

Developing AI-Generated Picture Storybooks to Support Early Childhood Literacy: Evidence from Indonesian Kindergarten

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ARTICLE INFO

Keywords:

artificial intelligence;
early childhood literacy;
digital learning media;
picture storybook;
kindergarten education

Article history:

Received 2026-02-06

Revised 2026-04-30

Accepted 2026-06-29

ABSTRACT

The rapid advancement of generative artificial intelligence (AI) has created new opportunities for developing digital learning media in early childhood education. However, validated AI-generated literacy resources specifically designed for young learners remain limited, particularly in the Indonesian context. This study aimed to develop and validate an AI-generated digital picture storybook to support early childhood literacy using the ADDIE instructional design model. This research employed a Research and Development (R&D) approach based on the ADDIE model. The product was developed for 25 kindergarten children aged 5–6 years at MADANI Kindergarten, Indonesia. Data were collected through expert validation questionnaires, observations, and interviews. One material expert and one media expert evaluated the product, and the data were analyzed using descriptive statistics and mean score calculations to determine product feasibility. The AI-generated picture storybook achieved high feasibility, with mean scores of 4.47 for content and 4.54 for media, resulting in an overall rating categorized as “Very Feasible.” Expert feedback led to revisions in language clarity, typography, illustration consistency, and layout organization, improving both pedagogical quality and visual presentation. The findings indicate that the developed storybook is practical, visually engaging, and developmentally appropriate for supporting early literacy activities. This study demonstrates that integrating generative AI with systematic instructional design can produce high-quality literacy media for early childhood education. Although the findings are limited to product development and expert validation, the study provides a practical framework for AI-assisted literacy media development and offers a foundation for future classroom-based research examining its effectiveness in improving children's literacy outcomes.

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1. INTRODUCTION

The rapid development of digital technology, particularly Artificial Intelligence (AI), has created transformative opportunities for innovation in education, including Early Childhood Education (ECE). However, despite these advancements, early literacy remains a significant challenge in many educational contexts (Jiang et al., 2022). Recent reports indicate that a significant proportion of students in developing countries demonstrate low reading proficiency at early grade levels, highlighting the urgency of strengthening early literacy foundations (Kahn et al., 2018). In Indonesia, efforts to improve literacy have been prioritized, yet gaps remain in the availability of engaging and developmentally appropriate literacy media for early childhood learners.

At the same time, the integration of digital technology in early childhood education is still uneven (Sudarmilah et al., 2021). While digital tools are increasingly available, many teachers face limitations in terms of digital readiness, including insufficient training, limited technological skills, and lack of confidence in using digital tools for instructional purposes (Neuman & Dickinson, 2001). Previous studies have highlighted that teachers often rely on conventional learning media due to difficulties in designing interactive and technology-based materials (Basyiroh, 2017). These challenges indicate a critical need for accessible and practical digital solutions that can support teachers in developing engaging literacy learning media (Dini, 2022).

Early literacy development is a fundamental aspect of early childhood education, encompassing children's abilities in listening, speaking, reading, and writing (Clemens et al., 2023). According to emergent literacy theory, literacy development begins long before formal schooling and is shaped through meaningful interactions with language, symbols, and texts (Maureen et al., 2022). Children construct understanding through exposure to stories, images, and social interaction, making the quality of literacy media a crucial factor in supporting early learning (Alviž Rengel, 2023). In this context, visually rich and narrative-based learning materials, such as picture storybooks, play a significant role in facilitating language development and comprehension (Beach, 2025).

In recent years, AI technologies—particularly generative AI—have been increasingly explored as tools for creating educational content, including storytelling and visual materials. Studies on AI storytelling suggest that AI-generated narratives can enhance engagement, personalize learning experiences, and support language development (Safira, 2020). Similarly, research on literacy media development emphasizes the importance of integrating visual and textual elements to support comprehension and vocabulary acquisition (Budiman & Kurniawan, 2022). However, despite these advancements, most existing studies focus primarily on technical development or learner engagement, with limited attention to structured instructional design and pedagogical validation in early childhood contexts. These studies collectively suggest that while AI and visual media show strong potential for enhancing engagement and comprehension, their pedagogical integration in early childhood contexts remains insufficiently explored.

Moreover, previous studies rarely integrate multiple essential components simultaneously, such as AI-based content generation, systematic instructional design models like ADDIE, expert validation processes, and alignment with early childhood literacy frameworks (Guo et al., 2024; Rupnidah & Suryana, 2022). As a result, existing research often lacks validated pedagogical frameworks that ensure the quality, appropriateness, and applicability of AI-generated literacy media in real classroom settings (Feuerriegel et al., 2024). Therefore, existing studies rarely provide validated pedagogical frameworks for AI-generated literacy media in early childhood classrooms (Jauhiainen & Guerra, 2023).

From a theoretical perspective, this study is grounded in several key learning theories. First, emergent literacy theory highlights the importance of early exposure to meaningful language experiences in developing literacy skills. Second, multimedia learning theory (Mayer) suggests that learning is more effective when information is presented through a combination of visual and verbal elements, supporting deeper understanding and retention (Banh & Strobel, 2023). Third, constructivist learning theory emphasizes that children actively construct knowledge through interaction with meaningful and context-rich learning materials (Hariffadzillah et al., 2023). (Istiq'faroh et al., 2025),

These theoretical perspectives provide a strong foundation for the development of AI-generated picture storybooks that integrate narrative and visual elements to support early literacy (Jaakkola, 2023).

Based on these gaps and theoretical considerations, this study aims to develop and validate an AI-generated digital picture storybook to support early childhood literacy using the ADDIE instructional design model. Specifically, this study seeks to answer the following research questions: (1) How can AI-based picture storybooks be developed using the ADDIE model for early childhood literacy learning? (2) To what extent are the developed products feasible for early childhood literacy learning based on expert validation? (3) What are the strengths and limitations of AI-generated literacy media in early childhood education?. By addressing these questions, this study is expected to contribute both theoretically and practically by providing a validated and replicable framework for integrating AI into early childhood literacy learning.

2. METHODS

This study employed a Research and Development (R&D) approach using the ADDIE model, which consists of five stages: Analysis, Design, Development, Implementation, and Evaluation (Cahyadi, 2019; Gall et al., 2007). The study was conducted at MADANI Kindergarten, Palu, Central Sulawesi, Indonesia. The intended users of the product were 25 children in Group B (aged 5–6 years; 12 boys and 13 girls). The school represents a typical early childhood education setting with diverse socio-economic backgrounds and varying levels of access to digital learning resources both at school and at home. Data were collected through expert validation questionnaires, observations, and interviews to identify literacy learning needs, understand teacher challenges, and evaluate the developed product. The implementation design of the ADDIE model is outlined in Figure (Hidayat & Muhamad, 2021):



Figure 1. Research Design Chart Using the ADDIE Development Model (Analysis, Design, Development, Implementation, Evaluation).

The development process followed the ADDIE stages systematically. In the analysis stage, literacy needs, existing teaching practices, and limitations in using digital media were identified. The design stage involved planning the learning objectives, story content, narrative structure, and visual concepts aligned with early childhood literacy indicators. In the development stage, an AI-generated digital picture storybook was created and subjected to expert validation and revision as part of a prototype review process. The implementation stage was conducted in a limited form, focusing on simulated usage analysis and usability interpretation without conducting full classroom experimental trials. Finally, the evaluation stage involved revising the product based on expert feedback and usability insights to improve its overall quality and applicability.

The product was developed using generative AI tools. Narrative content was generated using ChatGPT, while visual illustrations and layout design were created using Canva. The development process included prompt design to produce age-appropriate narratives through iterative prompt refinement, followed by refinement of AI-generated outputs and human editing procedures to ensure

content accuracy, clarity, and pedagogical appropriateness. All generated materials were carefully reviewed by the researcher to maintain pedagogical appropriateness.

The product was evaluated by two experts, consisting of one material expert in early childhood literacy and one media expert in educational technology. The use of two experts is consistent with common practices in developmental research for initial feasibility assessment. Experts were selected based on their academic qualifications, professional experience, and expertise in early childhood education and learning media development. The consistency of expert judgments was examined through comparative analysis of mean scores across indicators, indicating a high level of agreement between experts.

Data were collected using a validation questionnaire consisting of structured indicators covering content feasibility and media feasibility. Content feasibility included aspects such as relevance, language appropriateness, and alignment with literacy objectives, while media feasibility included visual design, readability, and layout consistency. The instrument consisted of 15 items. The items were rated using a 5-point Likert scale ranging from 1 (Very Poor) to 5 (Very Good). The data were analyzed using mean score calculations to determine the level of feasibility.

In addition, usability analysis was conducted to examine the practical applicability of the product. This analysis was based on expert feedback and simulated user interaction, providing insights into how teachers and children might engage with the AI-generated storybook in real learning contexts.

This study adhered to ethical research considerations in early childhood education. Institutional permission was obtained from the school prior to data collection, and teacher participation was voluntary. As the study did not involve direct experimental intervention with children, no personal data from children were collected. Nevertheless, principles of child data protection and digital safety were considered throughout the development process, and parental consent would be required in future classroom-based implementation studies.

3. FINDINGS AND DISCUSSION

3.1 Findings

3.1.1 Product Development Results

This study produced an AI-generated digital picture storybook designed to support early childhood literacy development. The product was developed through the ADDIE model, encompassing analysis, design, development, validation, and revision stages. The final product consists of a digital storybook integrating narrative text and illustrations generated using accessible AI tools. The content was aligned with early literacy indicators, including vocabulary development, narrative comprehension, and print awareness.



Figure 2. AI-Generated Digital Picture Storybook (Cover and Sample Pages) before Revision



Figure 3. AI-Generated Digital picture Storybook (Cover and Sample Pages) after Revision

3.1.2 Early Childhood Literacy Framework

To guide the development of the AI-generated picture storybook, early childhood literacy indicators were first identified as the conceptual foundation of the learning media. These indicators were adapted from early literacy frameworks emphasizing receptive language, expressive language, and emergent literacy skills. The identified aspects were used to structure narrative content, select appropriate vocabulary, and design visual elements within the storybook. Table 1 presents the aspects of early childhood literacy and their corresponding indicators applied in this study.

Table 1. Aspects of Early Childhood Literacy

No	Aspect	Indicators
1	Understanding Language	Listening to stories; Understanding stories; Hearing and distinguishing the sounds of the Indonesian language
2	Expressing Language	Repeating parts of a story; Mentioning familiar words; Expressing feelings using descriptive words
3	Literacy	Recognizing pictures in storybooks; Imitating (pronouncing)

As presented in Table 1, early childhood literacy in this study is operationalized through three core domains: understanding language, expressing language, and literacy. Each domain is represented by specific behavioral indicators, including listening and comprehension abilities, verbal expression, and early print-related skills. These indicators served as references in developing story narratives and illustrations, ensuring that the AI-generated picture storybook aligns with developmental characteristics and early literacy objectives. This framework subsequently informed the material expert validation process to assess content relevance and pedagogical appropriateness.

3.1.3 Expert Validation Results

Expert validation was conducted by one material expert and one media expert to evaluate the feasibility of the developed AI-based picture storybook. The validation results indicate high feasibility across both content and media aspects, with mean scores of 4.47 and 4.54 respectively, placing the product in the "Very Feasible" category.

Table 2. Material Expert Validation Results

No	Indicator	Mean Score
1	Suitability of content with children's developmental level	4.50
2	Accuracy of literacy material	4.25
3	Clarity of moral messages	4.50
4	Relevance of content to early literacy indicators	4.63
Average Score		4.47

As shown in Table 2, the material expert validation yielded an average score of 4.47, indicating that the product is categorized as very feasible. The relatively narrow score range (4.25–4.63) indicates a high level of consistency in expert judgment, suggesting strong consensus regarding the

appropriateness of the content. This consistency reflects a high level of confidence in the validity of the material design.

3.1.4 Media Expert Validation Results

After the material feasibility framework was established, media expert validation was conducted to evaluate the visual and technical quality of the AI-generated picture storybook. The assessment focused on cover design relevance, illustration consistency, color and layout appeal, font readability, and digital display clarity. These indicators were used to determine whether the developed media met usability and aesthetic standards appropriate for early childhood learners. The results of the media expert evaluation are presented in Table 3.

Table 3. Media Expert Validation Results

No	Indicator	Mean Score
1	Cover design is attractive and relevant to the story content	4.67
2	Illustrations are consistent with the plot and character traits	5.00
3	Colors and layout are appealing to children	4.67
4	Font type and size are legible for children	3.67
5	Digital display quality is clear and neat	4.67

As shown in Table 3, the media expert validation achieved high scores across indicators, with an overall mean of 4.54. The limited variation among scores indicates strong agreement among evaluators, reflecting high confidence in the media quality. The slightly lower score in font readability suggests a minor area for improvement.

Overall feasibility analysis indicates that content feasibility reached a mean score of 4.47, while media feasibility achieved 4.54, resulting in a combined feasibility score of 4.51. According to the predetermined feasibility criteria, this score falls within the “Very Feasible” category. These quantitative findings demonstrate that both pedagogical content and media presentation meet high-quality standards, supporting the readiness of the AI-generated picture storybook for classroom implementation.

3.1.5 Product Usability Insights (Enhanced with User Feedback Simulation and Model)

In addition to expert validation, product usability was examined through simulated user feedback and a conceptual usability model to strengthen practical interpretation. As classroom trials have not yet been conducted, the simulation was derived from needs analysis, expert validation, and typical early childhood classroom practices. From the teacher’s perspective, the AI-generated storybook is expected to be practical and time-efficient, reducing preparation time while being easy to integrate into literacy-based lesson planning. The product also supports interactive teaching, enabling questioning, discussion, and storytelling activities.

From the children’s perspective, the storybook is predicted to enhance attention through visually engaging illustrations, encourage verbal interaction and story retelling, and promote early reading behaviors such as recognizing and pointing to words and images. In terms of learning interaction, the product supports shared reading, dialogic reading, and guided literacy engagement, indicating strong potential for active, child-centered learning.

To conceptualize its practical function, a Product Usability Model was developed, consisting of three interconnected components: technical usability, pedagogical usability, and engagement usability. Technical usability refers to ease of access and operation, including simple navigation, device compatibility, and clear display. Pedagogical usability reflects alignment with early literacy objectives, structured narrative flow, and age-appropriate language. Engagement usability relates to the ability to attract and sustain children’s interest through visuals, meaningful story contexts, and interaction opportunities.

These components form a usability interaction flow in which technical usability enables pedagogical usability, pedagogical usability enhances engagement, and engagement leads to effective literacy support. In essence, accessible media facilitates effective teaching, which promotes learner engagement and improves literacy experiences. This finding highlights that the effectiveness of AI-based learning media depends on the integration of usability, pedagogy, and engagement in real educational contexts.

3.1.6 Revision Outcomes

Based on feedback from content and media experts, several revisions were implemented to improve the quality and feasibility of the AI-generated picture storybook. These revisions focused on three main aspects: narrative structure, visual presentation, and technical readability. The narrative flow was refined to ensure logical sequencing, age-appropriate language, and clearer connections between story events. Typography adjustments were made by optimizing font size, spacing, and contrast to enhance readability for early childhood learners. In addition, visual balance was improved through the repositioning of illustrations, harmonization of color schemes, and alignment between text and images to support children's comprehension and engagement. These revisions resulted in a more coherent, visually appealing, and pedagogically appropriate learning medium, aligning the product more closely with early literacy indicators and expert recommendations.

3.2 Discussion

This study developed and validated an AI-generated digital picture storybook to support early childhood literacy using the ADDIE instructional design model. The findings indicate that the developed product achieved high feasibility ratings from both the material expert ($M = 4.47$) and the media expert ($M = 4.54$), demonstrating that the integration of generative AI within a systematic instructional design process can produce pedagogically appropriate and visually engaging literacy media. Importantly, these findings should be interpreted as evidence of product feasibility rather than instructional effectiveness, as the present study focused on development and expert validation rather than classroom intervention. Nevertheless, the results suggest that AI-assisted storybook development represents a promising approach for creating developmentally appropriate literacy resources that can facilitate future implementation in early childhood classrooms.

The high feasibility ratings reflect the successful alignment between instructional objectives, age-appropriate narrative design, and visual presentation. From the perspective of emergent literacy theory, young children develop literacy competencies through repeated exposure to meaningful language experiences, visual symbols, and social interactions rather than through formal reading instruction alone (Clemens et al., 2023; Maureen et al., 2022). The AI-generated picture storybook was intentionally designed to integrate simple vocabulary, coherent narratives, and contextual illustrations that correspond to children's developmental characteristics. This alignment demonstrates that generative AI can support the production of literacy materials when guided by explicit pedagogical principles rather than functioning as an autonomous content generator. Accordingly, the study extends previous research by illustrating that AI should be viewed as a design-support technology that enhances teachers' instructional capacity rather than replacing professional pedagogical judgment (Feuerriegel et al., 2024; Jauhiainen & Guerra, 2023).

The findings also reinforce the explanatory power of Mayer's Cognitive Theory of Multimedia Learning, which argues that meaningful learning occurs when learners process verbal and visual information simultaneously through complementary cognitive channels (Banh & Strobel, 2023). The positive evaluation of illustration consistency, layout quality, and narrative coherence indicates that combining AI-generated text with carefully designed visual elements can produce multimedia resources that correspond to children's cognitive processing characteristics. Rather than merely enhancing aesthetic appeal, the visual components function as cognitive scaffolds that assist children in connecting images with narrative meaning, thereby supporting vocabulary acquisition, story

comprehension, and print awareness. This finding is consistent with previous studies demonstrating that high-quality picture books strengthen children's language development by integrating visual representation with meaningful storytelling (Beach, 2025).

Another important contribution of this study lies in demonstrating the value of combining generative AI with systematic instructional design. While previous studies have explored AI-generated educational content or digital storytelling independently (Hariffadzillah et al., 2023; Istiq'faroh et al., 2025), relatively few have integrated AI production within a structured development framework such as ADDIE. The present study shows that instructional quality depends not on AI-generated output alone but on the iterative process of analysis, pedagogical planning, prototype refinement, and expert validation. Human review remained essential throughout development to refine prompts, revise narrative coherence, improve visual consistency, and ensure alignment with early childhood literacy objectives. These findings suggest that the educational value of generative AI emerges through collaboration between artificial intelligence and educator expertise rather than through automation alone.

From a practical perspective, the validated storybook offers considerable potential for supporting literacy instruction in Indonesian early childhood education. Many teachers continue to experience difficulties in producing engaging literacy materials because of limited design skills, insufficient digital competence, and restricted access to professional learning resources (Sudarmilah et al., 2021). The present development demonstrates that widely accessible AI applications, such as ChatGPT for narrative generation and Canva for visual design, can substantially reduce the time and technical expertise required to develop instructional materials while maintaining pedagogical quality through expert review. Consequently, AI-assisted media development may improve teachers' capacity to create localized and contextually relevant literacy resources that are adaptable to classroom themes and children's learning needs.

Despite these promising findings, several important limitations should be acknowledged. First, the study was limited to product development and expert validation, without conducting classroom-based implementation or experimental evaluation. Therefore, the study cannot conclude that the developed storybook directly improves children's literacy achievement. Second, only two expert validators participated in the feasibility assessment, providing preliminary evidence of product quality but limiting broader generalizability. Third, AI-generated educational content presents ethical considerations that require continuous human supervision, including the possibility of factual inaccuracies, cultural bias, copyright concerns, and age-inappropriate content. These issues emphasize that AI should function as an assistive design tool whose outputs are critically reviewed and pedagogically validated before classroom use (Feuerriegel et al., 2024; Jauhiainen & Guerra, 2023).

Overall, this study contributes both theoretically and practically by proposing an integrated framework that combines generative artificial intelligence, instructional design, and early literacy principles within a coherent development process. Rather than presenting AI as a substitute for teachers, the findings position AI as a collaborative technology capable of supporting the creation of engaging literacy resources when embedded within systematic pedagogical planning and professional validation. Future research should extend this work by implementing classroom-based effectiveness studies using experimental or mixed-methods designs to examine the impact of AI-generated picture storybooks on children's vocabulary growth, reading comprehension, narrative understanding, and long-term literacy development, while also investigating responsible AI governance in early childhood education.

4. CONCLUSION

This study developed and validated an AI-generated digital picture storybook to support early childhood literacy using the ADDIE instructional design model. The findings indicate that the product achieved a high level of feasibility in terms of both content and media quality, demonstrating that the integration of generative AI with systematic instructional design can produce pedagogically

appropriate and visually engaging literacy resources for young children. The study further highlights that AI can function as a supportive tool for teachers in designing contextualized literacy media when accompanied by careful pedagogical planning, expert validation, and human review. However, this research was limited to product development and expert validation without conducting classroom-based implementation or effectiveness testing, and the feasibility assessment involved only a small number of expert validators, limiting the generalizability of the findings. Therefore, future research should implement experimental or mixed-methods studies involving larger and more diverse participant groups to evaluate the impact of AI-generated picture storybooks on children's literacy development, language acquisition, and reading engagement. Further investigations should also examine long-term learning outcomes, teacher adoption, and ethical considerations—including content accuracy, bias mitigation, copyright, and responsible AI use—to establish evidence-based guidelines for integrating generative AI into early childhood literacy education.

Acknowledgments: The authors gratefully acknowledge Universitas Tadulako Palu for financial support through the DIPA research grant. Appreciation is also extended to MADANI Kindergarten Palu for their cooperation and to the material and media experts for their valuable insights and constructive feedback throughout the product development process.

Conflicts of Interest: The authors declare no conflict of interest.

REFERENCES

- Alviž Rengel, K. (2023). Reading—the door to the world of imagination and creativity. *First International Conference CALT: Creative Approaches to Learning and Teaching: Book of Abstracts*, 12.
- Banh, L., & Strobel, G. (2023). Generative artificial intelligence. *Electronic Markets*, 33(1), 63.
- Basyiroh, I. (2017). Program pengembangan kemampuan literasi anak usia dini. *Tunas Siliwangi: Jurnal Program Studi Pendidikan Guru Paud Stkip Siliwangi Bandung*, 3(2), 120–134.
- Beach, P. (2025). Research on early literacy in Reggio and Montessori classrooms: A scoping review. *Journal of Early Childhood Literacy*, 25(3), 694–722.
- Budiman, J. V., & Kurniawan, M. (2022). Ivocard Development As a Media For Learning English Vocabulary for Children Aged 4-5 Years. *Golden Age: Jurnal Ilmiah Tumbuh Kembang Anak Usia Dini*, 7(3), 133–142.
- Cahyadi, R. A. H. (2019). Pengembangan bahan ajar berbasis ADDIE model. *Halaqa: Islamic Education Journal*, 3(1), 35–42.
- Clemens, N. H., Lee, K., Liu, X., Boucher, A., Al Otaiba, S., & Simmons, L. (2023). The relations of kindergarten early literacy skill trajectories on common progress monitoring measures to subsequent word reading skills for students at risk for reading difficulties. *Journal of Educational Psychology*, 115(8), 1045.
- Dini, J. (2022). Kepedulian Lingkungan melalui Literasi Lingkungan pada Anak Usia Dini. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 6690–6700.
- Feuerriegel, S., Hartmann, J., Janiesch, C., & Zschech, P. (2024). Generative ai. *Business & Information Systems Engineering*, 66(1), 111–126.
- Gall, M. D., Gall, J. P., & Borg, W. R. (2007). Educational research: an introduction (8. utg.). *AE Burvikovs, Red.) USA: Pearson*.
- Guo, C., Huang, Y., & Chen, X. (2024). Research on Integration of the Sustainable Development Goals and Teaching Practices in a Future Teacher Science Education Course. *Sustainability*, 16, 1–14.
- Hariffadzillah, T. S. N. T., Fadil, M. Z. M., Harun, A., Ayob, M. A., & Razak, M. R. A. (2023). Exploring Ai technology to create children's illustrated storybook. *2023 4th International Conference on Artificial Intelligence and Data Sciences (AiDAS)*, 224–228.
- Hidayat, F., & Muhamad, N. (2021). Model Addie (Analysis, Design, Development, Implementation and Evaluation) Dalam Pembelajaran Pendidikan Agama Islam Addie (Analysis, Design, Development, Implementation and Evaluation) Model in Islamic Education Learning. *J. Inov.*

- Pendidik. Agama Islam*, 1(1), 28–37.
- Istiq'faroh, N., Damayanti, M. I., Hendratno, H., Rukmi, A. S., Murni, A. W., & Wibowo, A. H. (2025). Developing Artificial Intelligence (AI)-Based Children's Story-books through Fry Readability for Elementary Students. *The 8th International Conference on Education Innovation (ICEI 2024)*, 972–982.
- Jaakkola, M. (2023). Cultural Myths and Narratives about Artificial Intelligence. In *A Handbook for Journalism Educators (Reporting on Artificial Intelligence)*. UNESCO. <http://www.jstor.org/stable/resrep70523.8>
- Jauhiainen, J. S., & Guerra, A. G. (2023). Generative AI and ChatGPT in school children's education: Evidence from a school lesson. *Sustainability*, 15(18), 14025.
- Jiang, Y., Li, X., Luo, H., Yin, S., & Kaynak, O. (2022). Quo vadis artificial intelligence? *Discover Artificial Intelligence*, 2(1), 4.
- Maureen, I. Y., van der Meij, H., & de Jong, T. (2022). Evaluating storytelling activities for early literacy development. *International Journal of Early Years Education*, 30(4), 679–696.
- Rupnidah, R., & Suryana, D. (2022). Media pembelajaran anak usia dini. *Jurnal PAUD Agapedia*, 6(1), 49–58.
- Safira, A. R. (2020). *Media pembelajaran anak usia dini*. Caremedia Communication.