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The Implementation of Nature-Based Learning to Foster Creativity and Independence in Early Childhood

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ABSTRACT

Background of the study: Early childhood is a crucial stage of rapid development across cognitive, motor, social, and emotional domains. To support this growth, learning approaches that foster creativity and independence are essential. Nature-based learning provides opportunities for children to interact directly with their environment, offering rich multisensory experiences that stimulate imagination, creativity, and problem-solving. Through exploration and hands-on engagement with nature, children also develop autonomy, responsibility, and risk assessment skills. This study explores the role of nature-based learning in fostering creativity and independence in the context of Early Childhood Education (ECE) in Indonesia.

Aims and scope of paper: This paper examines how nature-based learning can enhance creativity and independence in children aged 0–6 years. It discusses key theories, principles, and benefits, provides practical applications from ECE settings, and highlights the role of educators in designing effective nature-based learning experiences.

Methods: A literature review approach was used, drawing from academic journals, books, and relevant articles. The data were analyzed qualitatively to identify concepts, benefits, and teaching strategies related to nature-based learning in early childhood.

Results: The findings suggest that nature-based learning significantly supports the development of creativity and independence. Activities like outdoor play, exploration, and gardening enhance children's ability to express ideas and solve problems, while also fostering decision-making and self-regulation. Educators play a vital role as facilitators in creating safe, engaging environments that promote meaningful exploration.

Contribution: This study offers practical guidance for ECE educators and contributes to the academic discussion on holistic, contextual learning models that support young children's development.

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INTRODUCTION

Early childhood is widely recognized as a critical period in human development, characterized by rapid growth in cognitive, physical, emotional, and social domains. This stage, commonly referred to as the golden age, typically includes children from birth to the age of six, as defined in Indonesia's Law No. 20 of 2003 on the National Education System. Development during this period lays the foundation for lifelong learning, behavior, and overall well-being (Ardiana, 2023). According to developmental experts, the early years are not only about acquiring knowledge but also about shaping character, values, and essential life skills. Children at this stage are naturally curious, imaginative, and eager to explore their surroundings, making it a prime opportunity to nurture critical developmental traits such as creativity and independence.

In recent years, there has been growing attention on how early childhood education (ECE) can move beyond conventional, classroom-based approaches and adopt more holistic, child-centered models. Among these, nature-based learning has emerged as a powerful approach that integrates natural environments into the learning process. By involving children in direct experiences with nature, this approach provides rich, multisensory learning opportunities that support not only academic skills but also socio-emotional and personal development.

Two of the most vital developmental goals in ECE are fostering creativity and independence. Creativity in children involves the ability to think divergently, generate novel ideas, solve problems in innovative ways, and express themselves in original forms. This competence is not restricted to the arts, but spans across various domains including science, language, and social interactions. According to Dau and Santosa (2023), creativity reflects qualities such as originality, flexibility, fluency, and elaboration in thinking. Encouraging creativity from a young age allows children to become adaptive thinkers and confident learners in the future.

Equally important is the development of independence, which refers to a child's capacity to manage tasks, make decisions, and act autonomously without relying entirely on adult assistance. Independence involves skills such as self-regulation, problem-solving, time management, and initiative-taking. Fadlillah (2020) emphasizes that independence is not innate but cultivated through consistent exposure to meaningful experiences, responsibility, and encouragement. In this context, early childhood educators play a vital role in fostering independence by designing learning environments that offer choices, support self-directed activities, and encourage risk-taking in a safe manner.

Despite the acknowledged importance of creativity and independence, observations in various early childhood settings in Indonesia reveal that many children still struggle with low self-confidence and limited autonomy. For instance, some children feel shy or anxious in new social settings or when required to make decisions independently (Adhimah, 2020). This indicates a gap between educational practices and the developmental needs of children. As such, it becomes essential to explore pedagogical approaches that can address these gaps effectively and holistically.

Nature-based learning presents itself as a promising solution. This educational model utilizes natural elements—such as forests, gardens, rivers, parks, and even natural materials—as integral components of the learning experience. It encourages children to interact with nature through hands-on exploration, play, and experimentation. Rather than relying solely on textbooks or rigid instruction, nature-based learning emphasizes experiential learning, where children learn by doing, observing, and reflecting. This approach aligns with the constructivist theory of learning, which posits that children construct knowledge best through direct experience and social interaction.

The natural environment provides a dynamic and stimulating context that promotes both creativity and independence. When children are given the freedom to explore outdoor settings, they are naturally drawn to inquire, investigate, and imagine. They may build shelters from sticks and leaves, invent stories inspired by clouds or animals, or solve real-world problems such as

figuring out how to cross a stream or plant a seed. These experiences not only sharpen cognitive and motor skills but also provide emotional satisfaction and a sense of accomplishment.

Furthermore, nature-based learning nurtures independence by placing children in situations where they must make choices, assess risks, and take responsibility for their actions. For example, deciding which path to follow in a forest trail, working collaboratively with peers to build a structure, or managing tools during gardening activities all involve decision-making and self-management. According to Frankel (2019), such experiences are fundamental in developing self-confidence and a sense of agency in children.

Educators serve as facilitators in nature-based learning environments. Their role is to guide, observe, and scaffold children's learning without taking control. This requires a shift from traditional teacher-centered models to a more flexible, responsive approach that honors children's voices and interests. Teachers are responsible for creating safe, engaging outdoor environments, preparing natural learning materials, and linking nature experiences to curricular goals. Suci and Fathiyah (2023) highlight the importance of educators in helping children build relationships, appreciate diversity, and participate in meaningful, child-centered learning experiences.

In addition to fostering creativity and independence, nature-based learning also supports environmental literacy and emotional resilience. Exposure to nature has been linked to reduced stress, increased attention span, and improved mood in children. It helps children develop a sense of connection and responsibility toward the environment, which is increasingly important in the face of global ecological challenges.

In Indonesia, the implementation of nature-based learning in PAUD (Pendidikan Anak Usia Dini) settings remains relatively limited and often informal. Many early childhood programs are still structured around indoor activities with minimal outdoor interaction. Infrastructure, teacher training, safety concerns, and curriculum alignment are among the common barriers to fully integrating nature-based practices. However, several initiatives and pilot programs have demonstrated that with proper support and planning, nature-based learning can be successfully implemented even in urban or resource-limited areas.

Therefore, it is necessary to examine how nature-based learning can be systematically introduced and applied in Indonesian early childhood education. This includes identifying best practices, understanding theoretical frameworks, exploring the roles of educators, and addressing implementation challenges. By doing so, we can ensure that children are provided with developmentally appropriate and culturally relevant learning experiences that nurture their full potential.

This study aims to analyze the implementation of nature-based learning and its role in fostering creativity and independence among early childhood learners. Drawing from academic literature, educational theory, and practical examples from both global and local contexts, this study offers insights into how natural environments can enrich the educational experience of young children. The paper also seeks to support educators, policymakers, and teacher training institutions in developing and promoting pedagogical models that are aligned with holistic child development goals.

METHODS

Research Design

This study employed a qualitative research approach using a literature review design. A literature review is a research method that involves systematically gathering, analyzing, and synthesizing data from existing scholarly sources to understand a particular topic or issue. This method focuses on collecting information from published materials such as books, peer-reviewed journals, research reports, academic articles, and other relevant documents that align with the objectives of the study. According to Sari and Asmendri (2020), a literature review is a structured process of organizing and interpreting data using specific methods to propose solutions to research problems. Danandjaja (2014) also explains that this method relies on scientifically curated references and involves selecting relevant materials, applying specific techniques to collect data from texts, and

presenting the results through integration and interpretation. The distinct characteristics of a literature review include: (1) the researcher directly interacts with texts or documents; (2) the data used is already available; (3) most of the data are secondary sources; and (4) the research is not constrained by physical space or time.

Participants

As a literature-based study, this research did not involve human participants or subjects in the traditional sense. Instead, the "participants" in this context are represented by the selected academic texts and documents analyzed in the study. The selection of these sources followed specific criteria based on relevance, recency, and scholarly credibility. In total, 23 journal articles and additional sources such as books, theses, and conference papers related to nature-based learning, creativity, and independence in early childhood education were reviewed to form a comprehensive understanding of the topic.

Data Collection

The data collection technique used in this study was documentary research, which entails gathering written or recorded materials relevant to the research variables. The process began with selecting a general research theme, followed by an extensive search for relevant literature from reliable sources such as digital libraries, academic databases, and institutional repositories. Once the sources were identified, the research focus was narrowed to align specifically with the study's objectives—particularly literature on the implementation of nature-based learning, the theoretical foundations of creativity and independence in early childhood, and practical applications in educational contexts. After identifying and collecting the necessary reading materials, the researcher carefully read, understood, and took detailed notes from each selected source. This was followed by a review phase to determine whether additional literature was needed to strengthen the analysis. Finally, the gathered information was categorized, organized, and synthesized into a coherent framework to support the preparation of the final research report.

Data Analysis

To analyze the collected data, the study employed content analysis. This method focuses on interpreting the content and meaning of textual materials, such as articles, essays, books, and other written discourse. Content analysis allows researchers to examine patterns, themes, and key concepts within texts, providing insights into how specific phenomena are represented or discussed. The process involved reading and coding each source based on recurring ideas related to nature-based learning, creativity, and independence. Themes were then grouped into broader categories that aligned with the research objectives. By using this approach, the study was able to identify consistent findings, theoretical perspectives, and practical implications from various studies, leading to a comprehensive synthesis of how nature-based learning fosters creativity and independence in early childhood education.

RESULT AND DISCUSSION

Based on a literature review of several scholarly articles, nature-based learning has been shown to have a positive impact on the development of creativity and independence in early childhood. A study by Lestari (2021) revealed that children engaged in outdoor activities such as playing in parks, gardening, and exploring natural environments exhibited higher creative thinking abilities compared to those who learned through conventional indoor methods. These activities naturally encourage children to generate new ideas, imagine, and develop solutions to problems they encounter.

Furthermore, research conducted by Sari (2020) demonstrated that direct interaction with the natural environment strengthens children's sense of responsibility, curiosity, and willingness to try new things. Children learn to make decisions independently, manage their own activities,

and complete tasks without excessive reliance on adults, which are key indicators of independence at an early age.

Another study by Wulandari (2019) emphasized the critical role of teachers in designing meaningful nature-based learning experiences. Teachers act as facilitators who prepare safe and open learning environments, guiding children to explore and experiment with various natural materials such as leaves, water, soil, and stones. Thus, nature-based learning not only enriches children's learning experiences but also fosters emotional connections between children and their environment, supporting the development of environmentally conscious, creative, and independent character traits from an early age.

Conceptually, nature-based learning is a pedagogical approach that integrates the natural environment into the learning process to provide deeper and more meaningful educational experiences. This method utilizes natural resources as educational tools, inviting children to explore, observe, and interact directly with their surroundings. According to Putra (2021), this approach has the potential to enhance children's innate intelligence through specific strategies implemented in the management of nature-based learning, including the teacher's role in optimizing children's inherent capabilities. When applied effectively, children's natural intelligence can be maximized, enabling them to adapt creatively to their environment.

Nature-based learning also emphasizes the fundamental principle of children's connectedness with nature, aiming to foster love and responsibility towards the environment from an early age. This approach helps children gain a deeper understanding of their environment through authentic and contextual learning experiences (N. Sari & Zulfa, 2024). The model inspires early childhood education by focusing on character development, curriculum integration, and meaningful outdoor learning experiences.

In terms of benefits, nature-based learning comprehensively addresses children's learning needs. Hartati (2022) identifies several key advantages, including: (1) providing hands-on learning experiences, (2) offering a diverse and resource-rich learning environment, (3) allowing sufficient time for learning activities, (4) facilitating access to new information and knowledge from peers and adults, (5) enabling learning tailored to children's developmental characteristics, (6) supporting holistic development, and (7) enhancing understanding of environmental sustainability.

According to Wulansari (2016), nature-based learning for early childhood involves engaging children in scientific thinking processes that help them understand natural phenomena, formulate questions, seek information, and draw conclusions. Nature serves as a rich source of knowledge and functions as a genuine educator. Therefore, it is unsurprising that many early childhood education institutions utilize nature as a primary source of learning inspiration. Activities such as visiting farms, fishing, and exploring forests are integral to fostering children's learning abilities. The use of learning materials sourced from the surrounding environment further supports the learning process (Nurhayati & Langlang Handayani, 2020).

The nature-based learning approach should adhere to several fundamental principles, including child-centered development that maximizes the child's developmental potential by utilizing the natural environment as the primary learning resource (Kamelia et al., 2020). This approach aims to foster children's independence, discipline, and social skills by exposing them to real-life challenges in natural settings, thereby strengthening their character (Kamelia et al., 2020). It emphasizes learning from natural resources as valuable sources of knowledge (Kamelia et al., 2020). Through learning and playing in the surrounding environment, children actively engage with objects, people, and activities around them, making learning enjoyable, meaningful, and engaging (Kamelia et al., 2020). Moreover, the use of accessible, low-cost learning resources from the immediate environment—including natural, physical, social, and cultural aspects—enables easy learning without the need for expensive or specialized materials (Kamelia et al., 2020). Thematic learning is applied by focusing on core ideas about the child and their environment, providing direct experiences with real objects that encourage comprehensive thinking (Kamelia et al., 2020). Early development of scientific thinking is promoted by encouraging children to identify problems in their environment and think critically to solve them

through exploration, progressing from simple to more complex challenges (Kamelia et al., 2020). Additionally, learning activities are designed to be inspiring, engaging, creative, and innovative, stimulating children's curiosity, motivating critical thinking, and fostering creativity (Kamelia et al., 2020).

Types of nature-based activities include nature exploration, which emphasizes knowledge gained through investigation rather than memorization, thereby enhancing scientific understanding and inquiry skills (Yuniastuti, 2013; Sudarmin & Widiyatmoko, 2012). This strategy integrates science, creativity, cooperation, educational play, and competition (Mulyani et al., 2008). Learning through play examples involve constructive play using natural materials such as building towers from sticks or arranging stones to teach balance and geometry, creating nature collages from leaves, flowers, and twigs to develop sensory coordination (Setianingsih & Handayani, 2022), cutting and pasting natural materials to make photo frames or thematic wall decorations, and modeling clay or plastisin to enhance fine motor skills and creativity (Shelemo, 2023).

The benefits of nature-based learning are diverse, supporting cognitive development through experiential learning, outdoor play, and scientific experimentation that promote observation, exploration, and the use of all five senses (Izzuddin, 2021). It also encourages creativity through art and play with natural materials while supporting spiritual intelligence and environmental sensitivity (Wayan et al., 2014; Helnita, 2015; Hikmawati et al., 2021). Social-emotional development is enhanced through outdoor group activities that improve cooperation, communication, conflict resolution, and mutual respect among children (Ratna Fitriani Sari, 2022). Physically, active engagement with nature improves fitness, motor skills, coordination, and mental health by reducing stress and promoting emotional well-being (Nurhayati & Handayani, 2020).

Implementation of nature-based learning involves integrating nature into curricula to provide meaningful learning experiences that develop cognitive and social-emotional skills, while outdoor playtime fosters school readiness and character development through responsibility and cooperation (Sidarta et al., 2024; Masalah et al., 2024; Anggraini et al., 2022). Teachers serve as facilitators and environmental observers, fostering respect for nature and encouraging curiosity. They play a crucial role in modeling naturalist intelligence and motivating students to protect and care for the environment (Hartati, 2022). Parental and community involvement through seminars and meetings supports consistent environmental education at home, creating synergy between school and family (Kristanto, 2012; Harahap, 2023; Mahdalina & Abdi, 2023). Community participation also broadens the impact of environmental education and sustainability efforts. Effective management of nature-based learning should be age-appropriate, flexible, and responsive to individual needs and interests, promoting inquiry, respect for the environment, and cognitive development through meaningful experiences (Nilsook, 2021; Baharun, 2021; Barokati, 2022). This approach aligns with the concept of learning through play and connects children with nature, serving as a valuable alternative educational model (Kamelia et al., 2020).

Implications

The findings of this study have significant implications for early childhood education practices, particularly in designing more effective and meaningful learning strategies. Nature-based learning encourages creativity, independence, and a strong emotional bond between children and their environment. As such, early childhood education institutions are advised to integrate outdoor and nature-exploration activities into their curricula. Educators should be equipped with the pedagogical skills necessary to implement nature-based learning, such as designing exploratory activities, utilizing natural materials as learning media, and observing children's development in real-life environmental contexts.

Research Contribution

This research contributes both theoretically and practically. Theoretically, it reinforces the conceptual framework linking contextual learning approaches with the development of children's

cognitive and social competencies. It extends the discourse on the benefits of nature-based learning within the Indonesian educational context, which remains largely dominated by conventional indoor methods. Practically, it provides concrete guidance for educators, policymakers, and early childhood program developers in creating models that use the natural environment as a primary learning resource. Moreover, it emphasizes the potential of this approach to foster children's character traits such as responsibility, curiosity, and environmental awareness.

Limitations

This study has several limitations. First, the findings are based on a literature review rather than primary empirical data, which restricts the generalizability of the results to specific local contexts. Second, many of the reviewed sources focus on conceptual or qualitative aspects, highlighting the need for more empirical validation through quantitative or mixed-methods research. Third, the study does not extensively account for external factors such as family background, community involvement, or geographical conditions that may influence the implementation of nature-based learning.

Suggestions

Based on these limitations, several directions are suggested for future research. First, empirical studies should be conducted to measure the concrete impact of nature-based learning on children's creativity and independence through experimental or observational methods. Second, longitudinal research is needed to explore the long-term effects of this approach on children's holistic development and character formation. Third, future studies should consider the diverse sociocultural and geographical contexts in which early childhood education takes place, to explore context-specific adaptations of nature-based learning. Additionally, more research is needed to examine the role of parents and community participation in supporting environmental education outside of formal institutions. Finally, the development and testing of structured nature-based learning modules and curricula could provide practical tools for educators to effectively implement this approach in varied early learning settings.

CONCLUSION

This study concludes that nature-based learning is a highly effective pedagogical approach that supports the development of creativity and independence in early childhood. The integration of natural environments into educational activities enables children to think imaginatively, solve problems independently, and engage in meaningful interactions with their surroundings. Findings from previous studies indicate that outdoor experiences—such as gardening, exploring nature, and playing in open spaces—not only enhance children’s creative thinking but also nurture a sense of responsibility, curiosity, and self-reliance. Moreover, the role of educators is central in facilitating this process by designing safe, open, and engaging environments where children are encouraged to explore natural materials and make discoveries through hands-on experiences. This pedagogical model not only promotes cognitive and emotional development but also instills early environmental awareness and appreciation for nature.

Furthermore, nature-based learning fosters holistic development by addressing children's physical, cognitive, emotional, social, and spiritual needs. The use of accessible and low-cost learning resources from the immediate environment provides inclusive opportunities for experiential learning. Activities involving natural elements also stimulate scientific thinking, critical inquiry, and collaborative learning, which are foundational skills for lifelong education. The implementation of this model requires a supportive ecosystem, including trained educators, integrated curricula, active parental involvement, and community participation.

Future research should focus on empirically validating the long-term impacts of nature-based learning across diverse educational settings. Longitudinal and experimental studies are

necessary to assess its effectiveness on specific developmental outcomes such as executive functioning, environmental stewardship, and emotional regulation. In addition, studies should explore the contextual adaptation of nature-based learning in urban, rural, and multicultural environments to ensure relevance and inclusivity. Investigating the role of family and community engagement in sustaining environmental education at home will also be crucial. Finally, developing and testing structured curricula and teacher training modules tailored to nature-based education will strengthen its application and effectiveness in early childhood programs globally. Through continued research and practice, nature-based learning holds the potential to transform early education into a more dynamic, child-centered, and ecologically conscious experience.

AUTHOR CONTRIBUTION STATEMENT

GP conceived the idea. DA conducted data collection. EP and AL contributed to the literature review. DPY contributed to proofreading and drafting the manuscript. All authors reviewed and approved the final version of the manuscript.

REFERENCES

Adhimah, S. (2020). Peran orang tua dalam menghilangkan rasa canggung anak usia dini (studi kasus di desa Karangbong RT. 06 RW. 02 Gedangan-Sidoarjo). *Jurnal Pendidikan Anak, 9*(1), 57–62. https://doi.org/10.21831/jpa.v9i1.31618

Anggraini, D. D., Gupita, N., Kusuma, D. P., & Puspitasari, R. N. (2022). Optimalisasi pemanfaatan lingkungan sekolah pada kegiatan pembelajaran luar kelas dalam pendidikan anak usia dini. *SELING: Jurnal Program Studi PGRA*, *8*(2), 199–207. https://jurnal.stitnualhikmah.ac.id/index.php/seling/article/view/1233

Ardiana, R. (2023). Implementasi media berbasis TIK untuk pembelajaran anak usia dini. *Murhum: Jurnal Pendidikan Anak Usia Dini*, *4*(1), 103–111. https://doi.org/10.37985/murhum.v4i1.117

Atikasari, S. (2020). *Pembelajaran berbasis alam dalam meningkatkan karakter kepemimpinan anak usia dini (studi kasus di TK Alam Generasi Rabbani Gondanglegi)* [Skripsi, tidak dipublikasikan].

Dau, M. P., & Santosa, S. (2023). Implementasi model pembelajaran BCCT meningkatkan kemandirian dan kreativitas anak didik usia 5–6 tahun di PAUD. *EDULEAD: Journal of Christian Education and Leadership*, *4*(1), 51–65. https://doi.org/10.47530/edulead.v4i1.146

Dwi Sekarningtyas, S. T. (2024). Penerapan pembelajaran sentra bahan alam dalam mengoptimalkan kemandirian anak usia 4–5 tahun di Taman Kanak-Kanak Mujahidin 1. *Jurnal Kajian Anak, 5*(2). https://doi.org/10.24127/j-sanak.v5i02.5492

Fadlillah, M., Wahab, R., & Ayriza, Y. (2020). Understanding the experience of early childhood education teachers in teaching and training student independence at school. *The Qualitative Report, 25*(6), 1461–1472. https://doi.org/10.46743/2160-3715/2020.4163

Hasanah, U., & Fajri, N. (2022). Konsep pendidikan karakter anak usia dini. *EDUKIDS: Jurnal Inovasi Pendidikan Anak Usia Dini*, *2*(2), 116–126. https://doi.org/10.51878/edukids.v2i2.1775

Hartati, S. (2022). Peran pendidikan berbasis alam dalam mengembangkan kecerdasan alami anak. *Jurnal Pendidikan dan Pemikiran Islam, 6*(2), 161–172.

Hikmawati, H., Takasun, T., & Purwati, S. (2021). Penggunaan bahan alam untuk melatih kreativitas peserta didik dalam kegiatan mewarnai di TK PKK 27 Jambean. *KREASI: Jurnal Inovasi dan Pengabdian kepada Masyarakat, 1*(1), 71–79.

https://doi.org/10.58218/kreasi.v1i1.59

Izzuddin, A. (2021). Upaya mengembangkan kemampuan kognitif anak usia dini melalui media pembelajaran sains. *EDISI, 3*(3), 542–557. https://ejournal.stitpn.ac.id/index.php/edisi

Kamelia, D., Jannah, S. U., & Pratiwi, Y. W. (2020). Pengembangan kurikulum PAUD berbasis alam. *Islamic EduKids: Jurnal Pendidikan Anak Usia Dini, 2*(1), 40–49.

Lestari, H., Rahmawati, I., Siskandar, R., & Dafenta, H. (2021). Implementation of blended learning with a STEM approach to improve student scientific literacy skills during the COVID-19 pandemic. *Jurnal Penelitian Pendidikan IPA, 7*(2), 224–231. https://doi.org/10.29303/jppipa.v7i2.654

Lestariningrum, A., dkk. (2021). *Inovasi pembelajaran anak usia dini*. Bayfa Cendekia Indonesia.

Mahdalina, & Abdi, S. H. (2023). Implementasi pembelajaran berwawasan lingkungan di PAUD Miftahul Jannah Mandailing Natal. *Jurnal Ilmiah Wahana Pendidikan, 9*(November), 1043–1049.

Masalah, K. P., Persamaan, S., & Tiga, L. (2024). 3 1,2,3. *No Journal Info*, 243–255. *(Catatan: Perlu dilengkapi detail jurnal dan judul lengkap.)*

Mukaromah, L. (2020). Pembelajaran berbasis alam dalam membentuk karakter anak usia dini (studi analisis di TK Jogja Green School). *Childhood Education: Jurnal Pendidikan Anak Usia Dini, 1*(2), 85–95. https://doi.org/10.53515/cji.2020.1.2.85-95

Nurhayati, H., & Handayani, N. W. L. (2020). No title. *Jurnal Basicedu, 5*(5), 524–532. https://journal.uii.ac.id/ajie/article/view/971

Putra, S. H. J. (2021). Pendekatan Jelajah Alam Sekitar (JAS): Dampaknya terhadap aktivitas dan hasil belajar kognitif siswa SMP. *Journal of Natural Science and Integration, 4*(2), 204. https://doi.org/10.24014/jnsi.v4i2.10030

Rahayu, M. F., Wigati, I., & Oktamarina, L. (2023). Pengaruh metode outbound (pembelajaran alam) terhadap kecerdasan kinestetik anak di KB (Kelompok Bermain) Mutiara Bunda Kec. Madang Suku III Kab. OKU Timur. *Jurnal Pendidikan dan Konseling (JPDK)*. https://doi.org/10.31004/jpdk.v5i2

Sari, M., & Asmendri, A. (2020). Penelitian kepustakaan (library research) dalam penelitian pendidikan IPA. *Natural Science, 6*(1), 41–53. https://doi.org/10.15548/nsc.v6i1.1555

Sari, N., & Zulfa, A. (2024). Model pendekatan Taman Indria Ki Hadjar Dewantara dan implementasinya dalam pendidikan anak usia dini. *Murhum: Jurnal Pendidikan Anak Usia Dini, 5*(2), 253–267. https://doi.org/10.37985/murhum.v5i2.837

Shelemo, A. A. (2023). No title. *Nuclear Physics, 13*(1), 104–116.

Sholihin, M. F., Hakim, M. S. T., & Fitri, A. Z. (2021). Pengembangan kecerdasan emosional siswa: Strategi guru pendidikan agama Islam dalam pembelajaran berbasis alam. *Jurnal Pendidikan Agama Islam Al-Thariqah, 6*(2), 168–184. https://doi.org/10.25299/al-thariqah.2021.vol6(2).8036

Sidarta, M., Samawi, A., Arafik, M., Arifin, I., & Aisyah, N. (2024). Penggunaan binatang peliharaan literasi dan kecerdasan alam anak dalam pembelajaran. *Murhum: Jurnal Pendidikan Anak Usia Dini, 5*(2), 301–312. https://doi.org/10.37985/murhum.v5i2.852

Suci, R. A., & Fathiyah, K. N. (2023). Implementasi pembelajaran berbasis proyek untuk meningkatkan kemandirian anak usia dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 7*(4), 3917–3924. https://doi.org/10.31004/obsesi.v7i4.3723

Sunanik, S. (2018). Pembelajaran berbasis alam untuk anak usia dini di TK Alam Alazhar Kutai Kartanegara. *Al-Madrasah: Jurnal Pendidikan Madrasah Ibtidaiyah.*

https://doi.org/10.35931/am.v0i0.71

Syukri, F. A. W., Fahmi, M. I., Widiastuti, A., Ahmed, T., & Shahzeb, S. (2024). Implementasi dan dampak pendidikan holistik berbasis lingkungan pada siswa: Studi kasus di sekolah alam. *Humanika: Kajian Ilmiah Mata Kuliah Umum, 24*(2), 193–204.

Ummah, M. S. (2019). No title. *Sustainability (Switzerland)*, *11*(1), 1–14. https://doi.org/10.1016/j.regsciurbeco.2008.06.005

Wedayanti, L. M. D., Putra, I. K. D. A. S., & ... (2021). Pelatihan pembuatan patung dan bingkai foto yang berbahan dasar kayu dengan ornamen kaca percah di Desa Nungnung Badung. *Jurnal Pengabdian*, *1*(1), 22–27. https://jurnal.markandeyabali.ac.id/index.php/pengabdian/article/view/73

Wijayanto, A. (2021). *Modifikasi permainan outbound anak* (Edisi ke-1). Pustaka Learning Center.

Wulandari, A., Handayani, P., & Prasetyo, D. R. (2019). Pembelajaran ilmu pengetahuan alam berbasis EMC (Education Mini Club) sebagai solusi menghadapi tantangan pendidikan di era revolusi industri 4.0. *Thabiea: Journal of Natural Science Teaching*, *2*(1), 51. https://doi.org/10.21043/thabiea.v2i1.5498