhadap keberlanjutan lingkungan.

Kata Kunci: *filosofi holistik; pendidikan lingkungan hidup; pendidikan untuk pembangunan berkelanjutan; pengembangan kurikulum*

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INTRODUCTION

The United Nations Educational, Scientific and Cultural Organization (UNESCO) and the United Nations Development Programme (UNDP) are working closely together to achieve the 17 Sustainable Development Goals (SDGs) outlined in the 2030 United Nations Sustainable Development Agenda. UNESCO, through its publication *"Education for Sustainable Development Goals: Learning Objectives,"* explains that it will lead the coordination of the implementation of the 2030 Education Agenda, with a strong emphasis on Education for Sustainable Development (ESD) and the promotion of sustainable lifestyles as a central theme. In this regard, education is positioned as a top and urgent priority for UNESCO, as it is regarded not only as a fundamental human right but also as the essential foundation for building long-lasting peace and driving inclusive, sustainable development. Furthermore, UNESCO strongly emphasizes the critical importance of sustainable development efforts and the need to enhance environmental resilience. By *resilience*, UNESCO refers to a robust and adaptive system capable of preparing for potential threats, absorbing immediate impacts, recovering effectively, and adapting flexibly after experiencing prolonged stress or disruptive and destabilizing events (Sari *et al*., 2024).

Environmental education is becoming increasingly crucial amidst the global challenges the Earth and its ecosystems face. The limited availability of natural resources, accelerating climate change, and widespread environmental degradation all demand a comprehensive and holistic approach to education that fosters a deep understanding and long-term, sustainable action. Within this conceptual framework, a holistic philosophy emerges as a strong and relevant foundation for developing environmental education curricula. This holistic philosophy emphasizes a worldview that perceives ecological sustainability as an interconnected and complex whole, rather than a collection of separate, isolated elements (Rybska & Błaszak, 2020). Environmental education grounded in a holistic philosophy recognizes that human life, nature, and the environment are deeply interconnected and continuously influence one another. A holistic educational approach can create a meaningful and transformative learning experience—one that not only delivers factual knowledge but also nurtures attitudes, instills values, and encourages actions that support and promote sustainability. The growing global recognition of environmental education as a powerful tool to shape environmentally conscious mindsets and behaviors highlights its increasing significance. However, multifaceted and interlinked challenges, such as climate change, biodiversity loss, and environmental degradation, demand attention and a more inclusive and comprehensive approach. In this context, a holistic philosophy provides a fitting and insightful paradigm for addressing these pressing issues by emphasizing that all elements of nature must be understood as part of an integrated and larger whole (Zandroto & Indriani, 2023).

Several previous studies have revealed the importance of holistic philosophy in education. One suggests applying the environmental education model, initiated by UNESCO, which can be used inside and outside the classroom (Supadmini *et al*., 2020). Factors such as efficiency and effectiveness, goals and objectives, facilities and infrastructure, student demographics, and teacher readiness must all be considered when using the model. In other words, implementing the environmental education model should consider the philosophy of holistic education. Other research suggests that the implementation of environmental education that is not holistic may be ineffective in achieving learning objectives (Akbar & Ali, 2021). In contrast to previous research, this study examines and conveys an understanding of the concept of holistic philosophy in the context of environmental education curriculum development through literature studies, so that an analysis of the literature is carried out to find the principles of holistic philosophy can be integrated into the environmental education curriculum, and its positive impact on students' understanding and actions.

This research examines the applicability of holistic philosophy in addressing complex environmental challenges, fostering critical thinking about the importance of a holistic approach in guiding students to

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become sustainable agents of ecological preservation and protection. This study aims to analyze and explore the holistic philosophy in environmental curriculum development to create a sustainable education centered on the harmonious relationship between humans and nature. Thus, this article is expected to positively contribute to developing a more impactful and sustainable environmental education curriculum.

LITERATURE REVIEW

Holistic Philosophy and Education

General philosophy and the philosophy of education are critically important fields of study, as they serve as essential tools to comprehend the fundamental ideas that support academic disciplines and influence everyday human life. Philosophical concepts and perspectives have long been deeply embedded in society and culture. Examining the developments that preceded our current era and reflecting on how those historical events have shaped contemporary thought is vital. Barrow and Woods, in their book *"An Introduction to Philosophy of Education,"* emphasize that the history of philosophy is filled with seemingly neat dichotomies, largely because philosophers have often been inclined to oversimplify complex issues. This tendency frequently results in a rigid distinction between theory and practice, particularly within education. In contrast, life in the 21st century is increasingly shaped by intricate and interdependent civilizational factors, requiring more nuanced and integrated philosophical understandings (Fronza & Gras-Velazquez, 2020). As described by Winch and Gingell in the book "Philosophy of Education: The Key Concepts," post-modernism refers to a set of attitudes towards contemporary civilization, characterized by the decline of modernism and the rise of secular universalism. From a postmodern perspective, education generally exhibits an increasing influence of liberal ideas that impact the field of education.

In his seminal work, "*Holism and Evolution,*" Smuts proposes the concept of holism as a natural tendency of systems to form a unified whole, suggesting that the whole is greater than merely the sum of its parts as a result of evolutionary processes. The term "holistic" is etymologically derived from the same root as the English word *whole*, signifying completeness or totality. According to the Kamus Besar Bahasa Indonesia (KBBI), the term *holistic* refers to something that relates to an entire system as a single, integrated unit—more than just a collection of separate components. Meanwhile, Hamalik, in his influential book "*Kurikulum dan Pembelajaran,*" explains that education is fundamentally a process aimed at influencing students to adapt to their surrounding environment, thereby bringing about meaningful and functional changes that allow individuals to participate effectively in social life. In this context, learning is understood as both a physical and psychological activity, with the outcome being a change in student behavior. This change is characterized by developing abilities that remain relatively stable over time and are not influenced by temporary or momentary factors (Hanafy, 2014). Learning is a cognitive process that involves physical, social, and emotional operations in the child's brain. To take a holistic approach to this complex process, it is necessary to consider a broader perspective, including advancements in the field of cognitive science (Rybska & Błaszak, 2020). A holistic and integrated education can help schools overcome their failure to achieve learning objectives and foster the best character in students. The current education system has been unable to produce ideal human beings because learning remains partial and fails to develop students' potential fully. Therefore, applying academic learning through a holistic, integrative model is more effective than partial learning methods (Hamami & Nuryana, 2022).

Holistic education is not a new concept but one that various experts, including Pestalozzi, Thoreau, Dewey, and Montessori, have studied. Holistic education is an educational approach that develops the full potential of every human being, encompassing emotional, intellectual, moral, and character aspects, creativity, and spirituality. A holistic human being can develop all the potential within them (Algifahmy, 2022). Holistic learning engages and empowers the whole student, encompassing mind, heart, and body, to produce

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something that benefits their environment (Zandroto & Indriani, 2023). This approach is essential, wide-ranging, and emphasizes an interdisciplinary approach.

In the conventional education system, the priority of education generally refers to the provision of academic content, the integration of theoretical knowledge with practical experience, the advancement and promotion of the curriculum, as well as processes of learning, teaching, and student acclimatization to institutional environments. Dewey, in his seminal book "*Democracy and Education,*" identified the potential emergence of various challenges and obstacles in the process of achieving educational goals. He suggested that one effective way to attain specific objectives is by incorporating and integrating the diverse experiences and perspectives of others into the academic framework. In response to the limitations of traditional systems, a viable alternative is implementing an educational model based on a holistic approach. This approach emphasizes the development of life skills, aiming to foster cognitive growth and emotional, social, and ethical dimensions of the student (Sutarman *et al*., 2022). Holistic education is viewed as a logical response to the cultural, ecological, and global challenges of the 21st century. Therefore, the goal of education with a holistic approach is to encourage future generations to live wisely and responsibly in a society that is understanding, sustainable, and actively engaged.

The Necessity of Environmental Education Curriculum

In Law Number 32 of 2009 of the Republic of Indonesia concerning Environmental Protection and Management, it is stated that the environment is a unity of space that includes all objects, forces, conditions, and living creatures, including humans and their behaviors, which affect the sustainability of life and the well-being of humans and other living beings. Environmental education is an effort to change the behavior and attitudes of individuals or groups within society, increasing knowledge, skills, and public awareness of ecological principles and issues. Sekarwinahyu, in *"Sejarah dan Konsep Dasar Pendidikan Lingkungan Hidup,"* states that this can encourage society to actively participate in preserving and protecting the environment for present and future generations.

Public attention worldwide has focused on social and environmental issues for several decades. The greenhouse effect, global warming, and pollution significantly impact biodiversity worldwide. (Nguyen et al., 2022). The environment has become a substantial concern in addressing problems such as climate change, resource extraction, and air pollution. Understanding the environment as a complex system closely related to all aspects of life, including human existence, can facilitate a more profound comprehension of its components (Pérez-Guilarte *et al*., 2022).

The issue of environmental degradation is not new, but it has been exacerbated by various environmental crises in different areas worldwide, including climate change, land degradation, and pollution. Human activities largely influence these conditions, and their impact on human life is significant. Global environmental crises can be categorized into three main areas: 1) environmental pollution, 2) land misuse, and 3) depletion of natural resources (Muthmainnah *et al*., 2020). The decline in quality of life due to environmental degradation results from excessive exploitation of natural resources. This condition occurs in all countries, but it became more significant with the Industrial Revolution in Europe during the 18th century. Meadows mentions this in the book "*The Limits to Growth,"* which states that the environmental degradation occurring in the 1960s and 1970s led to a decline in the quality of life in industrial countries, thereby impacting the development of environmental policies.

Everyone on Earth cannot avoid environmental problems. Since everyone is responsible for environmental issues, these problems must be addressed and resolved promptly. The primary causes of environmental degradation and pollution are rooted in moral issues and human behavior (Nofiyanti & Hidayati, 2024). Environmental issues are important, so addressing the worldwide ecological crises requires more than just political and economic perspectives (Safei & Himayaturohmah, 2023). Low-carbon, resilient, and inclusive

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development must be adopted to reduce carbon emissions, conserve natural resources, transform the food system, create better job opportunities, and advance the transition to a greener, more inclusive, and equitable economy. In its "The Sustainable Development Goals Report," the United Nations states that when crisis response efforts are interconnected, their impact is more significant. For example, by enhancing social protection systems, improving public services, and investing in clean energy, we can address the root causes of rising inequality, environmental degradation, and climate change.

Based on regulations from the Ministry of Environment, the environmental education guidelines assign teachers direct responsibility for environmental issues and sustainability, defining it as strategic education for sustainable development (Piccioli, 2019). The government's regulations also underpin the design of the curriculum about climate change education (Hadiapurwa *et al.,* 2024a). The guidelines emphasize the need for a change in behavior and a noble lifestyle based on values rather than cognitive knowledge. Teachers' efforts to improve their competencies play a crucial role in enhancing students' learning, attitudes, and behaviors towards the climate crisis that surrounds them (Hadiapurwa *et al.*, 2024b). In addition, the guidelines also emphasize the importance of addressing the complexities of environmental, social, economic, and community systems through sustainable learning. This involves promoting knowledge that connects local and global perspectives, understanding human complexities, recognizing human diversity worldwide, and fostering individual autonomy, community engagement, and global responsibility. The quality and productivity of natural resources and human health and well-being influence environmental systems.

One of the most significant global disasters today is the environmental crisis, which results in various ecological losses, primarily due to a lack of public awareness regarding ecological sustainability (Wahyudin & Malik, 2019). The best tool for addressing environmental problems in the future is environmental education. Schools are the best and primary place for education focused on ecological concepts. To tackle climate change, an integrated learning approach is necessary. At the university level, in some countries, numerous programs are in place to engage students in environmental issues and conduct research that offers solutions to environmental problems. Formal education is crucial for mitigating and effectively addressing climate change's effects. A global campaign should begin by integrating environmental education into school curricula to educate the public about sustainable development. The curriculum, which is the core of education, must be developed and implemented contextually to meet the needs of the region, educational units, and students (Hamami & Nuryana, 2022).

METHODS

Mappasere and Sayuti, in their book "*Metode Penelitian Sosial,*" explain that qualitative research uses an inductive thinking process to gain understanding, and the researcher is involved in the situation and setting of the phenomenon being studied. The method employed in this research is a literature study, a type of qualitative research, where the research stages involve gathering both primary and secondary sources from the library and classifying the data based on the research formula.

The components that are questioned in this research include:

1. What is the purpose of the environmental education curriculum conducted with a holistic approach?
2. What material is developed with a holistic approach in the environmental education curriculum?
3. How is the implementation of the environmental education curriculum carried out using a holistic approach?
4. How is the evaluation of environmental education curriculum conducted using a holistic approach?

Zed in "*Metode Penelitian Kepustakaan*" explaining that there are generally four steps that must be taken, as will be done in this research, namely: 1) preparing the equipment that will be used for recording, at this

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stage the writer prepares various tools such as writing instruments, notepaper, or other media that can be utilized; 2) creating a working bibliography, using physical reading sources (printed books) as well as online media, by utilizing the Universitas Pendidikan Indonesia Library and the UPI Central Library site, with several provider sources such as the Universitas Pendidikan Indonesia Journal, *Sage Journals*, *Science Direct*, *Springer Link*, and others for various articles published from 2019 to 2024. Next, in the filtering stage, titles and abstracts are evaluated to ensure their relevance to the research questions and literature review techniques. With this strategy, irrelevant articles were found and discarded. After reviewing and analyzing the remaining documents, theoretical studies, and empirical research, 38 relevant articles were identified in the final filtering stage and used as research materials; 3) by organizing the time, the author makes arrangements for the schedule and how time will be utilized in the research; 4) reading and taking notes about research.

RESULTS AND DISCUSSION

The purpose of the Environmental Education Curriculum with a Holistic Approach

Essentially, education is a deliberate and systematic effort to transform an individual's attitudes to enable the acquisition of specific and meaningful knowledge. This fundamental understanding aligns with Ali's assertion in the book "*Curriculum Development for Sustainability Education*," which emphasizes that one of the most significant elements in changing the world lies in transforming society's attitudes, intentions, and behaviors; this transformation can be most effectively achieved through education. Furthermore, Prabawani, in the book "*Education for Sustainable Development: Pembentukan Karakter dan Perilaku Berkelanjutan*," elaborates on the role of thinking skills in shaping human behavior. In this context, students' cognitive abilities—including their capacity to know, comprehend, and recall environmental knowledge—influence their practical thinking skills. These include analyzing, interpreting, and synthesizing ecological phenomena and understanding fundamental principles. These cognitive processes significantly shape students' sustainable attitudes and behavioral responses toward the environment.

Based on the explanation regarding education that will change a person's behavior, it provides an opportunity to increase awareness of environmental issues through environmental education. This is based on the objectives of Education for Sustainable Development (ESD), an educational framework that helps individuals make informed decisions and act responsibly to maintain environmental integrity, economic sustainability, and healthy communities (Bobowski & Fiege, 2023). This goal emphasizes a holistic approach to education, addressing the interconnections among social, economic, and environmental dimensions, and recognizing that sustainable development requires balance. It is essential to promote the Sustainable Development Goals to tackle global environmental and social challenges such as climate change, environmental degradation, conflict and injustice, poverty, and inequality (Greenland *et al*., 2022). Each aspect of the Sustainable Development Goals has specific learning targets related to cognitive, social-emotional, and behavioral skills. These are then combined into learning outcomes focused on identifying and explaining related variables such as environmental knowledge, relationships with nature, and place (Ding *et al*., 2022).

Holistic philosophy has become one of the approaches frequently used in education, as it aims to develop the full potential of individuals by incorporating all existing aspects of their being. Thus, by incorporating various elements comprehensively, environmental education can be implemented effectively, enabling students to acquire attitudes and knowledge about ecological conservation. The goal of environmental education is to encourage and provide opportunities for society to acquire knowledge, skills, and perspectives that can ultimately foster concern, commitment, and wise protection of the environment, as well as create new behaviors that are environmentally friendly, promote environmental ethics, and improve quality of life (Setyobudi & Saliman, 2018). The inability of children to receive stimulation will result in their

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skills and abilities not being utilized optimally, impacting their quality of life (Sutarman *et al*., 2022). Meanwhile, the implementation of the curriculum in a holistic manner emphasizes the involvement of all supporting aspects, such as family, school, and community, which must encourage children to grow and develop well.

Curriculum Materials for Environmental Education with a Holistic Approach

Holistically teaching and learning about environmental issues must utilize an interdisciplinary approach, not just science (Nguyen *et al*., 2022). This requires teachers to use their skills in understanding and analyzing environmental issues so that they can be effectively communicated to students. Teachers must study environmental topics integrated with subjects to help improve students' skills (Mufidah *et al*., 2021). The interaction between social factors, the environment, and management is crucial for implementing plans and initiatives at various levels, as a holistic perspective reveals that the environment, needs, and human activities cannot be viewed separately (Zwolińska *et al*., 2022). Barrow and Woods also add that teachers must be able to introduce issues that arise in life in an interactive manner, such as by asking questions and using various forms of communication to help students understand what needs to be learned and to develop a better definition, which will also assist teachers in becoming more effective and ensuring effective instruction.

Environmental education implemented through a holistic approach emphasizes the significance of three key dimensions—cognitive, socio-emotional, and behavioral—in enhancing the overall effectiveness of environmental education programs. The cognitive dimension positively impacts ecological behavior, whereas socio-emotional values contribute to changes in environmental behavior, although this influence tends to be partial and context-dependent (Ding *et al*., 2022). The relationship between humans and their environment is circular, where all human actions affect the environment, impacting human life, thus requiring concrete actions to raise awareness through education (Setyobudi & Saliman, 2018). The environmental education model emphasizes ecosystems' role in managing environmental resources, encompassing consumption, energy emissions, waste reduction, and the production of environmentally friendly products (Greenland *et al*., 2022).

Learning materials are generally designed to ensure that students acquire the knowledge and skills relevant to the subject matter being taught. This principle also applies to environmental education, which emphasizes developing skills and understanding related to ecological issues and the importance of conservation. Each topic within the environmental education curriculum has specific objectives, including fostering knowledge acquisition, discipline, self-discipline, sensitivity, patience, and self-awareness. These essential competencies enable students to interact effectively within academic and social settings. By strengthening these skills, students are more likely to develop and demonstrate genuine concern for the environment (Firdaus, 2024). The environmental curriculum with a holistic approach emphasizes the importance of strong academic and moral character, which is relevant to children's development in various environments. The environmental-based curriculum aims to provide a better understanding of the importance of the environment through materials related to the management and protection of the natural environment (Indahri, 2020). In simple terms, an environment-based curriculum can be implemented using various curricula to provide an understanding of how the environment relates to daily life. In every learning process, materials about the environment must be integrated holistically, and teachers should discuss human life issues during the learning process, so that students can understand environmental problems, conserve resources, and contribute to society (Safei & Himayaturohmah, 2023; Setyobudi & Saliman, 2018).

Implementation of the Environmental Education Curriculum with a Holistic Approach

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Implementing the environmental education curriculum holistically involves systematically integrating ecological, social, and cultural values into all aspects of the learning process. This comprehensive approach emphasizes the mastery of theoretical knowledge and focuses on nurturing environmental awareness and equipping students with the necessary skills to act responsibly and sustainably in their environment. In practice, this curriculum is intentionally designed to engage various branches of knowledge in an interdisciplinary and integrated manner, enabling students to recognize and understand the complex interconnections between humans, nature, and the broader context of sustainability. Several identified examples of this curriculum's implementation include green school programs and incorporating ecoliteracy components into instructional practices. Furthermore, the learning process can be carried out through diverse methods, such as multi-method instruction, STEM/STEAM-based education, project-based learning, and participatory learning approaches, all of which aim to foster active involvement and critical thinking among students.

The development of green schools exemplifies the implementation of a comprehensive environmental education curriculum grounded in holistic philosophy. Green Schools represent a practical application of holistic environmental education, encompassing multiple dimensions such as the effective utilization of resources, healthy and safe school operations, environmentally conscious curricula, nutritious and sustainable food choices, and community practices that support long-term ecological well-being (Bopape, 2022; Akbar & Ali, 2021; Sari & Nurizka, 2021; Haryadi & Widodo, 2020). As institutions that embody the concept of healthy schools, Green Schools not only support curriculum implementation but also contribute to shaping educators' moral integrity and environmental responsibility. Furthermore, Green Schools promote environmental literacy and sustainable development by emphasizing ecological learning and fostering a responsible school culture (Bopape, 2022). To effectively establish a Green School, thorough planning is essential, and such planning must involve the active participation of the entire school community (Sari & Nurizka, 2021). The involvement of all components can be realized through collaborative efforts among school members to manage environmental issues and protect resources, as the success of Green Schools requires cross-sectoral commitment and shared responsibility.

Ecoliteracy is also recognized as one of the most effective means to implement environmental education holistically. It produces comprehensive outcomes by integrating cultural, mental, and cognitive skills essential for the current generation to equip future generations to live sustainably (Mufidah *et al*., 2021). Ecoliteracy is defined as an individual's ability to comprehend ecological principles and to live by those principles while actively participating in shaping society (Capra, 2007). Thus, ecoliteracy can be understood as the individual's capacity to grasp ecological systems that hold significance and influence over the environment. It strongly emphasizes ecological awareness, which involves understanding the foundational organization of ecosystems or ecological communities and utilizing this understanding to create and sustain human communities in harmony with nature. Individuals equipped with ecoliteracy are more likely to form sustainable communities that do not degrade or harm the natural environment in which they reside (McBride *et al*., 2013). In his book "Environmental Literacy: Its Roots, Evolution, and Directions in the 1990s," Roth identifies six key ecoliteracy components: affective, ecological knowledge, socio-political awareness, understanding of environmental issues and problems, cognitive understanding, and responsible action. These components can serve as foundational standards for educators in fostering ecological literacy across formal and non-formal educational settings (Nofiyanti & Hidayati, 2024).

Education for Sustainable Development (ESD) emphasizes the importance of preparing individuals to face and contribute to a sustainable future. In this context, UNESCO, in its "*International Implementation Scheme of the United Nations Decade of Education for Sustainable Development*," outlines seven key characteristics of ESD: it is multidisciplinary and broad in scope, value-based, promotes critical thinking and problem-solving, employs multi-method strategies, encourages participation in decision-making processes, is applicable in real-life contexts, and is locally relevant. The multi-method approach refers to

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the need for diverse teaching strategies to be employed to achieve learning objectives holistically. A practical method aligns with both the subject matter and the intended curriculum outcomes for each topic of discussion. Therefore, educators are encouraged to employ various instructional methods to foster an engaging and dynamic learning environment that supports the attainment of comprehensive educational objectives (Setyobudi & Saliman, 2018). Learning approaches tailored to students' needs and interests can significantly enhance their motivation and engagement. Implementing diverse teaching methods—such as games, collaborative group work, and structured activities—is especially vital in supporting the holistic development of students, particularly in early childhood education (Bilancini *et al*., 2023). One effective educational method that can be implemented is play-based learning, which can potentially foster desirable behaviors, particularly in the context of environmental conservation. By utilizing diverse learning strategies, children can be guided to understand and apply environmentally conscious practices, such as air-saving techniques. Recent academic literature has increasingly explored the effectiveness of play-based education in promoting environmental awareness and conservation behaviors. In addition to play-based methods, project-based learning and STEM/STEAM education have also been identified as practical approaches to holistically implementing ecological education curricula. These methods not only enhance student engagement but also provide educators with broader knowledge, diverse perspectives, and actionable insights into addressing ecological issues (Worker *et al*., 2022; Fernández-Martín *et al*., 2020; Velázquez & Rivas, 2020).

In addition to classroom learning, the holistic implementation of the environmental education curriculum can also involve participatory environmental activities conducted at schools. This participation is intended to enable students to understand the material and theories related to the environment and directly apply what they have learned, such as environmental protection measures that can be implemented in daily life (Setyobudi & Saliman, 2018). The teacher should reduce conventional learning approaches and instead move towards more diverse learning methods. One of these approaches is project-based and experiential learning, which enables students to engage in environmental conservation directly (Nguyen *et al*., 2022). This activity involves school residents and the surrounding community in various initiatives that benefit the environment, society, and the school community. Environmental education activities can also be integrated into regular activities and extracurricular programs, including 1) school residents who maintain and care for the school environment buildings (Haryadi & Widodo, 2020); 2) utilizing land and facilities by environmental standards by purchasing composting equipment, ponds, and gardens (Sari & Nurizka, 2021); and 3) students who are innovative and creative in protecting and managing the environment through making compost and publishing the students' crafts (Wisman & Santoso, 2024).

Evaluation of the Environmental Education Curriculum with a Holistic Approach

One of the purposes of evaluation is to determine whether the curriculum objectives have been achieved. Evaluation also assesses the attainment of the established goals and the overall implementation process of the learning (Setyobudi & Saliman, 2018). Meanwhile, Suaedi, in his book "*Introduction to the Philosophy of Science*," asserts that to conduct a comprehensive evaluation of environmental education learning media, a correlational analysis must be carried out between various variables of the learning media and the key criteria that determine media quality. This analytical approach is essential to ensure that the media used effectively support the goals of environmental education. Furthermore, the evaluation process should follow three stages aligned with formative evaluation procedures: 1) one-to-one evaluation; 2) small group evaluation; and 3) field evaluation.

The evaluation of this program revealed that transitioning all schools to a holistic approach to environmental education presents significant challenges, particularly in terms of time and resource allocation. It was found that many teachers and school administrators rushed to implement ecological education, often without fully aligning it with the existing curriculum. The study also identified several key

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obstacles, including difficulties in developing effective pedagogy and curriculum, the absence of a clear and unified vision, and a pervasive concern among educators about making mistakes during implementation (Wahyudin & Malik, 2019). Teachers require enhanced capacity to contribute substantially to the environmental education process. A holistic approach to ecological education offers numerous benefits to the formal sector, improving the quality of teaching and fostering a more inclusive society.

Environmental issues have become a critical priority that must be emphasized to the community through various methods, including education. This focus has become increasingly prominent in Indonesia, marked by multiple regulations related to environmental education established by the Ministry of Education and Culture and the Ministry of Environment and Forestry, both of which have issued several rules that assist and encourage education for sustainable development. The current regulations establish core and basic competencies required at every educational level. They also specify the essential content that should be included in lesson planning (RPP). However, the creativity and innovation demonstrated by subject teachers in their learning methods are key to ensuring that education remains relevant to the present and future. As a result, teachers must possess a well-developed mindset system, which refers to the ability and skills of teachers to think critically and understand holistically in complex and uncertain environments by utilizing various tools and approaches. With this capacity, teachers can effectively incorporate local and global content into learning across multiple subjects, even those considered complex or seemingly unrelated to environmental issues, such as Mathematics, Indonesian Language, and History. Schools must have teachers equipped with both relevant technical skills and soft skills that enable them to adequately prepare students with the competencies necessary for thriving in the 21st century. Teachers must be able to adapt, transfer knowledge effectively, foster student development, evaluate learning outcomes, understand broader educational objectives, and competently analyze their contributions to shaping their students' future (Daga *et al*., 2023).

Discussion

In facing the complex challenges the Earth is experiencing, a holistic approach to developing environmental education curricula is becoming increasingly relevant. In this context, this research explores why a holistic approach provides a strong foundation for designing effective ecological education curricula, as it emphasizes a comprehensive understanding of the complex relationships between humans and their environment. Holistic education views everyone as able to discover their identity, meaning, and purpose through their connection with nature, society, and humanitarian values such as peace and compassion. Integrating various environmental aspects into the curriculum is essential to the holistic approach (Hidayatullah, 2024). Students must understand environmental issues and the social, economic, and cultural impacts of human actions on the environment. Involving students in projects incorporating ecological research, social impact analysis, and cultural understanding can help them gain a more comprehensive understanding.

A holistic approach allows all environmental stakeholders to participate. Involving all parties, from local communities to government and industry, in curriculum development can help everyone better understand environmental issues and find more sustainable solutions. The curriculum can reflect local principles and needs by working well together, which makes it more relevant and impactful. Curricula should focus on improving students' knowledge of their environment and help them better consider issues and gain a broader perspective. Students are taught to think systematically, understand how various components in an ecosystem relate to one another, and learn to solve complex problems. Therefore, the curriculum changes how students view the environment and teaches them to do good things in their daily lives. The

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holistic implementation of the environmental education curriculum has enhanced students' skills in applying an environmentally caring attitude in their everyday lives (Rezkita & Wardani, 2018).

While a holistic approach has many advantages, facing difficulties is essential to the change process. Limited resources, fear of change, and paradigm shifts can hinder education. It is essential to understand broader approaches to measuring curriculum effectiveness. Evaluation techniques, such as performance indicators, participatory surveys, and project-based assessments, can provide a more comprehensive picture of how the curriculum impacts students' knowledge, abilities, and perspectives. A school has utilized out-of-class learning and participatory, interactive methods to implement a holistic curriculum (Nopitasari & Juandi, 2020; Setyobudi & Saliman, 2018). The result is that the students improved their understanding of environmental issues and actively participated in activities designed to promote environmental sustainability.

The holistic philosophy employed in creating the environmental education curriculum has global implications. The educational process demonstrates that holistic education must be advocated for and actualized in Indonesia (Widodo *et al*., 2019). more comprehensive by sharing experiences and best practices. Recommendations for the future include enhancing cooperation among institutions, integrating the curriculum into national education policies, and supporting further research to measure the long-term impact of a holistic approach. An environmental education curriculum can be a powerful tool for shaping a caring, systemic, and responsible generation for environmental sustainability by using a holistic approach.

CONCLUSION

Research findings from various sources of literature indicate that a holistic approach can be employed in developing environmental education curricula. Holistic education curricula have the potential to promote holistic learning, create a sustainable generation, and contribute to the sustainability of the Earth. By integrating environmental elements into the curriculum, students gain a better understanding of environmental issues and are encouraged to consider various perspectives and seek solutions to complex problems. Holistic education curricula enhance environmental literacy and foster positive character traits about global issues by engaging stakeholders, from local communities to governments and industries. It also promotes implementing and applying positive practices in the education sector and the workplace.

Some suggestions for implementing a holistic philosophy in environmental education development aim to optimize the approach by involving teachers in developing and training to implement holistic education. This may include integrating lessons, conducting field learning, and project-based learning, as well as increasing the willingness of stakeholders, such as parents, local communities, and businesses, to support and utilize holistic education. Some ways to achieve this are regular meetings, collaborative projects, sharing materials and resources, case studies, simulations, and other participatory learning. Additionally, this enhances students' understanding of the real world, helps them collaborate with research institutions, and share knowledge with other educational institutions. One way to achieve this is through conferences, seminars, and online publications that aim to create a shared knowledge base. There is great hope that, in the future, environmental education can become an integral part of overall education, thoroughly applied and fully integrated with every aspect and activity of learning.

AUTHOR'S NOTE

The author states that there are no conflicts of interest related to the publication of this article and assures that the data and content of the article are free from plagiarism.

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REFERENCES

Akbar, A., & Ali, A. M. (2021). Peran sekolah dalam upaya pelestarian green child sebagai upaya pelestarian lingkungan hidup. *Sang Pencerah: Jurnal Ilmiah Universitas Muhammadiyah Buton*, *7*(3), 321-327.

Algifahmy, A. F. (2022). Holistic education in the implementation of Islamic value morality in inclusion schools in the COVID-19 pandemic period. *Ta'dibuna: Jurnal Pendidikan Agama Islam*, *5*(1), 63-77.

Bilancini, E., Boncinelli, L., & Di Paolo, R. (2023). Game-based education promotes practices supporting sustainable water use. *Ecological Economics*, *208*(1), 1-9.

Bobowski, B., & Fiege, M. (2023). Elegant conservation: reimagining protected area stewardship in the 21st century. *Ecology and Society*, *28*(1), 1-22.

Bopape, J. (2022). SWOT Analysis of selected schools involved in greening and sustainable development programmes. *Southern African Journal of Environmental Education*, *38*(1), 77-100.

Capra, F. (2007). Sustainable living, ecological literacy, and the breath of life. *Canadian Journal of Environmental Education*, *12*(1), 9-18.

Daga, A. T., Wahyudin, D., & Susilana, R. (2023). Students' perception of elementary school teachers' competency: Indonesian education sustainability. *Sustainability (Switzerland)*, *15*(2), 1-18.

Ding, Y., Zhao, M., Li, Z., Xia, B., Atutova, Z., & Kobylkin, D. (2022). Impact of education for sustainable development on cognition, emotion, and behavior in protected areas. *International Journal of Environmental Research and Public Health*, *19*(15), 1-21.

Fernández-Martín, F. D., Arco-Tirado, J. L., Carrillo-Rosúa, F. J., Hervás-Torres, M., Ruiz-Hidalgo, J. F., & Romero-López, C. (2020). Making STEM education objectives sustainable through a tutoring program. *Sustainability (Switzerland)*, *12*(16), 1-15.

Firdaus, F. A. (2024). Membangun kesadaran lingkungan melalui kurikulum pendidikan Islam kontribusi terhadap SDGs. *Jurnal TarbiyahMu*, *4*(2), 13-21.

Fronza, V., & Gras-Velazquez, A. (2020). Sustainability in formal education: Ways to integrate it now. *IUL Research*, *1*(2), 154-175.

Greenland, S., Saleem, M., Misra, R., & Mason, J. (2022). Sustainable management education and an empirical five-pillar model of sustainability. *International Journal of Management Education*, *20*(3), 1-18.

Hadiapurwa, A., Ali, M., Ropo, E., & Hernawan, A. H. (2024b). Trends in climate change education studies in the last ten years: A systematic literature review. *Jurnal Mimbar Ilmu, 29*(1), 32-45.

Hadiapurwa, A., Ali, M., Ropo, E., & Hernawan, A. H. (2024a). Teacher effort in strengthening student's thinking skill and awareness upon environment conservation: PLS-SEM of Climate Change Education (CCE) study. *International Journal of Environmental Impacts, 7*(1), 111-119.

Hamami, T., & Nuryana, Z. (2022). A holistic-integrative approach of the Muhammadiyah education system in Indonesia. *HTS Teologiese Studies / Theological Studies*, *78*(4), 1-10.

Hanafy, Muh. S. (2014). Konsep Belajar dan pembelajaran. *Lentera Pendidikan*, *17*(1), 66-79.

Haryadi, D., & Widodo, H. (2020). Pengembangan kurikulum berbasis Adiwiyata untuk meningkatkan kemampuan practical life. *Nidhomul Haq : Jurnal Manajemen Pendidikan Islam*, *5*(2), 195-210.

https://doi.org/10.17509/jik.v22i1.65967

Hidayatullah, E. (2024). Rekonstruksi konseptual pendidikan holistik: Pendekatan fenomenologis terhadap inklusivitas dan kesadaran sosial. *Jurnal Studi Edukasi Integratif*, *1*(1), 55-68.

Indahri, Y. (2020). Pengembangan pendidikan lingkungan hidup melalui program Adiwiyata (studi Kota Surabaya). *Aspirasi: Jurnal Masalah-Masalah Sosial I*, *11*(2), 121-134.

McBride, B. B., Brewer, C. A., Berkowitz, A. R., & Borrie, W. T. (2013). Environmental literacy, ecological literacy, ecoliteracy: What do we mean and how did we get here?. *Ecosphere*, *4*(5), 1-20.

Mufidah, Z. R., Iswara, P. D., & Hermanto, F. Y. (2021). Mengembangkan ekoliterasi dan ekopreneurship siswa sekolah dasar melalui pembelajaran tematik berbasis model Project Based Learning (PjBL). *At-Thullab: Jurnal Pendidikan Guru Madrasah Ibtidaiyah*, *5*(1), 75-78.

Muthmainnah, L., Mustansyir, R., & Tjahyadi, S. (2020). Meninjau ulang sustainable development: Kajian filosofis atas dilema pengelolaan lingkungan hidup di era post modern. *Jurnal Filsafat*, *30*(1), 23-45.

Nguyen, L. H. P., Bui, N. B. T., Nguyen, T. N. C., & Huang, C. F. (2022). An investigation into the perspectives of elementary pre-service teachers on sustainable development. *Sustainability (Switzerland)*, *14*(16), 1-22 .

Nofiyanti, K., & Hidayati, Y. M. (2024). Eco-literacy components on kurikulum merdeka: 5th-grade elementary school's IPAS textbook analysis. *Inovasi Kurikulum, 21*(1), 163-176.

Nopitasari, D., & Juandi, D. (2020). Persepsi guru terhadap pembelajaran Matematika berbasis lingkungan. *Teorema: Teori dan Riset Matematika, 5*(2), 156-162.

Pérez-Guilarte, Y., Armas-Quintá, F. X., & Macía-Arce, X. C. (2022). Social sciences teaching: Building a holistic approach from student teachers' social representations. *Social Sciences*, *11*(7), 1-17.

Piccioli, M. (2019). Framework of values in primary school teachers and education to sustainable development. *International Journal of Humanities and Social Science*, *9*(11), 71-76.

Rezkita, S., & Wardani, K. (2018). Pengintegrasian pendidikan lingkungan hidup membentuk karakter peduli lingkungan di sekolah dasar. *Jurnal Pendidikan Ke-SD-An*, *4*(2), 327-331.

Rybska, E., & Błaszak, M. (2020). Holistic education-a model based on three pillars from cognitive science: An example from science education. *Problemy Wczesnej Edukacji*, *49*(2), 45-59.

Safei, A. A., & Himayaturohmah, E. (2023). Development of environmentally friendly culture in the Islamic boarding school through social intervention strategy. *Al-Hayat: Journal of Islamic Education*, *7*(1), 226-242.

Sari, A. P., & Nurizka, R. (2021). Implementasi sekolah Adiwiyata di SD negeri Serayu Yogyakarta. *Jurnal PGSD Indonesia (JPI)*, *7*(2), 17-29.

Setyobudi, F., & Saliman. (2018). Pendidikan lingkungan hidup di SMP negeri 3 Kebumen Jawa Tengah. *JIPSINDO*, *5*(1), 1-20.

Supadmini, N. K., Wisnu Budi Wijaya, I. K., & Larashanti, I. A. D. (2020). Implementasi model pendidikan lingkungan UNESCO di sekolah dasar. *Cetta: Jurnal Ilmu Pendidikan*, *3*(1), 77-83.

Sutarman, S., Nurhayati, N., Utami, R. D., Idarianty, I., & Akzam, I. (2022). Implementation of character based integrated holistic education in early childhood education. *International Journal of Health Sciences, 6*(4), 5405-5419.

Velázquez, D, C, F., & Rivas, F. L. (2020). Education for sustainable development in STEM (technical drawing): Learning approach and method for SDG 11 in classrooms. *Sustainability (Switzerland)*, *12*(7), 1-18.

https://doi.org/10.17509/jik.v22i1.65967

Wahyudin, D., & Singh Malik, R. (2019). Teaching environmental education for sustainable development: strategies and challenges. *Journal of Sustainable Development Education and Research*, *3*(1), 51-70.

Widodo, H., Sutrisno, S., & Hanum, F. (2019). The urgency of holistic education in Muhammadiyah schools. *Al-Ta Lim Journal*, *26*(2), 160-174.

Worker, S., McCambridge, J., Stevenson, A., Fields, J., Maille, A., Meehan, C., Mondl, A., Malone, C., & Smith, M. H. (2022). Sustainable polymers: New 4-H STEM curricula. *Journal of Extension*, *60*(1), 1-6.

Zandroto, A. D., & Indriani, S. (2023). An analysis on learning loss and holistic education. *Polyglot: Jurnal Ilmiah*, *1*(19), 156-168.

Zwolińska, K., Lorenc, S., & Pomykała, R. (2022). Sustainable development in education from students' perspective-implementation of sustainable development in curricula. *Sustainability (Switzerland)*, *14*(6), 1-27.

https://doi.org/10.17509/jik.v22i1.65967