Jurnal Pendidikan Islam Vol: 2, No 3, 2025, Page: 1-5

The Impact of Gadget Use on Elementary School Students' Learning Focus in Undaan District, Kudus Regency

Supriyanto*

Yayasan Pendidikan Manbaul Huda

DOI:
https://doi.org/10.47134/pjpi.v2i3.1458
*Correspondence: Supriyanto
Email: supriantob4@gmail.com

Received: 6-02-2025
Accepted: 16-03-2025
Published: 28-04-2025

Abstract: The rapid advancement of digital technology has transformed education by integrating gadgets into elementary students' learning processes. However, concerns have arisen regarding their negative effects on students' focus. This study examines the relationship between gadget usage intensity and students' learning focus in Undaan District, Kudus Regency. A quantitative research approach was employed, utilizing surveys and Structural Equation Modeling (SEM) to analyze causal relationships. The results reveal a significant negative correlation between excessive gadget use and learning focus ($r = -0.62$, $p < 0.05$). However, academic-oriented gadget use enhances concentration, while entertainment-oriented usage diminishes it. Parental supervision moderates these effects. These findings highlight the importance of controlled gadget use and technology-integrated learning strategies. Future research should explore cross-cultural perspectives and the impact of educational policies on gadget use.

Keywords: Gadget Use, Learning Focus, Digital Education

Introduction

The rapid advancement of digital technology has significantly transformed the educational landscape. Digital devices such as smartphones, tablets, and laptops provide students with vast access to information, interactive learning tools, and educational applications (Agbo et al., 2021). However, the increasing reliance on gadgets has raised concerns regarding their impact on students' cognitive development, particularly their ability to focus on learning tasks. Excessive screen exposure has been linked to decreased attention spans, reduced comprehension, and a decline in critical thinking skills (Greenfield, 2022). Thus, understanding the effects of gadget use on learning focus is crucial for shaping effective digital learning strategies.

Research on digital learning has highlighted both positive and negative aspects of gadget use. While gadgets can enhance student engagement through interactive content, they can also serve as sources of distraction when used without regulation (McCloskey, 2022). Studies suggest that children who use gadgets primarily for entertainment purposes tend to struggle with maintaining focus in academic settings (Kim & Lee, 2023). Moreover, prolonged exposure to screen-based activities has been associated with cognitive fatigue, leading to difficulties in concentration and task completion (Chassiakos et al., 2023). These

findings emphasize the need for well-structured digital education policies that balance technology's benefits and drawbacks.

A key factor influencing the impact of gadget use on learning focus is parental supervision. Effective parental control mechanisms can help mitigate the negative effects of excessive screen time by ensuring that children use digital devices for educational rather than entertainment purposes (Smith, 2023). Previous research indicates that students with strong parental guidance on gadget use exhibit better self-regulation skills and higher levels of academic engagement (Anderson & Jiang, 2022). This underscores the importance of integrating parental supervision into digital education frameworks to enhance student learning outcomes.

This study seeks to examine the correlation between gadget use intensity, the purpose of gadget use, and the role of parental supervision in shaping students' learning focus. By analyzing these relationships, the research aims to provide empirical insights into the development of strategies for optimizing gadget use in elementary education. Additionally, the study compares findings with international research to gain a broader understanding of how digital technology affects elementary students across different educational contexts.

The significance of this study lies in its contribution to the growing discourse on digital education. As technology continues to evolve, educational institutions and policymakers must develop structured guidelines for responsible gadget use. The findings of this study are expected to inform the formulation of policies that promote balanced and effective integration of digital devices in primary education, ensuring that students benefit from technological advancements without compromising their cognitive development

Methodology

This study employs a quantitative research approach using a correlational research design to analyze the relationship between gadget use and learning focus. The research was conducted in Undaan District, Kudus Regency, targeting elementary school students as participants.

- Type of Research: Correlational research design, examining how gadget usage intensity influences learning focus.
- Object of Study: A total of 200 elementary school students were selected using a stratified random sampling technique to ensure representation across different demographics.
- Data Collection Techniques:
    - Questionnaire: Assesses the duration and purpose of gadget use, as well as the level of parental supervision.
    - Attention Tasks: Evaluates students' cognitive focus and ability to complete academic tasks effectively.

- Data Analysis:
    - Confirmatory Factor Analysis (CFA) was conducted to assess the validity of the research instruments.

- Cronbach's Alpha (> 0.7) was used to ensure the reliability of the questionnaire.
- Structural Equation Modeling (SEM) was employed to determine the strength of relationships between key variables.

- Time of Study: Data collection was conducted over six months, allowing for a longitudinal analysis to observe changes in learning focus over time.

Result and Discussion

The key findings of this study are summarized in Table 1:

Table 1. Correlation Coefficients of Key Variables

Variable	Correlation (r)	Significance (p)
Gadget Use Duration	-0.62	<0.05
Academic Gadget Use	+0.45	<0.05
Entertainment Gadget Use	-0.51	<0.05
Parental Supervision	+0.39	<0.05

Table 1 illustrates the relationship between different types of gadget use and learning focus. The findings indicate that excessive gadget use significantly reduces students' ability to concentrate ($r = -0.62$, $p < 0.05$). In contrast, academic-oriented gadget use improves focus ($r = +0.45$, $p < 0.05$), while entertainment-based gadget use negatively impacts concentration levels ($r = -0.51$, $p < 0.05$). Furthermore, parental supervision serves as a mitigating factor, helping to moderate the adverse effects of excessive screen time ($r = +0.39$, $p < 0.05$).

Discussion

1. Excessive Gadget Use and Learning Focus

The findings of this study align with existing literature on digital distractions in education (Guarnieri et al., 2024). The negative correlation between excessive gadget use and learning focus ($r = -0.62$) suggests that prolonged screen time can impair students' ability to concentrate on academic tasks. This is consistent with Katona (2021), who concluded that prolonged screen exposure reduces cognitive engagement. The cognitive overload caused by excessive gadget use may lead to mental fatigue, making it difficult for students to maintain focus during learning activities.

2. Academic-Oriented Gadget Use

On the other hand, the positive correlation between academic-oriented gadget use and learning focus ($r = +0.45$) highlights the potential benefits of technology when used for educational purposes. Gadgets can serve as powerful tools for enhancing learning experiences through interactive and engaging content (Agbo et al., 2021). For instance, educational apps and online resources can provide personalized learning experiences that cater to individual students' needs, thereby improving their concentration and academic performance.

3. Entertainment-Oriented Gadget Use

The negative impact of entertainment-oriented gadget use on learning focus (r = -0.51) underscores the risks associated with unregulated gadget use. When students primarily use gadgets for entertainment, such as playing games or browsing social media, they are more likely to experience distractions that hinder their ability to focus on academic tasks (McCloskey, 2022). This finding emphasizes the need for clear guidelines on the appropriate use of gadgets in educational settings.

4. The Role of Parental Supervision

Parental supervision emerged as a crucial factor in mitigating the negative effects of excessive gadget use (r = +0.39). This finding is consistent with research by Sood et al. (2024), which highlights the importance of parental involvement in regulating children's screen time. Effective parental supervision can help ensure that gadgets are used for educational purposes, thereby enhancing students' learning focus. Additionally, parents can play a key role in teaching children self-regulation skills, which are essential for managing screen time and maintaining academic engagement.

Educational institutions should implement digital literacy programs and screen time regulations to maximize the benefits of technology while minimizing risks. Additionally, cross-cultural research is needed to assess how educational policies impact gadget use effectiveness. Future research should explore strategies to integrate technology productively within learning environments.

Conclusion

This study confirms that excessive gadget use negatively impacts elementary students' learning focus, whereas academic-oriented usage can enhance concentration. Parental supervision plays a crucial role in mitigating adverse effects. Educational institutions should adopt structured digital learning policies and promote responsible gadget use. Future research should investigate the role of educational policies and cultural variations in shaping technology use in elementary education.

References

Agbo, F. J., Oyelere, S. S., & Suhonen, J. (2021). Scientific production and thematic breakthroughs in smart learning environments: A bibliometric analysis. *Springer*.

Anderson, M., & Jiang, J. (2022). Parental control and digital media: Impacts on child development. *Journal of Child Psychology*.

Brown, P. (2023). The psychology of attention and digital media consumption. *Behavioral Sciences*.

Carter, B. (2023). The intersection of technology and student focus: A systematic review. *Journal of Digital Learning*.

Chassiakos, Y. R., Radesky, J., Christakis, D., et al. (2023). Digital media exposure in children: Risks and recommendations. *Pediatrics*.

Davis, C., & Parker, S. (2023). Digital literacy and its role in academic performance. *International Journal of Education*.

Greenfield, P. (2022). The impact of screen-based media on children's attention span. *Developmental Science*.

Guarnieri, A., Presta, V., Laurenti, F., & Mazzei, S. (2024). The impact of digital devices on children's health: A systematic literature review. *Journal of Functional, MDPI*.

Hernandez, R. (2022). Digital technology and its effect on cognitive development. *Education & Society*.

Katona, J. (2021). A review of human–computer interaction and virtual reality research fields in cognitive InfoCommunications. *Applied Sciences, MDPI*.

Kim, H., & Lee, J. (2023). Effects of screen time on cognitive development in young children: A meta-analysis. *Educational Psychology Review*.

Lee, M., & Wong, K. (2024). The impact of online learning environments on cognitive function. *Educational Technology Research*.

Lin, Y. C., & Liu, X. (2023). Mobile learning and cognitive engagement: A comparative study. *Computers in Human Behavior*.

Loyola-Carrillo, P., Vega-Muñoz, A., et al. (2025). Studying engagement in educational settings: A mapping review on high-impact academic engagement research. *Frontiers in Psychology*.

McCloskey, M. (2022). Digital distractions: How screen time affects learning outcomes. *Computers & Education*.

Smith, J. (2023). The role of parental mediation in children's digital habits. *Educational Review*.

Sood, A., Sharma, D., & Sharma, M. (2024). Prevalence and repercussions of stress and mental health issues on primary and middle school students. *Frontiers in Psychiatry*.

Thompson, R. (2023). Balancing technology and traditional learning methods. *Journal of Education Policy*.

Walsh, J. (2024). The influence of social media on student concentration. *Journal of Educational Psychology*.

Zhou, Z., et al. (2024). Educational technology integration and student focus: A longitudinal study. *Journal of Learning Analytics*.