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DIGITAL PARENTING IN STIMULATING EARLY CHILDHOOD COGNITIVE DEVELOPMENT

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Abstract

Digital technology has a significant impact on the lives of young children, particularly on their cognitive development. The use of digital devices offers various positive contributions, such as enhancing thinking skills, stimulating creativity, and providing access to interactive learning resources. However, uncontrolled use and the absence of parental supervision may lead to negative consequences, including decreased concentration, gadget dependency, delays in language development, and reduced social interaction. This study employs a literature review method to analyze digital parenting strategies in optimizing the cognitive development of early childhood. The findings indicate that effective digital parenting involves active communication, setting clear boundaries for digital device use, selecting age-appropriate educational content, and providing accompaniment through restrictive mediation, co-viewing, and active mediation approaches. These strategies are proven to enhance cognitive stimulation while minimizing the risks associated with digital technology. Thus, digital parenting serves as an essential approach in supporting early childhood cognitive development and helping children adapt positively to the digital era.

Keywords: *digital parenting, cognitive development, early childhood, digital technology*

Abstract

The development of digital technology has a significant impact on the lives of early childhood, particularly in cognitive development. The use of digital devices can provide positive benefits in the form of improved thinking skills, creativity, and access to interactive learning resources. However, uncontrolled use and minimal parental guidance can potentially lead to negative impacts, such as decreased concentration, gadget dependence, and obstacles to language development and social interaction. This study used a literature review method to analyze digital parenting strategies to optimize the cognitive development of early childhood. The results show that effective digital parenting includes active communication, setting limits on digital device use, selecting educational content, and parental guidance through a nurturing approach.*restrictive mediation*, *co-viewing*, And *active mediation*This strategy has been proven to improve the quality of cognitive stimulation while minimizing the negative risks of digital technology. Thus, digital parenting is a crucial approach to supporting early childhood cognitive development so they can thrive adaptively in the digital age.

Keywords:digital parenting, cognitive development, early childhood, digital technology

INTRODUCTION

In the digital era, gadget use has become an inseparable part of everyday life. Children, as part of society, are also not immune to the influence of technology

(Fijriani, 2025). Gadget use among young children has been widely found throughout Indonesia. This is in line with BPS data, which states that the number of gadget use among young children in 2024 stated that 39.71% of children in Indonesia had used mobile phones and 35.57 percent had access to the internet. Based on this data, it can be seen that gadgets are widely used by young children.

In the digital era, gadgets can have both positive and negative impacts on children's growth and development (Rahayu Z et al., 2022). The positive impact of gadget use is that it can increase children's knowledge and prepare them to adapt to the digital era where technological developments are increasingly rapid. Gadgets can be used as a learning medium for children, so the positive impact of gadget use can help children's thinking skills and intelligence. Indirectly, gadgets can support the cognitive development of early childhood (Afifah Shibgohtullah & Furrie, 2024). Furthermore, gadget use is beneficial for helping children develop creativity and intelligence, through applications such as drawing, coloring, and writing (Ayu Dwi Anada, 2025).

Based on research conducted (Ananda et al., 2025), the negative impact of gadget use on cognitive development can be seen in children's reduced ability to focus or concentrate during lessons or during the learning process. Children tend to become dependent on gadgets, which impacts their ability to focus or concentrate while learning. Gadget use can negatively impact cognitive development in early childhood if used irregularly.

Technological advancements pose a significant challenge to parenting in the digital age. Parenting is a crucial foundation for developing children's developmental aspects in the digital age. Parents need to adapt to these developments to face the challenges of the digital age (Ikvina Maiya Shoffa & Khodijah, 2025). However, in reality, many parents lack the understanding that child development is influenced by the parenting styles they employ. In the digital age, many parents intentionally allow their young children (aged 3-6) to play with gadgets, even though they are not yet suitable for this age (Setia Ningsih, 2018). For example, research by Ermanti Lubis and Restika (2024) found that allowing children to use smartphones without parental supervision leads to children spending more time playing with gadgets, experiencing decreased concentration in learning, and showing a tendency to become dependent on digital devices.

Parents face significant challenges in raising their children in the digital age. Parents struggle to determine appropriate parenting strategies and styles. Digital parenting is about providing parents with lessons to prepare their children for technological developments, as well as educational and nurturing efforts to introduce them to the digital world (Novarossi et al., 2024). Digital parenting involves the role of parents in preparing their children for the digital age. Therefore, parents must have appropriate parenting strategies for navigating the digital era (Khaerunnisa, 2021).

Digital parenting is a parental strategy for educating children about gadget use so that it is more focused and used appropriately (Ati Nurhayati1, Kholid Suhaemi2, Peni Ramanda*, 2024). Digital parenting includes parental activities that provide clear boundaries, guide and supervise children in using gadgets (Ma'arifah, D. S., Nurhayati, S., & Rakhman, 2025). Forms of digital parenting include accompanying children when accessing the internet, providing examples and teaching wise gadget use, and diverting children's attention from gadgets by spending time playing with them. In addition, parents create time management by limiting gadget use in children, time management or "*screen time*" by limiting the time children spend using gadgets (Novarossi et al., 2024).

In the digital era, parents play a crucial role in ensuring that technology is used wisely. Digital parenting is a strategy parents employ by actively assisting their children when using gadgets for learning (Pratama, 2022). Children who receive optimal parental support tend to have strong social, cognitive, and emotional skills. This demonstrates the need for parents to possess digital parenting skills and digital literacy skills to support their children's development (Yansyah et al., 2025).

Jean Piaget's theory of cognitive development states that early childhood is in the preoperational stage, when children begin to use symbols and language to understand the world around them. At this stage, for children to optimally develop cognitive abilities, stimulation from adults, especially parents, is essential. Responsive parents who actively engage children in dialogue and provide educational games can enrich children's cognitive experiences. Vygotsky also emphasized the importance of social roles and interactions, where parents can serve as a center of the child's zone of proximal development (ZPD). Therefore, active parental involvement will accelerate early childhood cognitive development (Supriadi, 2020: 118 in (Azzahra & Tua, 2024).

In the context of current technological developments, the concept of parental involvement can be applied through digital parenting, a method where parents guide, guide, and accompany their children in using digital devices. Through digital parenting, parents act not only as supervisors but also as facilitators of digital learning, stimulating children's cognitive abilities.

This study aims to provide readers, particularly parents and educators, with knowledge about strategies for implementing digital parenting in developing the cognitive aspects of early childhood. This study not only seeks to illustrate the important role of parents in accompanying children in the digital era, but also aims to provide practical knowledge and strategies for parents in utilizing technology wisely, so that the use of digital media can be a learning tool that supports thinking, language, and problem-solving skills in early childhood. This study seeks to describe how the appropriate implementation of digital parenting can be a means of cognitive stimulation through the use of digital media that is educational, interactive, and appropriate to the child's developmental stage. Thus, this study is expected to contribute to the understanding and practice of digital parenting patterns that support children's intellectual growth in the digital era.

RESEARCH METHODS

This research uses the SRL method (*system literature review*) with a descriptive qualitative approach. This approach was chosen to gain a deep understanding of digital parenting in stimulating the cognitive development of early childhood. Data collection was conducted through searching various scientific literature sources, such as national and international journal articles, books, and research reports relevant to the study topic. The literature search process was carried out using databases such as Google Scholar, Publish and Perish, and national journal portals, with the keywords "digital parenting", "cognitive development", "early childhood", "digital technology". The obtained literature was then selected purposively based on the following criteria: relevance to the research topic, recency (published in the last five years, 2020-2025), and the quality of scientific publications.

The collected data was analyzed using content analysis techniques (*content analysis*) qualitatively. The analysis was conducted through several stages: data reduction by selecting relevant literature, presenting data thematically based on the focus of digital parenting strategies, and drawing conclusions by synthesizing

findings from various sources. In this study, the researcher acted as the primary instrument, tracing, selecting, and analyzing data in depth. To maintain data validity, source triangulation was conducted.*peer review*through discussions with supervisors or colleagues, so that the results of the analysis are objective, consistent, and can be scientifically accounted for.

RESULTS AND DISCUSSION

Implementation*digital parenting*in managing the use of technology in early childhood

Digital parenting is crucial for parents to implement, given that many young children are now using and accessing digital devices. Therefore, digital parenting is a crucial aspect for parents to implement in guiding their children in using digital devices. This situation requires parents to have the ability to guide, supervise, and direct the use of digital technology to benefit their children's development and minimize the various risks that may arise from uncontrolled gadget use.

Digital parenting is the answer to the challenges faced by parents in the digital age. Children today are growing up in a digital age that requires parents to guide them in how to use technology wisely. Parents can use several key approaches to digital parenting, including (Mistiani, 2024):

a. *Restrictive mediation*or restrictions.

Parents restrict children's access to digital technology, such as limiting the time spent using digital technology and restricting access to digital devices altogether. This approach aims to protect children from the negative impacts of digital technology, such as inappropriate content, addiction, or other negative influences. In the field of online safety, Mascheroni et al. emphasize the need for a balance between protection and empowerment. Excessive restrictions can hinder the development of children's digital skills, while insufficient supervision can increase the risk of exposure to harmful content.

b. *Co-viewing/co-using*or Shared use

Using digital technology together, such as watching videos together, playing games*game*Together, parents are always present when children are using digital devices. This approach aims to build closer relationships between parents and children and offer children positive experiences using digital technology.

c. *Active mediation*or active approach

Parents are actively involved when their children use digital devices. Parents accompany their children when using digital technology, providing explanations and guidance on safe and responsible use. This approach aims to provide children with an understanding of the risks and benefits of digital technology (Mistiani, 2024)..

d. Parental communication and involvement

Parents establish open communication with their children about technology use. Good communication makes it easier for parents to understand their children's activities when using digital devices and provide appropriate guidance for their children in using them. This can build trust and a strong relationship between parents and children (Mauluddia & Yulindrasari, 2024).

e. Setting limits and rules for using digital devices

Setting limits on digital time and regulating children's technology use should be clear and consistent, including the types of content permitted. These limits should be tailored to the child's age and developmental level (Ananda et al., 2025). Parents should involve children in the rules they create, provide clear consequences for breaking them, and consistently enforce them. This ensures children understand the agreed-upon boundaries.

f. technology as a learning tool at home

Parents control the content their children are allowed to access. They determine what content their children are allowed to access to ensure it supports their intellectual development. Parents ensure that the content their children access is educational and creative. For example, apps that introduce the alphabet, the hijaiyah letters or counting, learning ablution and prayer, and others (Sumarni, 2022).

An effective digital parenting strategy involves parents actively monitoring and selecting appropriate content for their children. Parents need to closely monitor their children's use of digital technology. Selecting educational content can stimulate children's cognitive development. This approach aims to control children's exposure to inappropriate content and guide them in choosing content that is educational and beneficial for their learning and personal development.

Children who are optimally supported by their parents tend to have strong social, cognitive, and emotional skills. This suggests that parents must possess digital parenting skills and digital literacy skills to support their children's development.

Children who are actively guided and supervised by their parents will help them understand the boundaries and consequences of their behavior (Yansyah et al., 2025).

This is supported by research conducted by (Afifah Shibgohtullah & Furrie, 2024), which shows that the use of technology in learning can provide positive benefits for children's development, fostering holistic critical and creative thinking skills. Their research found that digital parenting strategies applied to childcare in the digital era help develop cognitive aspects in early childhood.

The role of digital parenting in stimulating the cognitive development of early childhood

Digital parenting is crucial for ensuring children use technology safely and positively. Effective digital parenting strategies to address the challenges of the digital era can be implemented by parents to help young children experience the positive benefits of digital devices. Various studies have shown that the use of digital devices, when properly supervised and accompanied, can support the development of thinking skills, enhance creativity, and expand children's access to diverse learning resources (Afifah Shibgohtullah & Furrie, 2024). Furthermore, targeted use of gadgets can also be a means of stimulating cognitive development in early childhood (Ilmu et al., 2024).

Digital technology has significantly impacted the lives of children in the modern era. While it offers many benefits, it can also present risks and challenges that must be addressed. Below are some of the positive and negative impacts of digital technology use on children.

1. The use of digital technology with parental guidance and supervision has a positive impact on children's cognitive development, including:
    a. Gaining new knowledge through social media, which provides new information (Ananda et al., 2025). Through digital devices, children can easily learn and obtain information that can develop their cognitive development.
    b. It is beneficial for developing children's imagination, mathematical skills, and problem-solving, as well as sharpening children's creativity (Komang et al., 2024). Digital devices are useful for fostering children's

imagination, which can be achieved through educational videos for children.

c. train children's thinking skills, increase children's curiosity, and train memory skills, through the videos they watch (Mauluddia & Yulindrasari, 2024).

2. The use of digital technology without parental guidance and supervision has a negative impact on children's cognitive development, including:
    a. Health disorders affect the brain's nerves. Children become lazy about thinking, learning, and writing.
    b. Decreased concentration in learning, children experience a lack of focus when studying which causes a decrease in learning achievement in children.
    c. Having a negative impact on children's eye health, radiation from gadgets has an impact on children's vision (Ermanti Lubis & Junia Restika, 2024).

Parental involvement impacts children's cognitive development. Parents act as the primary educators, providing a foundation for thinking and processing information through daily interactions (Muliawan, 2023). Therefore, to optimally benefit from technology and mitigate the negative risks of digital technology use in children, active parental involvement is essential (Mauluddia & Yulindrasari, 2024). This can be achieved through supervision, regulating the duration of digital device use, and educating children on how to use technology safely and responsibly.

CONCLUSION

The development of digital technology has positive benefits in stimulating cognitive development, but can have negative effects if its use is not directed.Digital media has been proven to enrich knowledge, improve thinking skills, facilitate creativity, and provide interactive and adaptive learning experiences tailored to children's developmental needs. However, uncontrolled use, excessive duration, and minimal parental guidance can have negative impacts such as decreased concentration, gadget dependency, impaired social interactions, and obstacles to language and academic development.

Digital parenting has emerged as an essential parenting strategy to maximize the benefits of technology while minimizing its risks. Effective digital parenting

includes active communication between parents and children, setting clear limits on digital duration and content, selecting developmentally appropriate educational media, and active support through restrictive mediation, co-viewing, and active mediation. Consistent parental involvement and strong digital literacy have proven to be key factors in creating a healthy and constructive digital environment for early childhood cognitive development.

Thus, digital parenting serves not only as a form of supervision but also as an educational tool that supports integral cognitive development. The implementation of appropriate and sustainable digital parenting strategies is necessary to enable children to grow into a technologically savvy, critical, and adaptive generation, while also protecting them from the risks of technology use in the digital age.

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