



STEAM-Based Learning Strategies to Foster Religious and Moral Values Among Young Children

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ABSTRACT

Developing religious and moral values in early childhood should be fostered through contextual, meaningful learning aligned with children's developmental characteristics. STEAM-based learning (Science, Technology, Engineering, Arts, and Mathematics) is an innovative approach that not only enhances critical thinking and creativity but also fosters children's religious and moral character from an early age. This study aimed to describe the implementation of STEAM-based learning to develop religious and moral values among children at Tunas Ceria Pilot Early Childhood Education Center. The research employed a qualitative descriptive approach involving one teacher and 15 children aged 5–6 years in Group Gold A. Data were collected through observation, interviews, and documentation, using observation sheets focused on children's religious and moral development. Data analysis applied the interactive model of Miles and Huberman, including data reduction, data display, and conclusion drawing, and was supported by source and technique triangulation. The findings revealed that STEAM learning was implemented through meaningful play, environmental exploration, collaborative projects, and integrated religious habits. These activities successfully developed gratitude, care for living things, discipline, responsibility, cooperation, empathy, and mutual assistance among children, indicating that STEAM can serve as a holistic and integrative learning strategy in early childhood education.

INTRODUCTION

Early Childhood Education (ECE) plays a vital role in supporting all aspects of a child's development, including the development of religious and moral values. Cultivating religious and moral values from an early age is crucial to shaping a generation that is spiritually strong, well-mannered, and of good character (Habibu et al., 2020). However, the current social reality indicates that Indonesia is facing various issues related to a crisis in character values. Phenomena such as school brawls, drug abuse, bullying, and online gambling highlight the weak internalization of moral and spiritual values among the younger generation (Ragam Info, 2023).

Data reported by the National Coordinator of JPPI indicate that, as of September 2024, 293 cases of violence in schools had been recorded. Of these cases, sexual violence was the most prevalent (42%), followed by bullying (31%), physical violence (10%), psychological violence (11%), and school policies with the potential to lead to violence (6%) (Sania & Mahar, 2024). Cases of bullying include physical, verbal, and psychological bullying perpetrated by students against one another within the school environment (Harun et al., 2024; Warih et al., 2025). Furthermore, sexual violence takes various forms, both verbal and nonverbal. Verbal sexual violence includes insults, demeaning comments, and inappropriate remarks of a sexual nature. Meanwhile, nonverbal sexual violence includes actions such as inappropriate touching and other behavior that violates students' personal boundaries, whether committed by fellow students or external parties (Zaki et al., 2025). This situation highlights the



importance of instilling moral foundations and religious values in children from an early age through a targeted, planned, and meaningful educational process.

One effective approach to instilling character values, including religious and moral values, is through the STEAM (Science, Technology, Engineering, Arts, and Mathematics) learning approach (Hosic et al., 2025). STEAM-based learning is an integrated approach that combines the hard and soft skills children need to face the challenges of the 21st century (Wahyuningsih et al., 2020). The aim of STEAM learning in early childhood education is not only to develop scientific thinking skills but also to help children build essential life skills, including logical, creative, and critical thinking, as well as the ability to adapt to changing times (Sefriyanti & Winarti, 2022; Era & Buahana, 2024).

Various studies indicate that implementing STEAM has a positive impact on children's development. Research by F.N. Pegia et al. (2024) has shown that STEAM learning significantly affects children's creativity and mathematical ability. Similarly, the STEAM approach using loose parts has been shown to enhance children's social-emotional development and collaborative skills (Pratiwi Ni Komang Yadni Okta, 2024; Era & Buahana, 2024), thereby improving critical thinking and problem-solving skills (Era & Buahana, 2024). However, although many studies demonstrate the effectiveness of STEAM in developing children's creativity, cognitive abilities, and social-emotional skills (Murgiyanti, 2022; Nurjanah et al., 2023; Amalia & Widiyono, 2024), research on the application of STEAM to foster religious and moral values in early childhood remains very limited, particularly in early childhood education in Indonesia.

Preliminary observations at the Tunas Ceria Pilot Early Childhood Education Centre indicate that the religious and moral development of children aged 5–6 years has progressed very well. This is reflected in their behavior, which demonstrates adherence to daily procedures (SOPs), belief in the greatness of God's creation, and a habit of performing acts of worship, such as memorizing short surahs, performing the Dhuha prayer, and performing wudu. The children also demonstrate polite behavior, a willingness to help, cooperation, and the habit of using polite words such as "sorry," "excuse me," "please," and "thank you." Interestingly, this behavior emerges without pressure or direct instruction from the teacher, but forms naturally through habituation within STEAM-based learning activities.

Given this phenomenon, this study was conducted to examine STEAM-based learning strategies for developing religious and moral values in early childhood at the Tunas Ceria Model Early Childhood Education Centre in Tanjung Bintang Sub-district, South Lampung Regency. It is hoped that this research will contribute to innovation in early childhood education, particularly by strengthening an integrative approach between STEAM and character education grounded in religious and moral values, with the aim of shaping a generation of children who are of good character, creative, and adaptable to changing times.

METHOD

This study used a qualitative descriptive approach to gain an in-depth understanding of the implementation of STEAM (Science, Technology, Engineering, Arts, and Mathematics)-based learning strategies and their impact on the development of religious and moral values. The study subjects consisted of one teacher and 15 children aged 5–6 years in the Gold A group at the Tunas Ceria Pilot Preschool (PAUD Perpilot Tunas Ceria). The teacher served as the primary informant, while the children served as observers, observing the application of STEAM-based learning to the development of religious and moral values. Data collected included information on the implementation process of STEAM-based learning, teacher activities during learning, children's responses and engagement during activities, and the development of children's religious and moral values.

Data collection methods used in this study included observation, interviews, and documentation. Direct observation techniques were used during the learning process to assess the implementation of STEAM strategies and children's behavior. The observation instrument was an observation sheet with several indicators, namely: (1) children's involvement in STEAM activities, (2) ability to cooperate, (3) discipline, (4) ability to follow rules, (5) politeness, (6) concern for friends, and (7) children's religious behavior during learning activities. Interviews were conducted with teachers using a semi-structured interview guide to gather information on STEAM-based learning and its role in developing children's religious and moral values. Meanwhile, documentation was used to obtain supporting data, including



photos of activities, learning tools, and child development records.

The data analysis in this study uses the Miles and Huberman interactive analysis model, which includes data reduction, data presentation, and conclusion drawing. The following analysis scheme will be used:

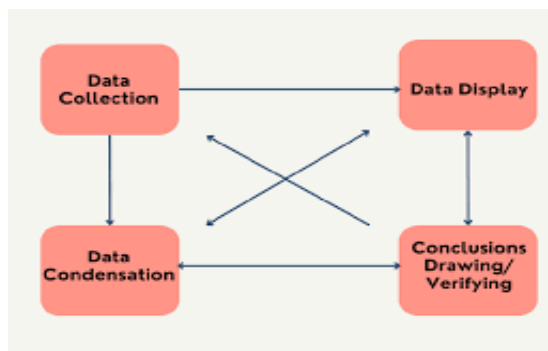


Figure 1. Qualitative data analysis of Miles, Huberman, and Saldanah (Miles et al., 2014)

Figure 1 shows Miles and Huberman's interactive data analysis model, which consists of four main stages: data collection, data condensation or reduction, data presentation, and drawing and verifying conclusions. The analysis process begins with data collection through observation, interviews, and documentation, followed by data condensation, which involves selecting, focusing, simplifying, and grouping data relevant to the research objectives. The reduced data is then presented in narrative form, tables, or charts to facilitate understanding and analysis. Next, researchers draw conclusions based on the data obtained and conduct verification to ensure the validity and consistency of the research results. The interconnected arrows in the figure indicate that each stage occurs interactively and iteratively, allowing researchers to repeat data collection and analysis until valid, in-depth research results are obtained.

RESULT AND DISCUSSION

Implementation of STEAM Learning in Developing Children's Religious and Moral Values

Based on observations, interviews, and documentation, this study identified three main themes in implementing STEAM-based learning to develop religious and moral values in early childhood: (1) planning creative, meaningful play-based learning, (2) implementing exploratory and collaborative activities, and (3) developing religious and moral values through habituation in STEAM activities. These themes demonstrate that STEAM learning can provide holistic, contextual learning experiences for children ages 5–6.

The results indicate that the primary strategy teachers use is designing learning through creative, meaningful play tailored to the needs and characteristics of children ages 5–6. Learning planning is based on weekly themes and integrates elements of Science, Technology, Engineering, Arts, and Mathematics (STEAM) into various play activities. Active, holistic involvement of children in the learning process fosters all aspects of child development, particularly religious and moral values. This aligns with the principles of early childhood education, which hold that learning should be child-centered and oriented toward meaningful learning experiences (Hasbi, 2025). Based on the interview results, the teacher stated.

“We design play activities that encourage children to try, ask questions, and collaborate so they learn through hands-on experience.”

The teacher's statement is true. During the planning stage, teachers develop a teaching module that serves as a reference for implementing the lesson. This includes learning objectives, activity steps, learning media, assessments, and collaboration with parents to support child development. Teachers design the lesson plan each week, aiming to produce innovative and varied activities tailored to the child's developmental needs. Furthermore, digital media is used to introduce learning and provide



contextual understanding to children before engaging in hands-on exploration activities.

Meaningful Game-Based Learning Develops Children's Engagement and Moral Values

The application of STEAM learning to developing religious and moral values is highly effective through habituation in daily activities. In line with Kohlberg's theory, when children's moral development is at the pre-conventional stage, their moral behavior begins to be influenced by environmental consequences and habits (Hanafiah, 2024). STEAM learning activities have been designed to instill religious attitudes from an early age through meaningful, habit-forming learning experiences. This is supported by the results of an interview with the class teacher of the Gold A group, who stated that

“We consistently develop and connect every child's activity to religious and moral values through habituation, such as integrating these values into STEAM learning. When explaining each activity, we always link it to the theme of God's greatness as revealed in His creation. For example, when children learn about pets, we encourage them to understand that animals are God's creations and must be cared for and loved. We then differentiate between God's creations and those made by humans. Furthermore, we consistently encourage children to engage in daily worship activities, such as daily prayer, the Dhuha prayer, sharing, and fostering gratitude for God's great blessings bestowed upon humanity.”



Figure 2. Watching A Video About Pets

In Figure 2, children are invited to watch a video about pets, including a bird. This activity is designed to stimulate children's curiosity. Children appear well-behaved, sitting neatly and watching the video enthusiastically. After the video, the teacher facilitates a discussion by asking several prompting questions, such as “What pets are seen in the video?” “Who created animals?” “Who has pets at home?” “How do you care for them?” and “What are the benefits of animals for humans?” These questions aim to stimulate children's critical and logical thinking skills. The aim of watching videos about pets is to deepen children's understanding. In addition, the teacher presents concrete media, including real birds in cages and miniature birds. Through this activity, children are invited to observe directly to help them distinguish between God's creations and those made by humans.



Figure 3. Discussing About Birds



In Figure 3, the teacher is explaining the differences between birds created by God and miniature birds made by humans. Through this activity, children learn to cultivate gratitude toward God for the beauty, benefits, and greatness of His creation, and develop a sense of care and compassion for living creatures in their environment. This is consistent with an interview with the Gold A-class teacher

“We introduce creation in every activity to foster a sense of unity among children from an early age by highlighting God’s greatness and gratitude for His creation.”

Environmental Exploration Fosters Curiosity and Religious Values

Learning activities that involve environmental exploration and direct observation are among the teacher’s strategies in STEAM learning. This includes observing birds in the school environment. Children are encouraged to observe birds’ shapes, colors, sounds, food, and habitats through a question-based, exploratory approach.



Figure 4. Observing Birds In A Cage

In Figure 4, children are observing birds in a cage. Observations indicate that the children actively ask questions and show strong curiosity. The teacher poses provocative questions such as: “Who created birds?” “Why do birds need cages?” “How many birds are there?” “What is a good cage for birds?” and so on. Through these activities, children not only learn basic scientific concepts but also understand the religious value of Allah SWT’s creation. One child also stated, “Birds are Allah’s creations, so they should be cherished.”

This statement demonstrates the emergence of religious awareness and a sense of care for living things through contextual learning experiences. These findings show that integrating STEAM with religious values helps children understand the relationship between knowledge and everyday life. STEAM learning that integrates Islamic values can foster holistic education that combines mastery of science with spiritual character building (Hadi, 2025). Furthermore, direct observation activities, such as birdwatching in the school environment, combined with STEAM-based inquiry, are highly effective in developing children’s curiosity, reasoning skills, and critical thinking (Firman Jaya et al., 2024).

This research shows that when children are encouraged to observe real-world phenomena and guided by open-ended, inquiry-based questions, they become more engaged, motivated, and capable of higher-order thinking (Aryani et al., 2024). STEAM integrates multiple disciplines, making learning more meaningful and relevant to children’s everyday experiences. Teachers play a crucial role as facilitators, encouraging children to ask questions, explore, and connect their observations to broader concepts, thereby strengthening analytical and problem-solving skills (Tiara et al., 2023).

Collaboration And Problem-Solving Activities Foster Cooperation And A Sense Of Responsibility

In addition to exploring the environment, children also engage in project-based activities. Projects can develop collaboration skills (Harjanty & Muzdalifah, 2022), problem-solving skills (Sakinah & Suningsih, 2025), and a sense of responsibility. In this activity, children work in small groups to build a birdcage project using blocks and other supporting materials. This activity encourages discussion, task sharing, and collaborative problem-solving when the structure collapses or becomes unbalanced. This



can be seen in the documentation below.



Figure 4. Working Together To Build A Poultry House



Figure 5. Working Together To Build A Poultry House

In Figure 5, children are engaged in a project activity, building a birdcage from blocks. Observations showed that the children demonstrated independence, responsibility, and the ability to work together and help one another during the activity. The teacher stated.

“The children learned to set strategies: who would build the blocks and who would decorate them.”

“If the cage falls over, we will rebuild it together.”

Through collaborative birdcage construction, children develop various aspects of STEAM in an integrated manner. The Science aspect is evident as children learn about the needs of living things and the environment in which birds live. The Technology aspect is developed through the use of simple tools and materials in the construction process. The Engineering aspect emerges as children design, assemble, and repair the cage structure to ensure it remains sturdy and balanced. The Arts aspect is evident in the activities of decorating and embellishing the cage, reflecting their creativity and imagination. Meanwhile, the Mathematics aspect develops as children recognize geometric shapes, count blocks, compare sizes, and understand the concepts of space and balance. The data shows that STEAM learning that integrates project learning helps foster an attitude of responsibility, cooperation, patience, and the ability to solve simple problems and be independent (Idha Isnaningrum & Novi Marliani, 2025). Project activities also train children to think logically and creatively through direct experience (Wastiani et al., 2023) and support the development of 21st-century skills (Hasanah et al., 2025). After the cage project activity, there is a presentation of the children’s work.



Figure 6. Presentation of work

Figure 6 shows a simple presentation activity in which children share their group work. The children explain what they have created and how they did it. This activity gives children the opportunity to talk about their work. It helps them build self-confidence and develop language skills, particularly by expanding vocabulary and constructing sentences when expressing ideas or explaining their work to peers and teachers. In line with the research findings of Febe Wahyuni Br. Sihoming et al., storytelling activities help children develop their imagination and creativity while improving vocabulary, listening comprehension, and language skills in communication (Febe Wahyuni Br. Sihoming et al., 2024). In addition to exploration and project activities, meaningful play-based STEAM learning activities that foster children's moral values include reading, writing, and counting using teacher-made media (smart laptops, smart boards, and fun addition games).



Figure 7. Playing With Reading, Writing, And Arithmetic Using Fun Media

Figure 7 shows children playing with simple technology provided by the teacher. Through this activity, children learn to recognize letters and numbers and understand basic addition concepts in an engaging, interactive way. The use of simple technology encourages children to learn actively, develop computational thinking and vocabulary, and hone their numeracy skills, in line with the Technology and Mathematics elements of STEAM learning (Sun et al., 2023). Furthermore, this activity fosters moral and religious values in children. Through play, social habits in STEAM activities can develop. Through these activities, children learn discipline in queuing, patience in waiting for their turn, respect for friends, and gratitude for the abilities bestowed by Allah SWT. These values are naturally ingrained through enjoyable and meaningful learning experiences. This finding is reinforced by an interview with teacher Gold A, who stated

“We strive to provide learning that is not only focused on developing children’s intellectual intelligence but also directed at fostering religious awareness by cultivating good behavior in daily life without constant reminders. Religious values are instilled naturally through play, exploration, and meaningful interactions, so that children are able to internalize spiritual values.”



STEAM learning in the development of religious and moral values creates an effective and conducive atmosphere. Through STEAM learning, children can foster spiritual awareness from an early age. Children not only learn about God's creation but also learn to be grateful for, care for, and appreciate it. Integrating the habit of worship with STEAM-based exploratory activities allows religious values to be ingrained naturally and enjoyably for children. These positive behavioral changes demonstrate that implementing STEAM learning can be an effective medium for fostering children's religious values through direct experiences and meaningful, enjoyable activities (Violy et al., 2024). This aligns with research findings that character development in early childhood needs to be carried out through concrete activities that foster emotional and social experiences and actions (Mamluah, 2024).

Meanwhile, the development of children's moral aspects through STEAM-based learning is evident in activities that encourage children to interact, help one another, cooperate, and take responsibility for their tasks. Teachers play a crucial role by modeling and fostering moral habits integrated with exploratory activities. Effective character education, fundamentally, must encompass three components: moral knowing, moral feeling, and moral action (Azizah, 2024). Moral values are not taught verbally but develop naturally through meaningful and enjoyable learning experiences in the classroom.

Therefore, teaching religious and moral values to children through STEAM not only focuses on mastering concepts in science, technology, engineering, art, and mathematics but also serves as an effective means of instilling these values naturally. Through direct experience, exploratory activities, and value-based learning, children learn to know God, respect the environment, think critically, collaborate, and demonstrate moral behavior such as discipline, cooperation, responsibility, and caring for others (Suharti et al., 2026). STEAM learning has been shown not only to develop intellectual intelligence but also to shape religious and character-based personalities, which are important foundations for the holistic development of early (Lessy, 2025). With STEAM, there is a positive impact on children's holistic development (Mabarroh et al., 2024), thus forming a religious and character-based school culture.

CONCLUSION

The application of STEAM learning to develop religious and moral values has been implemented in a structured manner through meaningful, contextual play activities. Teachers integrate elements of science, technology, engineering, art, and mathematics into exploration activities and simple projects that align with the learning theme. The learning process emphasizes direct experience, collaboration, and reflection, helping children become more active and creative and enabling them to connect scientific concepts with spiritual and moral values. The application of STEAM has proven effective in instilling religious and moral values in children through exploration activities. Children are encouraged to recognize the majesty of God's creation, pray, and be grateful. Collaborative activities such as group projects and discussions help children learn cooperation, empathy, and responsibility. This process supports children's character development, in accordance with Kohlberg's moral development theory and Lickona's character theory, which emphasize the balance among moral knowledge, moral feelings, and moral actions.

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REFERENCES

- Adi, C., Heliawati, & Irvan, P. (2025). Pembelajaran pemisahan campuran garam berbasis stem dapat meningkatkan keterampilan kolaboratif siswa SMP negeri 36 jakarta. *Science : Jurnal Inovasi Pendidikan Matematika Dan IPA*, 5(2), 945–954.
- Amalia, D., & Widiyono, A. (2024). Pengaruh pembelajaran steam terhadap karakter kreatif ditinjau jenis kelamin anak usia 5-6 tahun. *Awlady: Jurnal Pendidikan Anak*, 10(2).
- Aryani, N., Rizka, N., Artamevia, F., Liyana, N., & Nazli, M. (2024). Higher order thinking skill (hots) through steam learning for early childhood. *Jurnal Pendidikan Usia Dini*, 18(2), 308–314. <https://doi.org/https://doi.org/10.21009/jpud.v18i2.48422>
- Choirun Nijma, Hibana, & Ega Asnatasia. (2025). Membangun karakter anak usia dini : integrasi nilai religius dan etika dalam kurikulum PAUD. *Al-ATHFAL: Jurnal Pendidikan Anak*, 6(2), 166–180. <https://doi.org/10.46773/alathfal.v6i2.1805>
- Era, S. F., & Buahana, B. N. (2024). Penerapan pembelajaran steam dengan media loose parts untuk meningkatkan keterampilan berpikir kritis anak usia dini. *Biocephy: Journal of Science Education*, 4(2). <https://doi.org/10.52562/biocephy.v4i2.1367>
- Febe Wahyuni Br. Sihoming, Dina Amanda, Nida Afifah, Nabila Dhara, & Anggia Puteri. (2024). Implementasi metode bercerita dalam meningkatkan perkembangan bahasa anak usia dini di tk swasta al-ihsan. *Katalis Pendidikan : Jurnal Ilmu Pendidikan Dan Matematika*, 1(2), 232–243. <https://doi.org/10.62383/katalis.v1i2.414>
- Firman Jaya, A., Marliah, S., & Nuzula Apriliyan, F. (2024). Implementasi pembelajaran steam dalam mengembangkan kemampuan berpikir kritis pada anak usia dini. *At-thufuly : Jurnal Pendidikan Anak Usia Dini*, 5(1), 1–6. <https://doi.org/https://doi.org/10.37812/athufuly.v5i1.1589>
- Habibu, R., Rita, K., & Nur, F. (2020). Pengembangan nilai moral dan agama anak usia dini: panduan bagi orang tua, guru, mahasiswa dan praktisi paud. *Edu publisher*.
- Hadi, n. (2025). Integration of islamic values in steam learning : management efforts to realize holistic islamic education. *Scaffolding Jurnal Pendidikan Islam Dan Multikultural*, 7(1), 319–329. <https://doi.org/10.37680/scaffolding.v7i1.7058>
- Hanafiah, M. (2024). Perkembangan moral anak dalam perspektif pendidikan (kajian teori lawrence kohlberg). *Ameena Journal*, 2(1).
- Harjanty, R., & Muzdalifah, F. (2022a). Implementation of steam project-based learning in developing early childhood cooperation. *Atfalunā Journal Of Islamic Early Childhood Education*, 5(1), 47–56. <https://doi.org/10.32505/ataluna.v5i1.4093>
- Harun, R. R., Septyanun, N., Erwin, Y., Supryadi, A., Yamin, B., Tin, Y., Fahrurozi, Rena, A., Fiorini, M. A., & Zaenafi, A. (2024). Membangun kesadaran hukum anak di panti asuhan asy-syifa' terhadap bullying di lingkungan sekolah dan masyarakat. *Al-Amal: Jurnal Pengabdian Masyarakat*, 2(1), 36–42.
- Hasanah, L., Putri, Y. S., Muthia, A., & Putri, T. S. (2025). Pendekatan steam dalam pendidikan anak usia dini: konsep, prinsip, dan aplikasinya. *Jurnal PAUD Agapedia*, 9(1), 21–28. <https://doi.org/https://doi.org/10.17509/jpa.v9i1.85891>
- Hosic, R., Abrori, F. M., Lavicza, Z., Kasti, H., & Ulbrich, E. (2025). STEAM-integrated interfaith learning through maker education : a framework for innovative religious learning steam-integrated interfaith learning through maker. *Religious Education*, 120(3), 239–258. <https://doi.org/10.1080/00344087.2025.2508569>
- Idha Isnaningrum, & Novi Marliani. (2025). Penggunaan STEAM untuk pendidikan anak usia dini. *Sambara: Jurnal Pengabdian Kepada Masyarakat*, 3(2), 456–464. <https://doi.org/10.58540/sambarapkm.v3i2.883>
- In, S. I., Poppy, Y., Ebenezer, B., Widiastuti, H. A., & Rozalini Nisrina. (2025). STEAM approach in project-based learning to develop mathematical literacy and students' character. *Infinity Journal Of Mathematics Education*, 14(2).
- Lessy, Z. (2025). The concept of islamic inclusive education in early childhood (critical analysis of steam learning model). *QALAMUNA : Jurnal Pendidikan, Sosial Dan Agama*, 17(1), 63–72. <https://doi.org/10.37680/qalamuna.v17i1.6274>
- Mamluah, A. (2024). wawasan belajar anak usia dini internalisasi nilai tauhid melalui bermain edukatif:



- strategi guru piatud dalam pembentukan karakter religius anak usia dini. *Wawasan Belajar Anak Usia Dini*, 2(2). <https://doi.org/10.61815/Waladi.V2i2.723>
- Miles, M. B., Huberman, A. M., & Saldana, J. (2014). *Qualitative data analysis* (H. Salmon, Ed.; Third Edition). *SAGE Publications*.
- Murgiyanti. (2022). Pengembangan kreativitas dan berpikir kritis pada anak usia dini melalui metode pembelajaran berbasis steam dan loosepart. *Semnaspa : Seminar Nasional Pendidikan Dan Agama*, 3(2).
- Nurjanah, C., Putri, S. U., & Adjie Nahrwowi. (2023). Penerapan steam untuk mengembangkan kemampuan kolaborasi anak usia dini. *Prosiding Seminar Nasional PGPAUD Upi Kampus Purwakarta*, 2(1). <https://doi.org/10.24114/jud.v9i2.52533>
- Pratiwi Ni Komang Yadni Okta. (2024). Analisis implementasi pendekatan pembelajaran steam (science, technology, engineering, art dan mathematics) berbantuan media loose part terhadap keterampilan kolaborasi anak usia dini di taman kanak-kanak gugus v buleleng. *Universitas Pendidikan Ganesha Singaraja*.
- Ragam Info. (2023). Penyebab krisis pendidikan karakter di indonesia dan upaya mengatasinya. *Kumparan*.
- Sakinah, & Suningsih, T. (2025). Pengaruh pembelajaran berbasis proyek sains terhadap pemecahan masalah anak usia 5-6 tahun. *Vox edukasi: Jurnal Ilmiah Ilmu Pendidikan*, 16(2), 481–493.
- Sania, M., & Mahar, P. (2024). Jppi: sepanjang tahun 2024 ada 293 kasus kekerasan di sekolah. *Kompas.Com*.
- Sefriyanti, & Winarti. (2022). Implementasi pembelajaran berbasis science, technology, engineering, art, mathematic (steam) dari bahan loose parts untuk membangun merdeka belajar anak usia dini. *As- Salam*, 11(2). <https://doi.org/10.51226/Assalam.V11i2.423>
- Suharti, Hapidin, & Yufiarti. (2026). Assessing STEAM ' s Impact on Marine Awareness : The Moderating Effect of Critical Thinking. *Jurnal Pendidikan Anak*, 15(1), 23–33. <https://doi.org/DOI:10.21831/jpa.v15i1.2056> pdf
- Sukmawati, E., Didik, N., Imanah, N., & Rantauni, D. A. (2023). Implementation and challenges of project-based learning of STEAM in the university during the pandemic: A systematic literature. *JINoP (Jurnal Inovasi Pembelajaran)*, 9(1), 128–139.
- Sun, L., Kangas, M., Ruokamo, H., & Siklander, S. (2023). A systematic literature review of teacher scaffolding in game-based learning in primary education. *In Educational Research Review* (vol. 40). Elsevier Ltd. <https://doi.org/10.1016/j.edurev.2023.100546>
- Tiara, Lailya Sri Wahyuningsi, & Jamin Nunung Suryana. (2023). Peran guru dalam meningkatkan kemampuan anak memecahkan. *Student journal of early childhood education*, 3(2).
- Violy, A., Yustantina, E. Y., & Yasin, M. F. (2024). Development of steam-based video learning media for early childhood education with the inclusion of religious and moral values. *Tafkir : Interdisciplinary Journal of Islamic Education*, 5(1), 136–152. <https://doi.org/https://doi.org/10.31538/tjje.v5i1.717>
- Wahyuningsih, S., Pudyaningtyas, A. R., Nurjanah, N. E., Dewi, N. K., Hafidah, R., Syamsuddin, M. M., & Sholeha, V. (2020). The utilization of loose parts media in steam learning for early childhood. *Early Childhood Education And Development Journal*, 2(2). <https://doi.org/10.20961/ecedj.v2i2.46326>
- Warih, A., Putri, batjo S. R., Nur, K., & Andi, S. (2025). Perlindungan dini perilaku bullying/perundungan antar anak di sekolah. *Kami Mengabdi*, 5(1), 1–10.
- Wastiani, R., Taufiq, M., & Wijaya, A. B. (2023). Pengaruh pendekatan steam berbasis project based learning terhadap kemampuan berfikir kreatif dan berfikir kritis pada mata pelajaran matematika siswa smp labschool cibubur (quasi eksperimen). *Jurnal Konatif: Jurnal Ilmiah Pendidikan*, 1(1), 75–87.
- Zaki, R. A., Zainuddin, & Tri, S. (2025). Analisis bentuk kekerasan seksual di lingkungan sekolah dasar pada sdn pandian 1. *Peshum : Jurnal Pendidikan, Sosial Dan Humaniora*, 4(3), 4091–4095.