

EFFORTS AND OUTCOMES IN ENHANCING EARLY CHILDHOOD EDUCATORS' DIGITAL LITERACY AT PAUD INSTITUTIONS

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ABSTRACT

This study investigates the efforts made by Early Childhood Care and Education (ECCE) institutions in kecamatan Sukasari, Bandung, to enhance the digital literacy of early childhood educators. Employing a qualitative approach and case study method, the research involved observations, documents study and in-depth interviews with representatives from four ECCE institutions. Data analysis was conducted through thematic analysis, a systematic method for identifying, analyzing, and reporting patterns within the data. The results indicate positive outcomes, including enhanced teaching methods, increased creativity and resourcefulness, improved student engagement and comprehension, and educators' adaptability to technological changes. This study contributes new knowledge to the field by highlighting comprehensive and dynamic strategies employed by ECCE institutions to enhance teachers' digital literacy. The findings underscore the necessity of a holistic, supportive, and adaptive approach to digital literacy in early childhood education, aligning with current research trends in the field.

Keywords: Digital Literacy, Early Childhood Education, Professional Development

ABSTRAK

Penelitian ini bertujuan untuk mengkaji upaya yang dilakukan oleh lembaga Pendidikan Anak Usia Dini (PAUD) di kecamatan Sukasari, Bandung, dalam peningkatan literasi digital pendidik anak usia dini. Menggunakan pendekatan kualitatif dan metode studi kasus, penelitian ini menggunakan teknik pengumpulan data yang terdiri dari observasi, studi dokumentasi, dan wawancara. Analisis data dilakukan melalui analisis tematik, metode sistematis untuk mengidentifikasi, menganalisis, dan melaporkan pola dalam data. Hasil penelitian menunjukkan dampak positif, termasuk peningkatan metode pengajaran, kreativitas, dan daya tanggap, peningkatan keterlibatan dan pemahaman siswa, serta kemampuan adaptasi pendidik terhadap perubahan teknologi. Studi ini memberikan pengetahuan baru dalam bidang ini dengan menyoroti strategi komprehensif dan dinamis yang diterapkan oleh lembaga PAUD untuk meningkatkan literasi digital guru. Temuan ini menekankan perlunya pendekatan yang holistik, mendukung, dan adaptif terhadap literasi digital dalam pendidikan anak usia dini, yang sejalan dengan tren penelitian terkini di bidang tersebut.

Kata kunci: Literasi Digital, Pendidikan Anak Usia Dini, Pengembangan Profesional

INTRODUCTION

The impetus for digital literacy in early childhood education (ECCE) has gained significant momentum in recent years. A growing body of literature underscores its importance as a foundational skill for educators, essential not only for facilitating modern teaching methodologies but also for fostering an environment conducive to 21st-century learning (Ghofur and Nurhayati, 2023; Marsegi et al., 2023; Nuraeni and Nurhayati, 2023; Nurhayati et al., 2023; Suharyat et al., 2022; Winarti et al., 2022). The concept of digital literacy extends beyond mere technological savviness; it encompasses a range of competencies that enable educators to effectively utilize digital tools for educational enhancement (Nurhayati et al., 2022). Studies have consistently demonstrated the positive impact of digital literacy on learning outcomes, advocating for its integration into the fabric of early childhood education (Berson et al., 2022; Musa et al., 2022; Novitasari and Fauziddin, 2022).

Globally, a variety of initiatives aimed at bolstering digital literacy among ECCE educators have been documented. These range from comprehensive training programs and resource allocation to the establishment of support systems designed to navigate the intricacies of digital pedagogy. Pongsakdi (2021) found that digital pedagogy training increases in-service teachers' ICT confidence and reduces their need for ICT support, particularly for those with high confidence levels. The literature reveals a consensus on the effectiveness of such initiatives, with many studies evaluating their outcomes and advocating for their widespread adoption (Pongsakdi et al., 2021). However, despite these efforts, educators continue to encounter significant barriers to acquiring digital literacy (Musa et al., 2022; Susanti and Nurhayati, 2024). Challenges such as limited access to digital resources, insufficient training opportunities, and inadequate institutional support are prevalent (Gorodova et al., 2021). These impediments not only stifle the professional growth of educators but also adversely affect the quality and efficacy

of education imparted to young learners (Nurhayati and Musa, 2020; Suwarjo et al., 2022).

When the lens is turned to the Indonesian context, particularly in the realm of ECCE, the narrative remains consistent yet distinct. The unique socio-cultural and educational landscape of Indonesia presents its own set of challenges and opportunities for digital literacy enhancement (Suwarjo et al., 2022; Winarti et al., 2022). However, there is a conspicuous dearth of literature that delves into the specific efforts of ECCE institutions in regions like Kecamatan Sukasari, Bandung. This gap is especially pronounced in understanding the localized strategies employed, the contextual challenges faced, and the outcomes of such initiatives in enhancing digital literacy among PAUD educators.

This study seeks to bridge this research gap by providing an in-depth exploration of the concerted efforts by ECCE institutions in Kecamatan Sukasari, Bandung, to augment digital literacy among PAUD educators. By focusing on this localized context, the research endeavors to contribute novel insights into the strategies adopted, the challenges encountered, and the outcomes realized. In doing so, it aims to enrich the existing body of literature and offer valuable implications for policy formulation, educational practice, and future research in the field of digital literacy in early childhood education. While the significance of digital literacy in ECCE is well-established, and various global initiatives have been explored, there remains a critical need for research that addresses the localized efforts and challenges in regions such as Kecamatan Sukasari, Bandung. This study aims to fill that void, offering a nuanced understanding of the strategies employed by ECCE institutions to enhance digital literacy among PAUD educators, the challenges faced in these endeavors, and the outcomes achieved, thereby making a significant contribution to the field.

METHOD

This study employs a qualitative research approach, utilizing the case study method to comprehensively explore the initiatives undertaken by Early Childhood Care and Education (ECCE) institutions in Kecamatan Sukasari, Bandung, to enhance the digital literacy of PAUD educators. Selection of the four ECCE institutions was strategic, anchored on criteria that ensured a rich and varied data set. These institutions were primarily chosen for their proactive engagement in digital literacy initiatives and represented a range of resources and access to digital technology, thus allowing for an exploration of different environmental impacts on digital literacy approaches. Additional considerations for selection included the institutions' willingness to participate and their location within Kecamatan Sukasari.

The participant cohort comprised educators and administrators from the selected ECCE institutions, selected purposively to obtain in-depth insights into digital literacy initiatives and their perceived effectiveness. The data collection process was multi-faceted, involving semi-structured interviews, document analysis, and observational methods. Interviews with educators and administrators were pivotal in capturing experiential narratives and institutional strategies. Document analysis of training materials, curriculum outlines, and digital literacy program descriptions provided a complementary layer of data. Observations in classroom settings and during training sessions enriched the contextual understanding of the practices in place.

To ensure the reliability and validity of the data collection instruments, a rigorous validation process was undertaken. The interview guides and observational checklists were reviewed by a panel of experts in the field of early childhood education and digital literacy. Their feedback was instrumental in refining the questions and observation parameters to enhance clarity, relevance, and comprehensiveness. A pilot test was also conducted with a small sample of participants from an institution similar to those in the study, which provided an

opportunity to refine the data collection instruments further and ensure their effectiveness in eliciting rich, meaningful data. Data analysis was conducted through thematic analysis, a systematic method for identifying, analyzing, and reporting patterns within the data. This involved a meticulous process of coding and thematic development, instrumental in interpreting the findings in relation to the research questions and the broader discourse on digital literacy in early childhood education. Ethical considerations were of paramount importance throughout the research process. Informed consent was obtained from all participants, ensuring that confidentiality and anonymity were upheld, thereby maintaining the integrity of the study.

RESULTS AND DISCUSSIONS

From the empirical data it is found that Early Childhood Care and Education (ECCE) institutions have made concerted efforts to enhance the digital literacy of early childhood educators, recognizing its critical role in modern pedagogy. These efforts have been multifaceted, encompassing professional development, the integration of technology in teaching, collaborative learning initiatives, parental engagement, and leadership support. Professional development initiatives have been a cornerstone of these efforts. ECCE institutions have actively encouraged educators to pursue independent learning to enhance their digital literacy. Additionally, they have involved educators in workshops, training, seminars, and other formal learning opportunities. As one interviewee noted, "Encouraging teachers to learn independently and seek knowledge about enhancing digital literacy" has been pivotal, alongside "Involving educators in workshops, training, seminars, and other formal learning opportunities about digital literacy."

The integration of technology into teaching practices has been another critical effort. Educators have been encouraged to use various media, such as laptops, mobile phones, and radios, as well as applications like Canva, e-books, YouTube, and KineMaster. This effort is encapsulated in the interviewee's remark,

"Using media such as laptops, mobile phones, and radios as well as applications like Canva, e-books, YouTube, and KineMaster." Fostering collaborative learning through the establishment of learning communities or clusters has facilitated knowledge exchange and mutual learning among educators. This is evidenced by the initiative to "Establish learning communities or clusters as a means of collaboration" (Interviewee 3). Moreover, engaging parents who possess digital literacy skills in educational activities has enriched the learning environment, as indicated by efforts to involve "Parents who possess digital literacy skills in educational activities" (Interviewee 4). Leadership within ECCE institutions has also played a pivotal role in supporting and motivating educators to adapt to evolving technology trends. Leadership's role in "Providing support and motivation to educators to keep up with current technology trends" (stated by interviewee 1) has been instrumental in driving change.

The outcomes of these efforts have been notably positive. Educators have demonstrated improved teaching methods, incorporating technology to make learning more engaging and effective. This is reflected in the observation and interview result that "There is a positive change from teachers when teaching with better learning media according to technology" (interviewee 2). Educators' increased creativity and resourcefulness, utilizing available materials innovatively, have also been significant, as highlighted by the fact that "Teachers are more creative with easy, affordable, and enjoyable materials available in the institution's environment and explore further their abilities with extraordinary ideas" (interviewee 1) The integration of technology in teaching has led to better engagement and understanding among students. This is evidenced by the remark, "Definitely, there is a change that makes it easier for teachers to teach children because children understand faster what is conveyed when they see and hear" (interviewee 3). Moreover, educators have shown adaptability to technological trends, ensuring they remain skilled in digital literacy, as one interviewee aptly put it, "Facing technology trends and ensuring teachers remain skilled in digital literacy

requires a willingness to learn digital knowledge and technology according to the teacher's ability."

The research findings shed light on the multifaceted efforts made by Early Childhood Care and Education (ECCE) institutions to enhance teachers' digital literacy, revealing new knowledge and best practices in the field. These efforts are synthesized as follows:

1. **Professional Development Initiatives.** ECCE institutions prioritize continuous professional development to keep educators abreast of the latest digital tools and pedagogical approaches. Workshops, seminars, and training sessions are common platforms used to bolster educators' digital literacy. This proactive approach underscores the importance of lifelong learning and adaptability in the ever-evolving digital landscape. Current research underscores the necessity of continuous professional development in digital literacy. Studies emphasize that effective professional development programs are key to equipping educators with the skills needed to integrate technology into their teaching practices. Such as the work of Aldosemani (2019) which found that effective professional development programs should provide teachers with continuous and just-in-time support as they implement technology into their classrooms, addressing the implementation dip and enhancing student learning. Effective professional development programs can enhance teacher educators' knowledge of technology-integrated teaching, facilitating their effective use of technology in teaching (Nurhayati, 2024).
2. **Integration of Digital Tools in Teaching.** Educators are encouraged to incorporate a variety of digital media, including laptops, smartphones, and educational applications, into their teaching practices. This integration not only enhances the learning experience for students but also allows teachers to develop a practical understanding of technology's role in education (Ghofur and Nurhayati, 2023;; Nuraeni and Nurhayati, 2023; Octaviani et al., 2023; Tasliyah et al., 2020). The integration of digital tools in early childhood education,

highlighting its positive impact on student engagement and learning outcomes (Sholihah and Nurhayati, 2024). The findings of this research align with these perspectives, demonstrating the benefits of using varied digital media in teaching.

3. **Collaborative Learning Environments.** The establishment of learning communities or clusters promotes knowledge exchange and collective problem-solving among educators. Stanca (2022) found that establishing learning communities or clusters promotes knowledge exchange and collective problem-solving among educators and facilitating knowledge transfer. These collaborative networks serve as support systems, enabling teachers to share resources, ideas, and experiences related to digital literacy. Collaborative learning environments and communities of practice among educators can enhance digital literacy by promoting interdisciplinary thinking, lateral thinking, social empathy, and extensive ideation (Rennstich, 2019). These communities allow for the sharing of knowledge and best practices, which is echoed in the research findings.
4. **Parental Involvement.** Recognizing the role of parents in early education, ECCE institutions involve digitally literate parents in educational activities. This engagement creates a more holistic learning environment and reinforces the digital literacy concepts taught in the classroom. Studies have showed the importance of collaboration between parents and school to achieve high quality early childhood education learning (Latif et al., 2023; Nurhayati, 2021; Nurhayati et al., 2023; Suharyat et al., 2023). The involvement of parents in digital literacy initiatives is supported by research, indicating that parental engagement can significantly enhance the effectiveness of digital literacy education (Gonzalez-DeHass et al., 2022). Moreover, Karinta (2022) found that Parents' understanding of digital literacy and ethics as a provision for their children's education at home is in the high category, indicating their involvement in digital literacy initiatives. The research findings corroborate

this, showing the positive impact of involving digitally literate parents in educational activities.

5. **Leadership Support.** Institutional leaders play a crucial role in driving the digital literacy agenda. By providing support and motivation, leaders ensure that educators have the necessary resources and encouragement to pursue digital literacy actively (Musa et al., 2022; Rohman and Nurhayati, 2023; Rukanda and Nurhayati, 2023). The role of leadership in fostering an environment conducive to digital literacy development is critical (Cortellazzo et al., 2019). Institutional support and motivation from leaders are essential for driving digital literacy initiatives, which is consistent with the findings of this research.
6. **Creativity and Resourcefulness.** Teachers are encouraged to be creative and resourceful in their use of digital tools and materials. This approach fosters innovation and allows educators to tailor their digital literacy practices to the unique needs and interests of their students such as what have been found by Ghofur and Nurhayati (2023), Nuraeni and Nurhayati (2023), and by Marsegi et.al (2023). Moreover, Silber-Varod (2019) emphasizes the importance of creativity and innovation in teaching as they are a key component of digital literacy competencies. The research findings align with this perspective, showcasing how educators are encouraged to be creative and resourceful in using digital tools and materials.
7. **Adaptability to Technological Trends.** ECCE institutions emphasize the importance of staying current with technology trends. Educators are encouraged to continually learn and adapt, ensuring their digital literacy skills remain relevant and effective. The need for educators to remain adaptable and up-to-date with technological trends is a recurring theme in contemporary research such as in the study conducted by Musa et al (2022) and Nurhayati (2020). The findings from this research resonate with this idea, highlighting the importance of adaptability in maintaining relevance and effectiveness in digital literacy education.

CONCLUSION

In conclusion, the efforts made by ECCE institutions have been comprehensive and multi-dimensional, leading to substantial improvements in educators' digital literacy and teaching practices. These efforts have been corroborated by the positive experiences and observations of the educators themselves, as evidenced by their testimonies. The continued commitment to these efforts is essential to sustain and further enhance the digital literacy competencies of early childhood educators. The research findings contribute new knowledge to the field of early childhood education by highlighting the comprehensive and dynamic strategies ECCE institutions employ to enhance teachers' digital literacy. These strategies not only improve educators' digital competencies but also positively impact teaching methods, student engagement, and the overall quality of education. The findings underscore the necessity of a holistic, supportive, and adaptive approach to digital literacy in early childhood education.

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