



## Early Childhood Teachers' Perceptions at "*Rumah Bermain Ku*" Regarding Digital Books and Printed Books as Learning Media

Zakiah<sup>1</sup>, Tiara Sekar Harnum<sup>2</sup>, Amelia Vinayastri<sup>3\*</sup>

<sup>1,2,3</sup>Penelitian dan Evaluasi Pendidikan, Sekolah Pascasarjana, Universitas Muhammadiyah Prof. Dr. HAMKA

**\*Corresponding Author:** Amelia Vinayastri    **E-mail:** amelia\_vinayastri@uhamka.ac.id

Received: November 19, 2025    Revised: December 02, 2025    Accepted: December 07, 2025    Online: December 31, 2025

### ABSTRACT

This study aims to explore teachers' perceptions regarding the use of digital books and printed books in early childhood education. Using a qualitative phenomenological approach, this study involved six teachers from one private early childhood education institution selected purposively, namely PAUD Rumah Bermain Ku in Depok City. Data were collected through observation, documentation, and in-depth interviews. The analysis included stages of reduction, display, and conclusion. The results showed that teachers preferred printed books, which were considered more appropriate for early childhood development, effective in maintaining children's focus, and supporting interactions between teachers and students. However, challenges for digital books included distractions, infrastructure issues, and a lack of teacher training. To increase digital book usage, actions like digital literacy training and providing more devices are needed. Teachers should combine printed and digital resources and collaborate on effective learning strategies.

**Keywords:** Digital Books; Printed Books; Phenomenology; Early Childhood Education

Journal Homepage

<https://ejournaluinmybsk.ecampus.id/index.php/ijecer/index>

This is an open access article under the CC BY-NC-SA license

<https://creativecommons.org/licenses/by-nc-sa/4.0/>

How to cite:

Zakiah, Z., Harnum, T. S., & Vinayastri, A. (2025). Early Childhood Teachers' Perceptions at Rumah Bermain Ku Regarding Digital Books and Printed Books as Learning Media. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, 4(2), 473-486.

<https://doi.org/10.31958/ijecer.v4i2.15950>

Published by:

Universitas Islam Negeri Mahmud Yunus Batusangkar, Indonesia

## INTRODUCTION

The advancement of digital technology has increasingly permeated the field of early childhood education (ECE), shaping the ways in which children interact with their learning environments (Hill et al., 2016). Children growing up in the digital era are surrounded by technology-rich settings, necessitating learning processes that are responsive to these developmental and contextual shifts (Bronfenbrenner, 1979). Educational media, therefore, holds a pivotal role in facilitating cognitive, linguistic, and social development in early learners, particularly when learning tools are introduced through guided interaction and meaningful engagement (Cole et al., 1978). Among the diverse forms of instructional media, digital books have emerged as widely utilized alternative learning resources, offering opportunities for exploratory, play-based digital engagement (Bird & Edwards, 2015). This trend underscores the need for educators to integrate developmentally appropriate digital

materials that can enhance engagement and optimize learning outcomes for young children, especially when aligned with children's attentional and sensory development (Ruff & Rothbart, 2001).

The use of digital books provides visual, auditory, and interactive elements that are considered effective in increasing children's learning engagement (Ratnasari, 2024), which aligns with evidence that multimodal stimuli can support early attentional and cognitive processes in young learners (Ruff & Rothbart, 2001). Despite this progress, printed media such as traditional picture books continues to be widely utilized because of its practicality and its alignment with the developmental needs of young children who benefit from concrete and multisensory learning experiences (Farini & Rohita, 2023). Existing descriptive studies indicate that digital literacy abilities particularly skills required to interact meaningfully with digital picture storybooks remain limited among early childhood learners, a condition that is largely attributed to the lack of adequate instructional support from teachers and parents (Ratnasari, 2024). These findings highlight the importance of strengthening digital guidance strategies to ensure that young children can navigate digital reading materials in a developmentally appropriate and pedagogically beneficial manner, reflecting the essential role of adult scaffolding in early learning (Cole et al., 1978).

In the context of ECE learning, Vygotsky's constructivist theory asserts that children develop understanding through social interactions with teachers and the learning environment (Prakash Chand, 2023; Wibowo et al., 2025). Teachers act as mediators who create the zone of proximal development through scaffolding and the use of learning tools such as books (Aprianti et al., 2025). Based on this theoretical premise, both digital and printed books should serve as media that promote interaction, exploration, and active learning rather than functioning merely as tools for information transfer (Sutiyono et al., 2022). Furthermore, the Technological Pedagogical Content Knowledge (TPACK) framework proposed by Mishra and Koehler is highly relevant to the integration of digital media in ECE settings (Mala et al., 2025; Nurhayani et al., 2021). This framework emphasizes the importance of teachers' ability to integrate technological, pedagogical, and content knowledge effectively. Consequently, ECE teachers are encouraged to utilize both concrete and digital media in classroom instruction (Mishra & Koehler, 2006).

Teachers play an essential role in selecting, supervising, and evaluating the learning materials used in the classroom. One key factor influencing the successful integration of digital media in ECE is the teacher's competence in utilizing educational technology. Previous studies indicate that teachers generally hold positive views toward digital media because it motivates children to participate more actively (Sutiyono et al., 2022). Nevertheless, practical challenges remain, such as limited availability of devices, unstable internet connectivity, and teachers' varying levels of digital literacy (Bisma et al., 2023; Priyanti & Warmansyah, 2021; Sukarti et al., 2023).

The choice of learning media also affects how assessment is conducted in ECE. Digital media enables more dynamic documentation of learning processes; however, teachers report that printed media allows easier observation of children's direct engagement (Pratesi, 2018). Phenomenological studies in Indonesia note that ECE teachers encounter significant obstacles in evaluating digital learning experiences because existing assessment

---

tools are not adequately aligned with young children's developmental characteristics (Sulistyaningtyas et al., 2024). In the context of early literacy, research on the integration of print-referencing techniques during e-storybook reading using a SMART board shows that combining printed references with digital storybooks yields better learning outcomes than using digital versions alone (van Dijken, 2023).

Given that digital and printed books have not been fully examined from the perspective of ECE teachers particularly in terms of assessment and the instructional processes involved this study addresses that research gap. Most previous studies have focused on the effectiveness of digital media using quantitative methods or explored general perceptions of teachers or children. However, very few have investigated the subjective experiences of teachers as they integrate both media types into actual ECE classroom practices (Sulistiyowati et al., 2025).

Building on sociocultural and ecological perspectives, existing scholarship shows that children's interactions with learning media are closely influenced by the quality of teacher guidance and the broader learning environment that surrounds them (Bird & Edwards, 2015; Bronfenbrenner, 1979; Cole et al., 1978). At the same time, studies on teacher knowledge frameworks such as TPACK indicate that many early childhood educators continue to encounter challenges in aligning technological tools—both digital and printed with age-appropriate pedagogical practices (Mala et al., 2025; Mishra & Koehler, 2006; Nurhayani et al., 2021). While these works have advanced understanding of media integration in early childhood contexts, much remains to be understood about how teachers themselves interpret and adjust their instructional decisions when moving between printed and digital books in authentic classroom settings. Exploring these professional experiences offers important insights into how teachers navigate media choices and instructional demands within contemporary early learning environments.

Therefore, the purpose of this study is to explore ECE teachers' perceptions of digital books and printed books as learning media, describe children's responses to both types of media, identify factors influencing teachers' media selection in classroom instruction, and examine adaptive strategies employed by teachers during the transition from printed to digital books in early childhood learning environments.

## **RESEARCH METHODOLOGY**

### **Research Approach**

This study employed a qualitative phenomenological approach aimed at uncovering and interpreting the lived experiences of early childhood education teachers in using both digital books and printed books as instructional media. The phenomenological perspective was chosen because it allows the researcher to capture the subjective meanings, emotional responses, and internal reflections of participants as they engage with learning media in authentic classroom situations. Rather than focusing on measurable outcomes, this approach emphasizes the depth of understanding related to how teachers perceive the usefulness, challenges, and pedagogical implications of different media types. By centering on individual experiences, the phenomenological method provides rich insights into how

teachers make sense of digital and printed resources within the evolving landscape of early childhood education.

### **Research Participants and Setting**

The participants in this study consisted of six early childhood teachers from a private early childhood institution, specifically PAUD Rumah Bermain Ku in Depok City. They were selected purposively based on their practical experience using both digital and printed books in classroom instruction. This sampling strategy ensured that each participant possessed relevant knowledge and firsthand involvement, allowing the researcher to gather deeply informed perspectives. The research site, being an institution that integrates various forms of learning media, provided a natural and contextually rich environment for studying teachers' perceptions. The selected teachers represent diverse backgrounds in terms of teaching experience, classroom management styles, and familiarity with technological tools, offering a comprehensive understanding of how different educators navigate the transition between traditional and digital learning materials.

### **Data Collection Procedures**

Data were gathered using three primary techniques: in-depth interviews, classroom observations, and documentation. The in-depth interviews were designed to explore teachers' personal interpretations, feelings, and judgments regarding the use of printed and digital books, as well as the pedagogical decisions guiding their choices. Each interview followed a semi-structured format to provide flexibility for probing deeper into emerging themes while maintaining consistency across participants. Classroom observations were conducted to capture real-time teaching practices, children's reactions to the media used, and the overall dynamics of learning activities involving the two types of books. These observations offered a direct understanding of how teachers implemented the media in authentic instructional contexts. Documentation, including photographs of classroom activities, learning materials, and observational notes, served as supplementary evidence to support and enrich the narrative developed from interviews and observations. Together, these three methods provided a holistic and triangulated view of the phenomena under investigation.

### **Research Instruments**

The instruments used in this study included an interview guide, an observation sheet, and a documentation checklist. The interview guide contained open-ended prompts designed to elicit detailed descriptions of teachers' experiences, decision-making processes, and reflections on media use in early childhood classrooms. The observation sheet facilitated a structured recording of key behaviors, instructional patterns, and child engagement levels when digital or printed books were utilized. The documentation checklist ensured that relevant visual and textual materials, such as photographs of learning sessions or classroom setups, were consistently collected to support analytical interpretation. These instruments were developed to ensure that the data obtained would

be comprehensive, systematic, and aligned with the phenomenological orientation of the research.

### **Data Analysis Techniques**

Data analysis was carried out through qualitative descriptive procedures involving three interconnected stages: data reduction, data display, and conclusion drawing. During data reduction, all raw information obtained from interviews, observations, and documentation was organized, sorted, and refined to focus on themes directly related to teachers' perceptions and experiences with digital and printed learning media. The next stage, data display, involved presenting the processed information in a coherent narrative form to allow patterns, relationships, and contrasts to emerge clearly. This step enabled the researcher to visualize the connections within the data and identify recurring motifs across participants. The final stage, conclusion drawing, was conducted by synthesizing the displayed data into meaningful interpretations that answer the research objectives. The conclusions were reached through an iterative process, ensuring that they accurately represented the core insights derived from participants' lived experiences.

### **Data Trustworthiness**

To ensure the trustworthiness of the study, triangulation of sources and methods was employed. Source triangulation was conducted by comparing information obtained from different participants, allowing the researcher to verify consistency across teachers' accounts. Method triangulation involved cross-checking data collected through interviews, observations, and documentation to confirm the accuracy and credibility of emerging themes. Through these strategies, the researcher ensured that the findings were not only credible but also reflective of the authentic experiences of early childhood teachers in using digital and printed books as learning media.

## **RESULTS AND DISCUSSION**

### **Printed Books as Media Aligned With Early Childhood Development**

Teachers perceive printed books as stable, reliable, and easy-to-use learning media, which facilitates the instructional process in early childhood settings. This sense of stability is considered essential in PAUD (ECE) because young children require predictable, concrete, and straightforward materials to support their learning experiences.

*G1: 'Printed books are easier to access from the school library because we have plenty of children's storybooks available. Teachers can simply select a book that fits the theme and start reading it to the children. It's different from digital books, where we need electronic devices to support the activity.'*



Figure 1. The Use of Printed Books in ECE Learning

The interview results indicate that the primary advantage of printed books lies in their simplicity and immediate usability. Teachers can focus directly on delivering the material, such as storytelling, without dealing with technical issues or device preparation. This convenience makes printed books particularly suitable for early childhood environments, where smooth instructional flow is essential. Moreover, printed books help maintain children's focus, as their physical form minimizes visual distractions commonly associated with electronic devices. The tactile qualities of printed books support children's sensory-motor engagement and promote natural interaction between teachers and learners.

Teachers prefer printed books because they are concrete, developmentally appropriate, and aligned with children's cognitive stages. According to Piaget's theory, children aged 2–7 are in the preoperational stage, requiring simple, concrete visual stimuli to build mental representations. Likewise, Vygotsky emphasizes the importance of shared attention and social interaction in learning; printed books allow teachers and children to focus on the same object simultaneously, strengthening communication and joint engagement. Previous studies in Indonesia have also shown that printed books effectively enhance early literacy, symbolic representation, and language development among young children.

### **Challenges of Using Digital Books in Early Childhood Learning**

Although digital books offer many advantages, their implementation in ECE still faces significant obstacles. Operational challenges and instructional difficulties emerge when digital devices become a source of distraction rather than a learning tool. Many children shift their attention from the content of the digital book to the interactive features of the device itself.

*G2: "When using digital books, the children are immediately curious and excited, but with the laptop in front of them, they become more interested in pushing the buttons and tapping the screen than listening to the read-aloud activity."*



Figure 2. The Use of Digital Books in ECE Learning

The interview illustrates that digital devices act as primary distractors. Young children, who are naturally in a sensory-exploratory stage, are drawn to physical features such as buttons and touchscreens. This reduces their ability to focus on narrative content and disrupts the flow of the learning activity. Studies also indicate that young children often perceive digital devices as toys rather than learning tools, and that overstimulation through animations or sound effects may overload their cognitive processing and reduce comprehension.

Thus, the challenges teachers face are not merely technical but pedagogical. Digital media require careful curation, constant supervision, and clear instructional strategies. Recommendations from developmental experts emphasize that digital exposure for young children must be limited, interactive, and guided by educators. Therefore, the success of digital books depends on selecting appropriate content, improving teacher digital literacy, and providing adequate devices that support learning rather than hinder it.

### Children's Responses to Printed and Digital Books

Findings from field observations show clear differences in children's responses to both media types, which strongly influence teachers' evaluations of their effectiveness. While children show high enthusiasm at the beginning of digital book use, their attention quickly diminishes, often leading to distraction, restlessness, and even conflict.

*G3: "With digital books, they get excited at first, but soon they start fighting over who gets to press the buttons."*

*G1: "With digital books, children with short attention spans respond quickly they listen and look. But it doesn't last long. With tablets, they immediately start touching the screen. Printed books take more time for short-attention children, and the books need activity pages like matching shadows or drawing lines to keep them engaged."*

The interviews reveal that digital books can trigger competitive behaviors due to limited device availability and the novelty of interactive features. Developmental psychology explains that young children have short attention spans, and interactive stimuli such as animations or buttons may overstimulate them, reducing their ability to maintain focus. In

---

contrast, printed books foster a calmer and more predictable learning environment. Their static and concrete nature supports symbolic representation and allows children to engage meaningfully with the content without being overstimulated.

These findings are consistent with studies showing that digital media require stricter supervision to be effective and should be used with purposeful guidance. Printed books remain advantageous for structured literacy activities, especially for children who benefit from hands-on, tangible materials.

### **The Role of Facilities and Institutional Policies in Digital Media Use**

School resources and institutional support significantly influence teachers' decisions when selecting learning media. Teachers explained that limited devices make it difficult to use digital books effectively in the classroom.

*G2: "We only have one tablet for the teacher. Clearly, that's not enough for an entire class."*

*G5: "If we had a large screen like a TV, children could see the pictures better. But using a laptop distracts them easily."*

These findings demonstrate that inadequate infrastructure such as insufficient devices, small screens, and lack of interactive displays restricts teachers' ability to adopt digital books in PAUD settings. As a result, printed books remain the more practical choice.

The integration of digital media in early childhood learning is shaped by multiple environmental layers. From classroom-level conditions to institutional support and broader educational policies, teachers' technological competence is influenced by the systems around them. Challenges such as limited devices, poor internet connectivity, and insufficient teacher training must be addressed holistically. Effective digitalization requires institutional commitment through professional development, resource provision, and long-term planning.

### **Teacher Strategies in Navigating the Transition From Printed to Digital Books**

During the ongoing transition from printed materials to digital media, teachers have begun adopting various adaptive strategies. Although many teachers still feel more comfortable using printed books, they are actively seeking ways to balance traditional and modern media in their classrooms.

*G4: "I now use a combined strategy printed books with digital books. Sometimes children read the printed version first, then I show the digital version on the screen. This way they stay focused while being introduced to technology."*

*G5: "I introduce it gradually. Children start with the digital picture story, but I still provide the printed version with the same theme so they can touch and explore it directly."*

The interviews show that teachers are intentionally adapting to the digital shift to preserve learning effectiveness. A blended approach combining printed and digital books helps maintain children's focus while slowly building digital literacy. Teachers also monitor device usage to prevent distraction and ensure that learning remains goal-oriented.

Collaboration among teachers, sharing strategies, and reflecting on classroom practices help support the transition. This adaptive behavior reflects strong teacher agency, emphasizing thoughtful decision-making based on context, available resources, and children's developmental needs.

The transition is also aligned with national initiatives such as the Interactive Flat Panel (IFP) program, which promotes interactive and collaborative digital learning. However, the success of such programs relies not only on device availability but also on teachers' readiness in both pedagogy and technology. Effective implementation requires a balance between innovation and developmentally appropriate practices, ensuring that digital tools enrich rather than replace the essential social interactions in early childhood classrooms.

## **Discussion**

The findings of this phenomenological study highlight the complex perceptions held by early childhood teachers regarding the use of printed and digital books as learning media. Teachers' strong preference for printed books reflects the developmental characteristics of early childhood learners, who benefit from stable, concrete, and tactile learning materials. This aligns with Piaget's (1964) conceptualization of the preoperational stage, in which young children rely on physical and visually simple representations to construct meaning. The teachers' experiences further validate Vygotsky's view that learning occurs through shared attention and joint engagement between adults and children, as printed books naturally support face-to-face interaction and collaborative meaning-making (Cole et al., 1978; Aprianti et al., 2025).

The teachers' tendency to favor printed books can also be understood from the perspective of early literacy development. Prior studies in Indonesian PAUD settings demonstrate that printed picture books enhance vocabulary acquisition, narrative competence, and symbolic thinking (Farini & Rohita, 2023). Consistent with these findings, teachers in Rumah Bermain Ku observed that printed books encourage prolonged attention, calmer classroom environments, and greater opportunities for dialogue, which correspond to Ruff & Rothbart's (2001) assertion that young children require stable stimuli to sustain focus.

Despite these advantages, teachers acknowledged the educational potential of digital books, especially in introducing interactive and multimodal learning experiences. Digital books offer animated visuals, audio narration, and interactive elements that can support children's engagement and conceptual understanding (Ratnasari, 2024). However, the teachers' experiences reveal that such features may also generate cognitive overload when not appropriately moderated. Sweller's (1994) Cognitive Load Theory explains that excessive audiovisual stimulation can burden children's working memory, inhibiting comprehension. This theoretical explanation was evident in classroom observations, where

multimedia features diverted children's attention away from story content and toward the device itself.

The teachers' experiences align closely with international research. Bird and Edwards (2015) found that young children at times perceive digital devices primarily as play objects, rather than as learning tools, consistent with the distractions observed during digital book use in Rumah Bermain Ku. Similarly, van Dijken (2023) argues that digital books can enhance early literacy only when accompanied by structured adult guidance and print-referencing strategies. The teachers' preference for combining printed and digital formats reflects this hybrid approach, which enhances comprehension while minimizing distractions.

Teacher agency emerges as a critical theme in this study. Teachers acted as mediators who evaluated media suitability based on pedagogical goals, classroom context, and children's developmental readiness, illustrating the reflective decision-making emphasized in Vygotskian pedagogy (Wibowo et al., 2025) and in the teacher agency model proposed by Priestley, Biesta, and Robinson (2015). The participants demonstrated adaptive professionalism by selecting printed books for focused literacy activities while gradually introducing digital books to build digital awareness without compromising developmental appropriateness.

Environmental and institutional factors also played a decisive role in shaping teachers' perceptions. The limited number of devices, the absence of large digital displays, and the lack of systematic digital literacy training significantly influenced teachers' reluctance to use digital books. This aligns with Bronfenbrenner's (1979) ecological systems theory, which emphasizes that classroom practices are shaped by interactions between microsystem elements (children, teachers), mesosystem structures (school resources), and macrosystem policies. When infrastructure and institutional support are lacking, teachers naturally gravitate toward more accessible media, such as printed books.

Teacher competence in technological integration also aligns with the Technological Pedagogical Content Knowledge (TPACK) framework. As Mishra & Koehler (2006) and Nurhayani et al. (2021) emphasize, effective digital media integration requires teachers to balance technological proficiency, pedagogical insight, and content knowledge. The challenges faced by teachers in Rumah Bermain Ku show gaps in the technological dimension of TPACK, underscoring the need for systematic digital literacy training (Mala et al., 2025).

The participants described digital book use as requiring significantly more preparation, monitoring, and classroom management strategies. This is consistent with studies showing that teachers often feel burdened by the technical and supervisory demands of digital learning in PAUD settings (Sulistyaningtyas et al., 2024). These challenges demonstrate that digitalization in early childhood education must be accompanied by adequate professional development, supportive policies, and accessible technological tools.

Another important insight from the findings is the difference in children's responses to printed and digital books. Printed books tend to produce calmer group interactions, whereas digital books often lead to competitive behaviors due to limited

---

device availability. Such patterns confirm Pratesi's (2018) findings that digital media may complicate assessment processes, especially when children compete for access. They also echo Hill et al. (2016), who warn that digital media use in early childhood should be limited, interactive-social, and supervised to prevent overstimulation or misuse.

The blending of printed and digital media observed among teachers reflects an adaptive transitional pedagogy. By first using printed books and then presenting digital versions, teachers created a scaffolded experience that honors developmental readiness while gradually introducing technological literacy. This blended approach supports Sutiyono et al. (2022), who found that teachers often adopt hybrid strategies to balance pedagogical goals with technological demands.

The study's findings also resonate with current national efforts to integrate Interactive Flat Panels (IFP) in early childhood classrooms. Although IFPs can enhance interactive story reading and collaborative learning, their effectiveness depends on teachers' ability to integrate them with developmentally appropriate practices. This reinforces the idea that technology alone cannot guarantee improved learning outcomes; teacher readiness and agency are fundamental drivers of successful digital transformation.

Overall, the findings suggest that printed books currently remain the most feasible and pedagogically effective media in the context of Rumah Bermain Ku. However, digital books hold significant potential if supported by adequate infrastructure, appropriate content selection, and strengthened teacher digital competence. The need for structured professional development in digital literacy becomes evident as teachers attempt to navigate the transition toward technology-enhanced learning.

## **CONCLUSION**

This phenomenological study explores in depth the perceptions of early childhood teachers at Rumah Bermain Ku regarding the use of printed books and digital books as learning media. The findings reveal that teachers generally prefer printed books, which they consider more reliable, convenient, and developmentally appropriate for children in the preoperational stage. Printed books are viewed as effective in maintaining children's focus and supporting natural interaction between teachers and learners. In contrast, the use of digital books still presents challenges, including children's attention being diverted to the device rather than the content, as well as technical burdens for teachers. Educational environmental factors strongly influence teachers' choices, particularly school system constraints, limited infrastructure, and inadequate professional training. Overall, the study concludes that printed books currently remain the most realistic and effective learning media in the context of PAUD Rumah Bermain Ku. Further actions such as providing digital literacy training for teachers and increasing the availability of suitable devices are needed to enhance the use of digital books. Teachers must adapt to digitalization demands by integrating printed and digital materials, offering active guidance, and collaborating to determine effective instructional strategies, as the success of digital transformation ultimately depends on teachers' readiness and their active role as agents of change.

## **ACKNOWLEDGEMENT**

The researchers would like to express their sincere gratitude to the teachers and staff of PAUD Rumah Bermain Ku, Depok, for their valuable cooperation and support throughout the research process. Appreciation is also extended to the head of the institution for granting permission and providing access to conduct the study. The contributions of the participating teachers, who willingly shared their experiences and insights, were essential to the completion of this research. The researchers also thank all individuals who offered assistance, encouragement, and expertise during the data collection and analysis stages, making this study possible.

## **REFERENCES**

Aprianti, Y., Ramdani, I. L. A., Ali, M., Rifki, M., & Utomo, R. B. (2025). Perspektif Teori Konstruktivisme Vygotsky Terhadap Kemampuan Bersosialisasi Siswa Slow Learner Di Sekolah Dasar Inklusi. DWIJA CENDEKIA: Jurnal Riset Pedagogik, 9(1), 135. <https://doi.org/10.20961/jdc.v9i1.99167>

Bird, J., & Edwards, S. (2015). Children Learning to Use Technologies Through Play: A Digital Play Framework. *British Journal of Educational Technology*, 46(6), 1149–1160. <https://doi.org/https://doi.org/10.1111/bjet.12191>

Bisma, N., Desmita, D., Kharisma Diyenti, A., Adha Karim, N., Zalzabila, Z., Yulia, N., Warmansyah, J., & Sulong, K. (2023). The Influence of Audio Stories on Enhancing Digital Literacy In Early Childhood: A Survey Study. *Indonesian Journal of Early Childhood Educational Research (IJECKER)*, 2(2), 57. <https://doi.org/10.31958/ijecer.v2i2.11526>

Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Harvard university press.

Cole, M., John-Steiner, V., Scribner, S., & Souberman, E. (1978). *Mind in Society. In Mind in society the development of higher psychological processes*. Cambridge, MA: Harvard University Press. Harvard University Press.

Farini, I., & Rohita. (2023). Peran Guru dalam Penumbuhan Minat Baca Anak Usia 5–6 Tahun di PAUD An Nahl Pancoran Mas Depok. *Jurnal AUDHI: Jurnal Anak Usia Dini Holistik Integratif*, 5(2), 52–60. <https://jurnal.uai.ac.id/index.php/AUDHI>

Hasanah, N., & Murhayati, S. (2025). Metode Pengumpulan Data Kualitatif. *Jurnal Pendidikan Tambusai*, 9. <https://doi.org/https://doi.org/10.31004/jptam.v9i2.27032>

Hill, D., Ameenuddin, N., Chassiakos, Y. R., Cross, C., Radesky, J., Hutchinson, J., Boyd, R., Mendelson, R., Moreno, M. A., Smith, J., & Swanson, W. S. (2016). Media and Young Minds. *Pediatrics: Official Journal of American Academy of Pediatrics*, 138(5). <https://doi.org/10.1542/peds.2016-2591>

Inayah, P., Habsy, B. A., & Nursalim, M. (2025). Kajian Literatur Metodologi Penelitian Fenomenologi. *Jurnal Pendidikan Integratif*, 6(2). <https://ejournals.com/ojs/index.php/jpi760>

Mala, L. S., Hibana, H., & Divanti, A. I. (2025). Technological Pedagogical and Content Knowledge (TPACK) Abilities of Early Childhood Education Teachers in Digital-Based Learning. *Lectura: Jurnal Pendidikan*, 16(2), 712–724. <https://doi.org/10.31849/kh50x593>

Mishra, Punya, & Koehler, Matthew J. (2006). Technological Pedagogical Content Knowledge: A Framework for Teacher Knowledge. *Teachers College Record*, 108(6), 1017–1054. <https://doi.org/10.1111/j.1467-9620.2006.00684.x>

Nurhayani, N., Yuanita, S. K. S., Permana, A. I., & Eliza, D. (2021). TPACK (Technological, Pedagogical, and Content Knowledge) untuk Peningkatan Profesionalisme Guru PAUD. *Jurnal Basicedu*, 6(1), 179–190. <https://doi.org/10.31004/basicedu.v6i1.1852>

Piaget, J. (1964). Part I: Cognitive development in children: Piaget development and learning. *Journal of Research in Science Teaching*, 2(3), 176–186. <https://doi.org/https://doi.org/10.1002/tea.3660020306>

Prakash Chand, S. (2023). Constructivism in Education: Exploring the Contributions of Piaget, Vygotsky, and Bruner. *International Journal of Science and Research (IJSR)*, 12(7), 274–278. <https://doi.org/10.21275/sr23630021800>

Pratesi, P. C. (2018). Persepsi Guru PAUD terhadap Faktor-Faktor yang Menghambat dalam Melaksanakan Pembelajaran di PAUD Se-Kecamatan Ujan Mas Kabupaten Kepahiang. *Raudhatul Athfal: Jurnal Pendidikan Islam Anak Usia Dini*, 2. <http://jurnal.radenfatah.ac.id/index.php/raudhatulathfal>

Priestley, M., Biesta, G. J. J., & Robinson, S. (2015). *Teacher Agency: An Ecological Approach*. London, UK: Bloomsbury.

Priyanti, N., & Warmansyah, J. (2021). The Effect of Loose Parts Media on Early Childhood Naturalist Intelligence. *JPUD - Jurnal Pendidikan Usia Dini*, 15(2), 239–257. <https://doi.org/10.21009/jpud.152.03>

Ratnasari, E. M. (2024). Digital Literacy in Early Children Through Pictured Story Books. *IJIGAEEd: Indonesian Journal of Islamic Golden Age Education*, 5(1), 119–128. <https://doi.org/10.32332/ijigaed.v5.i1.9929>

Ruff, H., & Rothbart, M. (2001). Attention in Early Development: Themes and Variations. In *Attention in Early Development: Themes and Variations*. <https://doi.org/10.1093/acprof:oso/9780195136326.001.0001>

Sukarti, S., Hidayati, S., Aghnaita, A., Muzakki, M., & Karim, A. (2023). Cognitive Development of Children through Illustrated Letter Card Media in Kindergarten. *Indonesian Journal of Early Childhood Educational Research (IJECER)*, 2(1), 10. <https://doi.org/10.31958/ijecer.v2i1.8796>

Sulistyaningtyas, R. E., Astuti, F. P., Yulianto, P., & Hidayaturrohman, Q. A. (2024). Teachers' belief and implementation of ICT in early childhood education classroom. *Jurnal Inovasi Teknologi Pendidikan*, 11(1), 103–115. <https://doi.org/10.21831/jitp.v11i1.67300>

Sulistiyowati, W., Kurniati, E., & Justicia, R. (2025). Teachers' Perspectives on Interactive Digital Books for Early Childhood Earthquake Mitigation Education. Jayapangus Press Cetta: Jurnal Ilmu Pendidikan, 8(4). <https://jayapanguspress.penerbit.org/index.php/cetta410>

Sutiyono, A., Hastomo, T., & Tanod, M. J. (2022). Educators' Perception Towards Early Childhood Education in Technology Integration: A Case Study. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(6), 7323–7333. <https://doi.org/10.31004/obsesi.v6i6.3837>

Sweller, J. (1994). Cognitive Load Theory, Learning Difficulty, And Instructional Design. *Learning And Instruction*. *Learning and Instruction*, 4, 293–312. [https://doi.org/https://doi.org/10.1016/0959-4752\(94\)90003-5](https://doi.org/https://doi.org/10.1016/0959-4752(94)90003-5)

Van Dijken, M. (2023). Print Referencing During E-Storybook Reading On A SMART Board For Kindergartners To Promote Early Literacy Skills. *Reading & Writing*. *Reading and Writing*, 36(1), 97–117. <https://doi.org/10.1007/s11145-022-10304-3>

Wibowo, S., Wangid, M. N., & Firdaus, F. M. (2025). The relevance of Vygotsky's constructivism learning theory with the differentiated learning primary schools. *Journal of Education and Learning*, 19(1), 431–440. <https://doi.org/10.11591/edulearn.v19i1.21197>

---

**Copyright Holder :**

©Vinayastri et al. (2025).

**First Publication Right :**

© Indonesian Journal of Early Childhood Educational Research

This article is under:

