

EDUCATION FOR SUSTAINABLE DEVELOPMENT (ESD) : IMPLEMENTATION IN INDONESIAN EARLY CHILDHOOD EDUCATION

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Abstract: Education for Sustainable Development (ESD) is an important issue in education because it puts forward knowledge, skills, values and habits that can affect the wider community which has a long term effect that is good and does not harm nature, individuals or the society. ESD is also one of the keys to the success of The 2030 Agenda for Sustainable Development or SDGs supported by the United Nations. This article is aimed to find out and describe Education for Sustainable Development (ESD) in Early Childhood Education. In this study, we include several conclusions that include the notion of ESD as well as the role of kindergarten teachers, parents and early childhood in Sustainable Development.

Keywords: *Education For Sustainable Development (ESD), Early Childhood Education, Indonesia.*

INTRODUCTION

Human beings, as being responsible for all resource utilization of natural resources, have the obligation to safeguard and ensure the sustainability of all activities on Earth for the future. This responsibility does not solely rest on adults but also on our children, who will continue our efforts in addressing sustainability issues. To effectively prepare children to tackle the challenges of an interconnected world, schools play a vital role in developing and implementing Education for Sustainable Development (ESD) methods. In other words, education serves as the primary foundation for sustainable development (Tristanada, 2018). Therefore, Education for Sustainable Development (ESD) goes beyond incorporating subjects like climate change, poverty, and sustainable

consumption into the curriculum. It also fosters interactive and learner-centered teaching and learning environments.

Education involves conscious efforts to guide and support students in developing their physical and mental potential, enabling them to become independent and responsible adults (Hidayat & Abdillah, 2019, p. 24). Along with that statement, education is a transformative process that cultivates knowledge, skills, values, and character, serving as a dynamic catalyst for change and influencing social behavior (Adoesemowo & Sotonade, 2022, p. 1). In addition, it is a lifelong journey that fosters a positive mindset.

Recognizing education's significance in preparing future leaders, it is crucial to prioritize quality education with long-term impacts and sustainability. Education serves as the cornerstone for nurturing future generations and ensuring sustained progress and prosperity for nations (Safitri, et al., 2022). It is not only an "agent of change" but also an "agent of producer," driving real transformation. Innovative and high-quality education fosters creativity among the youth, harnessing their innate curiosity and turning them into catalysts of innovation. These individuals will play a pivotal role in implementing sustainable development concepts.

Moreover, there is a significant period in life called the "golden age," which refers to when all aspects of children development progress rapidly, and they possess a remarkable capacity to absorb information quickly and comprehensively. Brain development in children is particularly active during this period, with approximately 80% of brain growth occurring between the ages of 0 and 6. During this age, every word or action from individuals, especially parents, forms the basis for shaping the child's behavior, character, and intellectual skills (Izzatul & Asyifa, 2020). This period presents a prime opportunity for overall development, shaping the child's perspective and mindset.

Aligned with the Sustainable Development Goals (SDGs), also referred to as sustainability goals, were internationally agreed upon objectives established by the United Nations (UN) to tackle the world's most critical social, economic, and environmental challenges (UNESCO, 2015) . Adopted on September 25, 2015, the SDGs were a result of the UN Sustainable Development Summit held in New York, where representatives from all 193 UN member states convened to endorse the 2030 Agenda for Sustainable Development. Building upon the preceding Millennium

Development Goals (MDGs) that were effective from 2000 to 2015, the SDGs take a more comprehensive approach to sustainable development. While the MDGs primarily focused on poverty reduction and social advancements, the SDGs integrate economic, social, and environmental dimensions, aiming to create a sustainable and inclusive future.

The Sustainable Development Goals encompass environmental, social, and economic objectives applicable to both developed and developing countries (Morita, et al., 2020). They emphasize the rights of every individual. The goals including (World Health Organization, 2015), No Poverty, Zero Hunger, Good Health and Well-being, Quality Education, Gender Equality, Clean Water and Sanitation, Affordable and Clean Energy, Decent Work and Economic Growth, Industry, Innovation, and Infrastructure, Reduced Inequalities, Sustainable Cities and Communities, Responsible Consumption and Production, Climate Action, Life Below Water, Life on Land, Peace, Justice, and Strong Institutions, and the last is Partnerships for the Goals.

This research examines Education for Sustainable Development (ESD) and the role of early childhood education, including young children, parents, and early childhood educators. Thus, the aim of this study is to provide benefits to society by raising awareness of the efforts and benefits of Education for Sustainable Development. Additionally, this research serves as a reference and guide for the development of ESD in Early Childhood Education (ECE) in Indonesia. It is expected to contribute valuable information and knowledge regarding Education for Sustainable Development.

DISCUSSION

2.1. Early Childhood Education (ECE)

Education is widely recognized as the key to unlocking potentials and preparing children to get a brighter future. Among the various stages of education, early age education holds paramount importance as it lays the foundation for a child's cognitive, social, and emotional development. Early childhood, typically spanning from birth to six years old (Yunus, 2016), is a critical period characterized by rapid brain development. It presents a unique opportunity to provide high-quality education and nurture essential skills. The early years witness remarkable brain development, with

neural connections being formed that shape a child's ability to learn, think critically, and solve problems. In consequence, educators need to stimulate and help at an early age due to their helplessness, otherwise the potential will die. The stimulated aspects are the aspects of religious and moral values development, social-emotional development, physical-motor development, cognitive development, language development, and artistic development (Suryana, 2018).

Communication is a key, by exposing children to a rich vocabulary, encouraging verbal interactions, and promoting early literacy skills, early age education creates a nurturing environment where children engage in conversations, storytelling, and reading activities. These experiences help children develop strong language skills, which are fundamental for communication, comprehension, and self-expression (Dickinson & Porche, 2011). Language skills serve as a solid foundation for future academic success, enabling children to excel in reading, writing, and critical thinking (Hart & Risley, 1995).

Moreover, early age education plays a crucial role in supporting social and emotional development. It provides numerous opportunities for children to interact with peers and adults, facilitating the development of essential social skills. Through collaborative play, group activities, and shared experiences, children learn valuable lessons in cooperation, empathy, conflict resolution, and respect for others. These skills lay the groundwork for positive relationships, effective communication, and successful teamwork in the future (Eisenberg et al., 2015).

Furthermore, young children are still learning to navigate and understand their emotions. Early age education recognizes the importance of emotional development and creates a nurturing environment that helps children identify and express their feelings appropriately. Educators and caregivers teach emotional regulation strategies and foster a supportive atmosphere to equip children with valuable tools for managing stress, building resilience, and maintaining positive mental well-being (Denham & Brown, 2010). In addition to cognitive and social development, early age education promotes holistic development, encompassing physical, creative, and moral aspects. Structured physical activities and outdoor play contribute to the development of gross motor skills, coordination, and physical fitness. These experiences also promote an appreciation for a healthy lifestyle by emphasizing the importance of regular exercise and nutritious eating habits (Tremblay et al., 2017).

The benefits of early age education extend far beyond the early years and have a lasting impact on children's future success. Research consistently demonstrates that children who receive quality early education are more likely to achieve better academic outcomes throughout their educational journey (McCain et al., 2007). The strong foundation of cognitive and social skills acquired in early age education positively influences future academic success. Additionally, early age education has the potential to bridge the gap by providing equal access to quality education, regardless of socio-economic backgrounds, early age education helps level the playing field and reduce inequality. It offers all children a fair start, empowering them to break the cycle of poverty and realize their full potential (Heckman, 2006). By providing stimulating environments, fostering language development, cultivating problem-solving and social skills, promoting physical well-being, nurturing creativity, and establishing a solid foundation for academic success, early age education sets the stage for a lifetime of gradual learning (scaffolding) and achievement. Recognizing the significance of investing in high-quality early age education is essential for creating a brighter future for all children, regardless of their backgrounds.

2.2. Education for Sustainable Development

Education for sustainable development (ESD) has emerged as a response to global challenges and goals related to sustainability. It has been influenced by various factors and initiatives at the international level. One significant milestone in the development of ESD was the Brundtland Report in 1987. The United Nations World Commission on Environment and Development released the report titled "Our Common Future," which emphasized the concept of sustainable development. The report underscored the need to integrate environmental, social, and economic considerations into decision-making processes and recognized the crucial role of education in promoting sustainable development (Brundtland, 1987).

Another important initiative was the United Nations Decade of Education for Sustainable Development (DESD) from 2005 to 2014. The UN declared this decade to foster the integration of sustainable development principles and practices into

educational systems worldwide. The DESD aimed to promote collaboration among governments, educational institutions, and civil society to advance ESD and encourage transformative learning (UNESCO, 2005). Furthermore, the United Nations Sustainable Development Goals (SDGs) adopted in 2015 through the 2030 Agenda for Sustainable Development have reinforced the significance of ESD. The fourth goal specifically focuses on quality education and emphasizes the importance of ESD in achieving sustainable development. ESD is recognized as a critical tool for providing lifelong learning opportunities and empowering individuals to contribute to sustainable solutions (UNESCO, 2015).

ESD, grounded in environmental education, aims to enable individuals to make decisions and take actions to enhance our quality of life without compromising the health of our planet. It also seeks to integrate the values inherent in sustainable development into all aspects and levels of learning (Tristananda, 2018). The role of ESD is characterized by three pillars of sustainable development: environmental, economic, and social (Siraj-Blatchford et al., 2010). These pillars are interconnected and reflect the goals of community development and social and environmental stability, making them crucial considerations for educators, starting from early childhood education to higher education.

Government support at all levels is essential for disseminating and integrating sustainable development values and goals through education. This support encompasses policies, programs, funding, and outcome monitoring. Education for Sustainable Development (ESD) plays a vital role in promoting awareness and fostering sustainable attitudes and behaviors. Regular evaluations are necessary to assess the effectiveness of ESD implementation and identify areas for improvement in future endeavors.

2.3. The Role of Early Childhood

As mentioned before, young children have a remarkable ability to quickly absorb information and are highly attuned to their surroundings. Introducing ESD concepts during this stage helps children develop a strong grasp of sustainability. ESD in early childhood education could shape attitudes, habits, and values that make them learn to respect and care for the environment, which can establish a foundation for lifelong sustainable behaviors. Through ESD activities like recycling and exploring nature, children internalize sustainable practices, integrating them into their daily routines.

Furthermore, children in early childhood will become agents of change. They share their knowledge and values with family and friends, inspiring others to adopt sustainable practices and contribute to a more sustainable future. By incorporating ESD into early childhood education, its sustainability is ensured. Children become lifelong learners, continuously seeking opportunities to deepen their understanding of sustainability and actively contribute to a sustainable world.

2.4. The Role of Learning and The Curriculum

Traditionally, Education for Sustainable Development (ESD) has been present in early childhood education. Various activities such as environmental field trips (visiting nature reserves, conducting field observations, engaging in farming activities, etc.) and project-based learning (recycling, do-it-yourself projects, etc.) have been implemented. However, there is a need for further development and enhancement.

Several SDGs that can be positively influenced by early age education (ESE) and highlights their significance in creating a sustainable future. Firstly, Sustainability Development Goals (SDG) number 4 Quality Education that aims to ensure inclusive and equitable quality education for all and by providing access to quality education in the early years, children from all backgrounds can develop essential cognitive and social skills also eco-friendly mindset. Secondly, SDG number 5 Gender Equality, which Promoting gender equality is essential for building sustainable societies that free from gender stereotypes and fostering inclusivity. By providing equal opportunities for girls and boys, early education helps break down societal barriers and promotes gender equality. It teaches children the values of respect, empathy, and cooperation, enabling them to grow up with an understanding of the importance of equal rights and opportunities for all genders. Thirdly, SDG number 12 Responsible Consumption and Production minimizing environmental degradation. Early age education can play a transformative role in shaping children's attitudes and behaviors toward consumption. By introducing concepts like reduce, reuse, and recycle, young learners develop an awareness of the environmental impact of their choices. Early education also encourages critical thinking and problem-solving skills, allowing children to explore sustainable alternatives and make informed decisions, thus fostering responsible

consumption and production patterns. Lastly, SDG number 13 Climate Action for nurturing a generation of climate-conscious individuals. Through age-appropriate activities, children learn about climate change, its causes, and the importance of mitigating its effects. By instilling a sense of environmental responsibility and encouraging sustainable practices, early education equips children with the knowledge and skills needed to take climate action. This includes promoting renewable energy, advocating for conservation, and understanding the importance of protecting biodiversity.

To ensure the effectiveness of ESD in early childhood education, integration is key. Rather than treating it as a separate subject, ESD should be woven into the fabric of all learning experiences. It should be infused into various subjects such as science, social studies, language arts, and even art and music. By integrating ESD into the curriculum, children can see the connections between sustainability and different areas of knowledge, enhancing their understanding and fostering a holistic approach to sustainable development. Furthermore, ESD should not only focus on knowledge transfer but also emphasize values, attitudes, and behaviors that align with sustainability.

2.5. The Role of Partnership in Teacher-Parents

Teachers act as educators in the kindergarten by imparting knowledge about sustainability and its interconnectedness with the environment, society, and the economy. They bring ESD concepts to life, making them engaging and relevant to students' lives. By incorporating real-life examples and interactive learning methods, teachers foster a deep understanding of sustainability. Teachers also serve as inspirations, igniting curiosity and motivation in their students. Through their enthusiasm, passion, and extensive knowledge of sustainability, they inspire students to take an active interest in environmental and social issues. Teachers encourage students to think critically, question existing practices, and seek innovative solutions for a sustainable world.

On the other hand, parents act as role models for their children's sustainable behavior in home. Children often emulate their parents' actions, and therefore, parents' own sustainable practices have a direct impact on their children's attitudes and actions. By adopting eco-friendly habits, such as recycling, conserving energy, and reducing waste,

parents demonstrate the importance of sustainable living and inspire their children to do the same.

Both teachers and parents serve as educators for children, which is why communication and collaboration are vital components of the partnership between them. They work together to share information, insights, and concerns related to Education for Sustainable Development (ESD). Regular channels of communication, such as parent-teacher meetings, newsletters, and online platforms, facilitate the exchange of ideas and updates on ESD initiatives. By aligning their efforts, teachers and parents can reinforce sustainable practices and values both at school and at home. Additionally, teachers and parents can jointly emphasize the importance of sustainability education. By involving parents in discussions and workshops on ESD, teachers can cultivate a shared understanding of the significance of sustainable development. This collaboration helps parents recognize their role as co-educators, extending ESD beyond the confines of the classroom. Parents can then support and reinforce sustainability principles in their daily lives, creating a consistent message about the importance of environmental stewardship and social responsibility.

Moreover, the partnership between teachers and parents can facilitate the integration of sustainable practices into daily routines. By sharing practical tips and strategies, teachers and parents can collaborate to establish environmentally-friendly habits and lifestyles. They can work together on initiatives such as waste reduction, energy conservation, and sustainable transportation methods. This collaboration reinforces the notion that sustainable actions are feasible and beneficial for individuals and the planet alike. Furthermore, teachers and parents can collaborate on organizing community engagement activities related to sustainability. By involving parents in field trips, environmental clean-up campaigns, or projects with local organizations, teachers expand the learning opportunities for students. These experiences foster a sense of community and instill a deeper understanding of the interconnections between individuals, their communities, and the wider environment

CONCLUSION

Education for Sustainable Development (ESD) in early childhood education holds immense potential for shaping eco-warriors who are committed to building a sustainable future. Early age education plays a critical role in fostering cognitive, social, and emotional development, setting the stage for a lifetime of learning and achievement. By integrating ESD concepts into the curriculum and creating stimulating learning environments, children develop a deep understanding of sustainability and its interconnectedness with the environment, society, and the economy. ESD in early childhood education not only equips children with knowledge but also instills values, attitudes, and behaviors that align with sustainable development.

Early age Teachers serve as catalysts, igniting curiosity and motivation in children, while encouraging critical thinking and the pursuit of innovative solutions for a sustainable world. Meanwhile, parents, as influential role models, have the power to shape their children's attitudes and actions. By adopting sustainable practices, themselves, parents inspire their children to follow suit, creating a ripple effect of sustainable behavior. Through collaboration and regular communication, the partnership between teachers and parents can reinforce sustainable practices and values, both within educational institutions and at home. By working together, teachers and parents can integrate sustainable practices into daily routines, organize community engagement activities, and consistently convey the importance of environmental stewardship and social responsibility.

Children likened as pawns in the game of chess, they are limited to moving forward one square at a time. However, with strategic planning and execution, a pawn can reach the opponent's back row and be promoted to a more powerful piece such as a queen, rook, bishop, or knight. Similarly, teachers and parents, as educators at home and in school, play a crucial role in strategizing the success of Education for Sustainable Development (ESD) in children. They aim to equip children with understanding and the ability to become agents of change and producers of positive transformations for a better and more sustainable Earth, one that is harmonious for all living beings.

It is hoped that in the future, there will be an increase in learning initiatives that are driven by the principles of sustainability that explore innovative methods to address climate change, eradicate poverty, and promote social justice. Moreover, it is envisioned that education and knowledge will extend beyond the confines of academic institutions and actively reach communities and stakeholders

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REFERENCES

1. Adoesemowo, P. O., & Sotonade, O. A. (2022). Basic of Education: The Meaning and Scope of Education.
2. Ardoin, N. M., & Bowers, A. W. (2020). Early childhood environmental education: A systematic review of the research literature. *Educational Research Review, 31*, 100353.
3. Azijah, I., & Adawiyah, A. R. (2020). *Pertumbuhan dan Perkembangan Anak: Bayi, Balita, dan Usia Prasekolah*. Penerbit Lindan Bestari.
4. Bascopé, M., Perasso, P., & Reiss, K. (2019). Systematic review of education for sustainable development at an early stage: Cornerstones and pedagogical approaches for teacher professional development. *Sustainability, 11*(3), 719.
5. Brundtland, G. H. (1987). What is sustainable development. Our common future, 8-9.
6. Cebrián, G., Junyent, M., & Mulà, I. (2020). Competencies in education for sustainable development: Emerging teaching and research developments. *Sustainability, 12*(2), 579.
7. Debrah, J. K., Vidal, D. G., & Dinis, M. A. P. (2021). Raising awareness on solid waste management through formal education for sustainability: A developing countries evidence review. *Recycling, 6*(1), 6.
8. Denham, S. A., & Brown, C. (2010). "Plays nice with others": Social-emotional learning and academic success. *Early Education and Development, 21*(5), 652-680.
9. Dickinson, D. K., & Porche, M. V. (2011). Relation between language experiences in preschool classrooms and children's kindergarten and fourth-grade language and reading abilities. *Child Development, 82*(3), 870-886.
10. Eisenberg, N., Spinrad, T. L., & Eggum, N. D. (2015). Emotion-related self-regulation and its relation to children's maladjustment. *Annual Review of Clinical Psychology, 11*, 379-405
11. Elliott, S., & Davis, J. (2017). Exploring the Resistance: An Australian Perspective on Education for Sustainability in Early Childhood Education. *Australian Journal of Environmental Education, 33*(2), 84-97
12. Hart, B., & Risley, T. R. (1995). Meaningful differences in the everyday experiences of young American children. Paul H Brookes Publishing.
13. Heckman, J. J. (2006). Skill formation and the economics of investing in disadvantaged children. *Science, 312*(5782), 1900-1902.
14. Henderson, K., & Tilbury, D. (2004). Whole-school approaches to sustainability: An international review of sustainable school programs. *Australian Research Institute in Education for Sustainability: Australian Government*.
15. Hidayat, R., & Abdillah, A. (2019). Ilmu Pendidikan: Konsep, Teori Dan Aplikasinya.

16. Maidou, A., Plakitsi, K., & Polatoglou, H. (2019). Knowledge, Perceptions and Attitudes on Education for Sustainable Development of Pre-Service Early Childhood Teachers in Greece. *World Journal of Education*, 9(5), 1-15.
17. McCain, M. N., Mustard, F. J., & Shanker, S. (2007). Early Years Study 2: Putting Science into Action. Council for Early Child Development.
18. Morita, K., Okitasari, M., & Masuda, H. (2020). Analysis of national and local governance systems to achieve the sustainable development goals: case studies of Japan and Indonesia. *Sustainability Science*, 15, 179-202.
19. Rijkiyani, R. P., Syarifuddin, S., & Mauzidati, N. (2022). Peran Orang Tua dalam Mengembangkan Potensi Anak pada Masa Golden Age. *Jurnal Basicedu*, 6(3), 4905-4912.
20. Rohmah, L. (2014). Implementasi kurikulum berbasis Education for Sustainable Development (ESD) di SDIT internasional luqman hakim Yogyakarta. *Al-Bidayah: jurnal pendidikan dasar Islam*, 6(2).
21. Safitri, A. O., Yuniarti, V. D., & Rostika, D. (2022). Upaya peningkatan pendidikan berkualitas di Indonesia: Analisis pencapaian sustainable development goals (SDGs). *Jurnal Basicedu*, 6(4), 7096-7106.
22. Siraj-Blatchford, J., Smith, K. C., & Samuelsson, I. P. (2010). *Education for sustainable development in the early years*. Buenos Aires, Argentina: OMEP, World Organization for Early Childhood Education.
23. Suryana, D. (2018). Pendidikan anak usia dini: stimulasi dan aspek perkembangan anak.
24. Tremblay, M. S., Gray, C., Babcock, S., Barnes, J., Bradstreet, C. C., Carr, D., ... & Chabot, G. (2017). Position statement on active outdoor play. *International Journal of Environmental Research and Public Health*, 14(10), 1272.
25. Tristananda, P. W. (2018). Membumikan Education for Sustainable Development (ESD) di Indonesia dalam menghadapi isu-isu global. *Purwadita: Jurnal Agama dan Budaya*, 2(2), 42-49.
26. UNESCO. (2005). United Nations Decade of Education for Sustainable Development (2005-2014): International Implementation Scheme. Retrieved from <http://unesdoc.unesco.org/images/0014/001486/148654E.pdf>
27. UNESCO. (2015). Transforming our World: The 2030 Agenda for Sustainable Development. Retrieved from <https://sustainabledevelopment.un.org/post2015/transformingourworld>