Impact of Digital Media on Social-Emotional Development in Early Childhood: A Case Study at TK Kartika XX-46 Kendari

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Abstract
This qualitative study explores digital media’s impact on children’s social-emotional development at TK Kartika XX-46 Kendari, particularly emphasizing its educational utility and influence on educators’ motivation and teaching efficacy. Employing a multi-phase approach involving planning, implementation, and assessment, the research reveals that digital media positively affects children’s social-emotional growth, as evident through heightened enthusiasm and positive behaviors like empathy. The study also discovered an enhancement in educators’ motivation and diversification in teaching methods. Initial limitations, such as low digital literacy among teachers and insufficient infrastructure, have been progressively mitigated through concerted efforts involving multiple stakeholders. In a broader context, these findings offer valuable implications for educational practices and public policy by laying the groundwork for future research to refine pedagogical strategies. The study’s limitations include its restricted scope, which is confined to one educational institution. Future studies should investigate varied educational settings and examine the complex effects of different digital platforms on children’s social-emotional development.

Introduction
Social and emotional development in early childhood has emerged as a critical issue of relevance to the world, the field of Education, and society at large. Research on this topic is significant because social and emotional aspects profoundly influence the character and personality of a child in the long term (Kadarharutami, 2011). This, in turn, contributes to the formation of high-quality individuals and community members. The rapid brain development between the ages of 0-6 years, which comprises 80% of the adult brain, underscores the importance of educational interventions during this stage (Suyadi, 2016). Consequently, understanding and intervening in early childhood’s social and emotional development is urgently necessary.

A considerable body of research exists regarding the importance of early childhood education. For example, this period is often called the “Golden Age,” which allows children to explore their intellectual potential, creativity, and attitudes to the fullest extent (Watini, 2020). However, children require substantial adult stimulation to achieve optimal development (Green et al., 2020). At ages 5-6 or in kindergarten group B, children are being prepared for elementary school and require enhancements in both physical and non-physical aspects (Budiarti, Farista, et al., 2022). Moreover, Erik Erikson emphasized the importance of emotional development involving various feelings, ranging from fear to curiosity (Masitoh dkk, 2004).

A child’s social competence can be assessed by their kindergarten teachers, who observe numerous instances where children must manage relationships with peers and adults. School settings offer opportunities to keep a child’s interpersonal abilities as they collaborate with
others to complete daily tasks and resolve conflicts. Such skills are crucial for successful early
development in the classroom (Jones et al., 2015). Even as society continues to address
modifiable causes of early childhood difficulties, attention must be given to creating positive
experiences that reflect and foster resilience within children, families, and communities (Bethell
et al., 2019).

While varying among individuals, social-emotional development in early childhood plays
a critical role in determining future life outcomes (Amka, 2014). Though often simplistic, the
distinction between cognitive and non-cognitive skills reveals the need for a holistic educational
approach (Jones et al., 2015). Non-cognitive factors such as self-regulation and social skills
collaborate with cognitive skills to determine academic and professional success (Duckworth &
Schoon, 2010). In this context, digital-based learning offers a flexible and adaptive medium to
facilitate the development of social-emotional skills in alignment with cognitive skills. Therefore,
integrating digital-based methods in early childhood education is relevant and crucial for
nurturing a comprehensive set of skills, as Farrington et al. (2012) outlined in their educational
research (Berger et al., 2012).

In the era of globalization and the Industrial Revolution 4.0, paradigm shifts have occurred
in education, including early childhood education, due to rapid advancements in Information
and Communication Technology (ICT). Educators, therefore, must adapt, and digital-based
learning can serve as one solution to enhance the quality of teaching competencies and
improve children's learning experiences through educative and inspirational games (Sukmawati
et al., 2022). According to Munir (2017), digital-based learning involves the innovative use of
digital tools and technology during the teaching and learning process, also referred to as e-
learning. Teachers play a highly respected role in the success of educational learning (Cohen et
al., 2009). While children may have different habits at home, when they attend school, they
should be able to follow the instructions provided by the teacher (Kuswanto et al., 2023).

Based on the preceding discussion, the significance of cultural change and technological
advances in young children's social-emotional development is a crucial aspect that influences
their future psychological well-being and social interactions. In today's digital age, digital-based
learning is an effective tool for facilitating this development. Digital technologies, such as
educational applications and interactive platforms, can be customized to stimulate social-
emotional skills, including empathy, emotion recognition, and stress management (Tu et al.,
2021). Moreover, using digital media in education allows children to interact in a broader social
environment, thereby aiding them in understanding and appreciating diversity (Zastrow et al.,
2019). Therefore, integrating digital-based learning methods in early childhood education holds
significant potential for enriching social-emotional development.

Previous research needs to adequately focus on methods for social-emotional
development through digital-based education, especially in early childhood education. The
paradigm shift resulting from the Industrial Revolution 4.0 has urged educators to adapt to more
modern learning approaches, such as digital learning (Sukmawati et al., 2022; Munir, 2017;

While numerous studies have explored these aspects, gaps and unresolved controversies
remain. For instance, preschool teachers often assess children's social competencies, who may
need help to observe all facets of a child's interpersonal abilities (Jones et al., 2015). Additionally,
individual differences related to genetic and psychological factors influence children's pace and
manner of social-emotional development (Amka, 2014).

The present study focuses on Social-Emotional Development Through Digital-Based
Learning in Group B of TK Kartika xx – 46 Kendari. This study aims to fill research gaps by
considering the application of technology in children's social-emotional development. It is
anticipated that the findings of this study will provide new insights and contribute to the field
**Methods**

This study employs a qualitative research design analyzed through a descriptive approach, enabling a comprehensive interpretation of the findings (Creswell & Guetterman, 2019). The research explicitly targets children in groups B1 and B6 at Kartika XX-46 Kindergarten in Kendari. Each group consists of 20 children, comprising both boys and girls. Data collection was conducted through direct observation in the school setting, where the researcher actively participated in instructional activities throughout the study. To obtain additional data, semi-structured interviews were conducted with the children, their parents, classroom teachers, and the school principal. The data collection was primarily facilitated through participatory observation and semi-structured interviews. No specialized equipment or technology was used in this study.

Data were collected using direct observation and semi-structured interviews. These two methods were chosen to ensure a more comprehensive and multi-dimensional understanding of the phenomenon under investigation. The analysis employed triangulation techniques, integrating data from observations and interviews to strengthen the study’s credibility, accuracy, and reliability. To establish the reliability and validity of the research, triangulation was utilized as the primary analytical technique, confirming findings from multiple sources to reach more accurate, credible, and reliable conclusions (Sugiono, 2013).

**Result**

3.1. **Planing**

Instructional activities in groups B at Kartika XX-46 Kindergarten in Kendari typically commence with the development of a daily lesson plan (RPPH), which serves as a guideline for educators on what to teach and how to technically execute the lessons, including the selection of digital media to be used. Field observations and document reviews revealed how teachers prepare lesson plans, including the concepts and required materials, and the digital application features most commonly used because they are favored by the children, making instructional activities more effective.

![Figure 1. Learning Activities by utilizing digital media.](image)

The implementation of digital-based learning in groups B at Kartika XX-46 Kindergarten has been ongoing for several years, particularly since 2019, when the COVID-19 pandemic struck, mandating remote learning. The utilization of digital media has thus expanded, being used for storytelling and other instructional activities. The digital media deployed for fostering social-emotional development in children at Kartika XX Kindergarten include laptops, projectors/LCDs, projector screens, smartphones, and educational content delivered through videos. The details of the digital-based learning are presented in the table below:
Table 1. Digital-Based Learning at TK Kartika XX – 46 Kendari

<table>
<thead>
<tr>
<th>Group</th>
<th>Media Used</th>
<th>Duration</th>
<th>Material</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1</td>
<td>Laptop, LCD/Projector, Projector Screen, Speaker</td>
<td>60 minutes / two sessions</td>
<td>Educational videos, storytelling of prophet tales, stories of heroism, inspirational stories for children</td>
</tr>
<tr>
<td>B6</td>
<td>Laptop, LCD/Projector, Projector Screen, Speaker</td>
<td>60 minutes / two sessions</td>
<td>Educational videos, storytelling of prophet tales, stories of heroism, inspirational stories for children</td>
</tr>
</tbody>
</table>

Educators have carefully designed the learning process based on observations at Kartika XX Kindergarten in Kendari. This occurs at the end of each instructional day after the children have returned home. Educators engage in peer discussions, guided directly by the school principal, to evaluate daily lessons and prepare more thoroughly for the next day’s instruction. The planning is supported by various learning media that effectively stimulate optimal social and emotional growth and development.

3.2. Implementation

Technology in education has become imperative for adapting educational systems to the ongoing advancements in digital technology. Among its myriad benefits are facilitating communication in the teaching and learning process, enhancing educational resources, and improving the quality of instruction (Kemendikbud, 2003). Digital media provide opportunities for students to receive instruction from teachers and observe, practice, and present (Kurniasih, 2019).

The initial implementation of digital-based learning media at TK Kartika XX Kendari faced several challenges. These included limited access to information, a lack of digital literacy among educators, and inadequate infrastructure compounded by insufficient internet connectivity. However, as technology has evolved, these issues have been progressively resolved. In daily practice, digital media are incorporated into various learning activities, as illustrated in the following table:

Table 2. Social-Emotional Learning in Children at TK Kartika XX-46 Kendari

<table>
<thead>
<tr>
<th>Learning Themes</th>
<th>Learning Material</th>
<th>Teaching Techniques</th>
<th>Learning Outcomes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Pancasila</td>
<td>Faith in God, Community Cooperation, Helping Others</td>
<td>Critical Thinking, Tolerance</td>
<td>Educational Video on Pancasila</td>
</tr>
<tr>
<td>Classroom Rules</td>
<td>Personal Hygiene, Classroom Cleanliness, Proper Waste Disposal</td>
<td>Classroom Rule Presentation, Personal and Classroom Cleaning (via Video)</td>
<td>Children start to appreciate cleanliness, dispose of waste properly, and attend school punctually</td>
</tr>
<tr>
<td>Helping Friends</td>
<td>Providing Aid to Sick Friends</td>
<td>Demonstrative Aid Provision (via Video)</td>
<td>Observable expressions of empathy and seriousness</td>
</tr>
</tbody>
</table>
The initial implementation of digital-based learning media at TK Kartika XX Kendari faced numerous challenges, including limited access to information, low levels of digital literacy among educators, inadequate infrastructure, and network limitations. However, these issues have been incrementally resolved through the collaboration and collective efforts of stakeholders, including the school administration, teachers, and parents.

Social-emotional development is a critical aspect of a child's sensitivity to understanding the feelings of others in daily interactions. Therefore, social development must involve emotional components, and the two are inseparable in a child's overall development. Educational and inspirational materials can potentially foster positive social-emotional behavior in children. This is evidenced by children exhibiting increased enthusiasm, asking more questions, and providing feedback in learning settings that employ digital media. Conversely, in non-digital learning environments, especially among group B children, there is a tendency for laziness, crying, and a focus on solitary play, among other behaviors. According to child psychology experts and early childhood education observers, the development of a child's social-emotional behavior is an aspect that should not be neglected by parents at home and preschool educators in schools.

Data obtained from this study indicates that, in the initial stages, children generally reach the predetermined levels of social-emotional development. They can assimilate into different learning environments, exhibit happiness and interest in audio-visual materials, pay attention to adults by showcasing their learning experiences, and comply with classroom rules. In the subsequent stages, they display proper manners and courtesy and exhibit cooperative and enthusiastic participation in lessons.

3.3. Evaluation

Developing a child's social-emotional capabilities is a long-term process that often encounters obstacles. Consequently, continuous development is essential to equip each child to overcome life's challenges. Social-emotional intelligence needs ongoing enhancement from parents and early childhood educators to help children become more self-confident and resilient against various emotional pressures. Classroom-based digital learning, using child-friendly software containing exemplary or educational material, can improve both the quality of teaching and student learning.

The positive impact of digital media implementation is also felt by educators, motivating them to utilize digital media in teaching to mitigate boredom and enhance educational quality. This study found that using digital media at TK Kartika XX Kendari can assist teachers in providing stimulation and motivation for Group B children. It also adds variation to teaching methods, preventing student boredom during learning.

Overall, implementing digital-based learning at TK Kartika XX Kendari initially faced various challenges, particularly the limited availability of digital devices. Additionally, human resource development among educators, especially those aged above 45, needs significant improvement to utilize digital technology effectively. Evaluations are conducted monthly to build a sustainable tradition, allowing us to understand our starting point and the goals we aim to achieve.

Discussion

This study explores the impact of digital media utilization on children's social-emotional development, particularly within its effectiveness in the educational environment of TK Kartika XX-46 Kendari. This focus is pertinent to contemporary educational issues and underscores the necessity of understanding how technology influences child development's social and emotional facets. Previous research has examined various aspects of digital media in early childhood education, including its impact on social-emotional development (Bai et al., 2022; Denham et al., 2020; Zhou et al., 2022). However, this study aims to delve further into how
specific digital media utilization can influence educators’ motivation and the quality of teaching. Thus, this research contributes significantly to the existing literature.

The main findings of this study offer substantial insights into the benefits of digital media use in early childhood education. Specifically, a notable enhancement in children’s social-emotional development was evidenced by empathy, punctuality, and cleanliness. Furthermore, educators’ choice to use children’s most favored digital features made learning activities more effective. This effectiveness indicates that the proper pedagogical technological choices can impact children’s learning outcomes. These findings also offer insights into designing and implementing more effective digital-based learning activities.

Additionally, the research findings underscore the highly effective implementation of digital media in instructional settings. The tools and materials used were simple and often employed in various activities, such as laptops, projectors, smartphones, and educational content through audio-visual media. These resources positively influenced the social-emotional development of children. The implemented digital media, including laptops, projectors, smartphones, audio-visual materials, classroom rules, and story animations with accompanying songs, were highly influential in stimulating children’s social-emotional development.

Social-emotional development in early childhood is urgently needed, especially in today’s digital era (Soniyatul et al., 2023). While digital technology has the potential to facilitate this development, emerging issues cannot be overlooked. As elucidated by Budiarti (2022), digital literacy is vital in technology implementation since it can be a double-edged sword. Digital technology can effectively enrich children’s social-emotional education (Jumiati et al., 2022). However, unrestricted or unguided use poses a risk of negative impacts.

Educators face challenges in balancing individual and collective development in child education. As Powell (2010) noted, the digital world offers opportunities for more personalized approaches, which must be balanced with the need to cultivate interpersonal skills and collectivism. The utilization of technology in learning must be carefully designed to ensure that it promotes not just individual skills but also collective aspects like sharing and cooperation (Sukmawati et al., 2022).

Developing a child’s social behavior encompasses modifying the child’s conduct to align with self-directed and external expectations. Concurrently, the development of emotional behavior represents a facet of a child’s intelligence that involves the engagement of feelings and emotions in articulating desires and comprehending oneself and others. Childhood experiences primarily unfold within the family context. Social and emotional skills emerge at birth, and early experiences shape how children begin to understand their world and themselves (Rahma et al., 2018). Brain development continues throughout our lives, providing further opportunities to alter neural pathways for healthier growth and revealing significant changes in the human brain as we age (Sege et al., 2017).

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Interestingly, the findings of this study both corroborate and extend the results of previous research. For example, the study by Zhou et al. (2022) demonstrates the efficacy of WeChat-based professional learning communities in enhancing shared practices and relationships among educators. This research adds further insight by illustrating how digital media, as employed in TK Kartika XX-46, directly impacts children’s social-emotional development. Moreover, compared to earlier studies focusing on educators or technical design (Bai et al., 2022; Denham et al., 2020), this research broadens the scope by examining the impact on children as the end-users of this digital media.
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In the context of early childhood social-emotional development, the utilization of digital media presents a series of dilemmas. Rahmadani (2022) highlights the ambivalent effects of the TikTok app, which, while potentially damaging to children's morality and attitudes, can also stimulate motor development and social interaction skills. Consistent with Rahmadani's findings, using digital media for educational purposes offers advantages and limitations. On the one hand, digital media has proven effective in stimulating specific aspects of social-emotional development, as evidenced by research by Tatminingsih (2019). Technologies like laptops, projectors, and audio-visual content can serve as educational tools that positively impact children's social-emotional growth. Furthermore, integrating these methods into the educational system is supported by various parties, including parents and educators.

On the other hand, valid concerns exist about the adverse effects of digital media. As Rahmadani (2022) revealed, exposure to apps like TikTok could compromise children's morals and result in undisciplined and disrespectful behavior. Limited school facilities also pose logistical obstacles to implementing these methods, adding to pre-existing ethical and psychological challenges.

Therefore, when contemplating the implementation of digital media as an educational tool, a balanced approach is essential. Stricter regulations on accessible content for children may be needed, along with a more structured curriculum that employs digital media ethically and pedagogically effectively. It is also critical to be vigilant about potential hindrances. While digital media offers various benefits, its implementation comes with challenges. For instance, limited access to information resources, low levels of digital literacy among some educators, and insufficient infrastructure can act as barriers to the utilization of digital media. Moreover, excessive exposure to digital media can also harm children's social-emotional development (Nabi & Wolfers, 2022).

In a broader context, these findings offer crucial implications for educational practices and public policies. By understanding how digital media can be effectively integrated into education to support children's social-emotional development, educators, researchers, and policymakers have an opportunity to design and implement more inclusive and effective pedagogical approaches. Overall, this discussion provides a comprehensive analysis of the benefits and
challenges of utilizing digital media in early childhood education. These findings serve as a foundation for further research and educational practice, focusing on the holistic development of children, encompassing both social and emotional aspects.

Conclusion
The primary aim of this qualitative research study was to examine the impact of digital media on the social-emotional development of children at TK Kartika XX-46 Kendari, focusing on its educational implementation and influence on educators’ motivation and teaching quality. The findings reveal that digital media, particularly educational videos and interactive sessions, has significantly bolstered children's social-emotional development, evidenced by increased enthusiasm, meaningful engagement, and development of positive social-emotional behaviors such as empathy. These outcomes benefit the students, enhance educators’ motivation, and diversify teaching methods. In the broader context, these findings offer critical implications for educational practices and public policy, suggesting that understanding how digital media can be integrated effectively into educational settings can inform more inclusive and effective pedagogical approaches. However, limitations include the study's restricted scope to a single institution and initial challenges related to digital literacy and infrastructure. Future research should expand the investigation to diverse educational settings and delve into the nuanced effects of different digital platforms on social-emotional development, given the critical role of ongoing evaluations in shaping effective educational practices that cater to holistic child development.

Declarations
Author contribution statement
Erna Budiarti conceptualized the ideas initially presented by Sitti Yasmin Adar and further developed them by instructing Sitti Yasmin Adar to collect field data as research objects. Subsequently, verification of analytical methods was carried out. Both authors engaged in discussions to produce the final manuscript.

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Data availability statement
The dataset generated and analyzed during this study is available from the corresponding author upon reasonable research request.

Declaration of Interests Statement
The authors declare that they have no competing financial interests or personal relationships that could have influenced the work reported in this paper.

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