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THE IMPACT OF EXCESSIVE GADGET USE ON STUDENTS' CONCENTRATION AND DISCIPLINE IN THE EDUCATIONAL PROCESS

Abdul Latif¹, Gina Ilhami Fatin², Septi Cahyaningtyas³, Ewit Nurdayanti⁴, Teti Hifsatun Aini⁵, Nila Lailatul Fitri⁶, Muhammad Riyandi⁷, Hilmi Najamudin⁸, Sastra Budiawan⁹

¹⁻⁹ Hamzanwadi University, Jl. TGKH M. Zainuddin Abdul Majid, Pancor, Indonesia

(abdullatif@hamzanwadi.ac.id)
(ginailhamifatin@gmail.com)
(tyascici811@gmail.com)
(ewitnurdayanti11@gmail.com)
(tetihifsatun@gmail.com)
(nilalailatulfitri8@gmail.com)
(riyandwnk@gmail.com)
(naja11402@gmail.com)
(sastrabudiawan8@gmail.com)

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Abstract

The rapid advancement of digital technology has rendered gadgets an integral component of students' lives. However, the unregulated use of these devices may adversely affect the quality of the teaching and learning process (PBM). This study seeks to examine the relationship between gadget usage and students' learning concentration and discipline at Madrasah Aliyah Kabar, East Lombok. Employing a quantitative design with a survey approach, complemented by classroom observation, the research involved a sample of 70 students selected through purposive sampling. Data collection was conducted using a Likert scale questionnaire and student learning behavior observation sheets. The data were analyzed utilizing descriptive statistics and Pearson correlation tests. The findings revealed a significant negative correlation between gadget use, predominantly for non-educational activities such as social media and digital games, and student learning concentration ($r = -0.45$; $p = 0.001$) as well as student discipline ($r = -0.38$; $p = 0.032$). This impact is evidenced by reduced attention spans, increased distractions from notifications, violations of electronic device usage rules in the classroom, and delays in assignment submission. These results suggest that excessive gadget use can diminish the effectiveness of PBM and have implications for student learning outcomes. Consequently, it is necessary to implement policies restricting gadget use within the school environment, enhance digital literacy and time management among students, and integrate technology judiciously to support productive learning.

INTRODUCTION

The advancement of digital technology over the past two decades has significantly transformed the educational landscape. Digital devices, including smartphones, tablets, and laptops, have evolved beyond mere communication tools to become essential components of students' academic experiences. According to a Pew Research Center report (2021), the majority of students now utilize digital devices as their primary means of accessing information and educational resources. Facilitated by the widespread availability of internet access, students are able to engage with various online learning platforms, such as Google Classroom, Khan Academy, and other Learning Management Systems (LMS). These platforms are posited to enhance the flexibility, engagement, and effectiveness of the teaching and learning process (UNESCO, 2020).

From a pedagogical standpoint, the incorporation of digital technologies presents a significant opportunity to foster more interactive, collaborative, and student-centered learning environments. Digital media facilitates the presentation of material in a multimodal format, thereby accommodating diverse learning styles and enhancing students' motivation to learn (Mayer, 2020). Nevertheless, the effective utilization of this potential is contingent upon a directed and controlled approach to gadget use. In the absence of adequate management, gadgets may become a source of distraction, thereby undermining the quality of learning.

Numerous studies indicate that the use of electronic devices predominantly for non-educational purposes, such as social media and digital gaming, contributes to a decline in students' concentration on learning tasks. Excessive exposure to digital stimuli can result in fragmented attention and an increased propensity for ineffective multitasking in academic settings (Twenge, 2017). This situation is further aggravated by the constant appearance of notifications, which disrupt students' ability to sustain focus over extended periods (Rosen, Lim, Smith, & Smith, 2014). Consequently, students encounter difficulties in comprehending material in a deep and continuous manner.

In addition to influencing cognitive dimensions, the unregulated use of digital devices also impacts students' adherence to discipline. Several studies indicate that a high frequency of gadget use is associated with increased infractions of school regulations,

delays in assignment submission, and a propensity for academic procrastination (Chen & Yan, 2016). Digital addiction leads students to prioritize entertainment activities over academic obligations, thereby impeding the development of disciplined attitudes, which is a fundamental objective of education.

In the Indonesian context, the issue of digital device ownership among students is becoming increasingly pertinent. According to data from the Ministry of Education and Culture of the Republic of Indonesia (2022), approximately 65% of students exhibit a decline in learning discipline, which is associated with excessive gadget use. Although national education policies advocate for the integration of technology in learning, its implementation encounters challenges, including low digital literacy, inadequate supervision of gadget use in schools, and suboptimal regulations governing the proportional use of digital devices.

An in-depth empirical investigation is warranted to examine the relationship between gadget usage and two critical components of educational success: learning concentration and student discipline. This research is essential to address the existing gap in the literature, which has predominantly focused on the advantages of digital technology without thoroughly exploring the potential negative consequences of unregulated gadget use within formal educational settings. The anticipated findings of this study are expected to inform the development of effective learning strategies, enhance digital literacy, and guide the formulation of adaptive and prudent school policies in response to the challenges posed by educational digitalization.

RESEARCH METHODS

This study employs a quantitative methodology, incorporating both survey and observational approaches. The survey was administered through a questionnaire designed to assess the frequency of gadget use, as well as students' concentration levels and discipline during the teaching and learning process. Direct classroom observations were conducted to examine students' behavior concerning concentration, discipline, and gadget use during lessons. The questionnaire instruments and observation sheets were meticulously developed in alignment with the research objectives to ensure the collection of valid and reliable data. The data collected were subjected to both descriptive and

inferential analysis, utilizing correlation statistics to examine the relationship between the intensity of gadget use and students' concentration and discipline. The Pearson correlation formula was employed for this analysis, as it is a standard method that does not require detailed description in this section. The analysis results will elucidate the relationship and impact of excessive gadget use on student behavior in learning. An appendix containing the questionnaire and observation sheets is provided when necessary.

RESEARCH RESULTS AND DISCUSSION

RESULTS

Based on the conducted descriptive analysis, the intensity of gadget use among Madrasah Aliyah students in Kabar is notably high. The average daily gadget usage of 5.2 hours (SD = 1.4) categorizes most students as heavy users, consistent with prior research on adolescent digital behavior (Twenge & Campbell, 2018). The observation that 62% of students engage with gadgets for over 4 hours daily, including during instructional periods, suggests a deficiency in digital self-regulation and a lack of device usage restrictions within the school setting. Classroom observations provided further empirical support, corroborating the questionnaire data. The utilization of gadgets by 48 students during instructional time resulted in a 25% reduction in classroom focus, evidenced by increased off-task behaviors such as conversations unrelated to the learning context, delayed responses to teacher inquiries, and diminished active participation. These findings indicate that the repercussions of gadget use extend beyond the individual, collectively influencing the overall classroom learning environment.

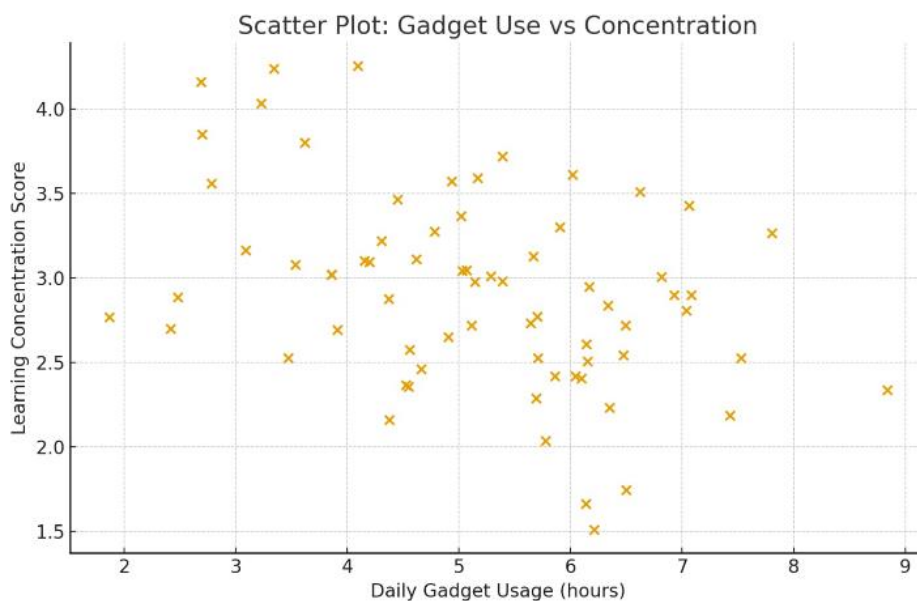
Table 1: Pearson Output Correlation (SPSS)

Variable	Correlation (r)	p-value
Gadget Use vs. Concentration	-0,45	0,001
Gadget Use vs. Discipline	-0,38	0,032

Table 2: Linear Regression Output (SPSS)

Models	R ²	F Value	p-value	Beta Coefficient
.	0,203	15,67	0,001	-0,45
Discipline	0,145	11.24	0,032	-0,38

The study's findings on the concentration variable reveal an average score of 2.8, indicating a low capacity among students to sustain continuous attention. Conversely, a discipline score of 3.1 suggests that, although students remain within the medium category, there is a discernible trend towards diminished adherence to academic regulations, particularly concerning punctuality and compliance with classroom rules. Inferential analysis demonstrated that the correlation between gadget use and learning concentration was moderate to strong ($r = -0.45$), whereas the correlation with discipline fell within the medium category ($r = -0.38$). The coefficient of determination (R^2) from the regression analysis indicated that gadget use was a significant predictor of both variables, although other factors also contributed to the variability in students' concentration and discipline.



DISCUSSION

The findings of this study substantiate that excessive gadget use directly impacts the quality of the teaching and learning process, particularly concerning student concentration and discipline. The significant negative correlation between the intensity of gadget use and learning concentration supports the cognitive load theory, which posits that human attention has a limited capacity (Sweller, Ayres, & Kalyuga, 2019). Continuous exposure to digital stimuli, such as social media notifications, increases extraneous cognitive load, thereby diminishing students' ability to process learning information in depth. These results align with the findings of Twenge (2017) and Rosen et al. (2013), who concluded that digital distractions lead to attention fragmentation and reduce long-term focus endurance. In the context of this study, students' low concentration scores indicate difficulties in maintaining attention during face-to-face learning, particularly when gadgets remain within the physical and psychological reach of students.

The observed decline in discipline, as evidenced by negative correlations, can be elucidated through the lens of self-regulation theory. Chen and Yan (2016) elucidate that excessive gadget use is associated with diminished impulse control and heightened multitasking behavior, which ultimately leads to non-compliance with academic regulations. This phenomenon is evident in this study through the increasing delays in assignment submissions and violations of classroom device usage policies. Furthermore, regression analysis revealed that gadget use accounted for 20.3% of the variance in concentration and 14.5% of the variance in discipline. These percentages are significant within the context of social and educational research, given that learning behavior is influenced by a multitude of factors. These findings suggest that gadget use constitutes a substantial risk factor, albeit not the sole determinant, in the deterioration of student learning quality.

In comparison to prior research, the findings of this study corroborate the conclusions of Carr (2010), who asserted that excessive exposure to digital technology can alter human cognitive patterns, particularly in terms of concentration and deep information processing. This study provides empirical evidence indicating that such effects have manifested at the secondary education level, a critical stage in the

development of students' learning habits and disciplinary character. Furthermore, additional findings concerning variations in student responses based on gadget usage patterns (e.g., the predominance of social media) align with the Goldilocks hypothesis proposed by Przybylski and Weinstein (2017). This hypothesis posits that moderate technology use can be advantageous, whereas excessive use adversely affects academic well-being and functioning. Therefore, the primary issue is not the presence of the gadget itself, but rather the intensity and purpose of its use.

The primary contribution of this study is the enhancement of empirical evidence within the context of Indonesian secondary education, particularly in madrasas, an area that remains underrepresented in the international literature. This research not only corroborates global findings but also demonstrates that the challenges associated with the digitization of education are universal and necessitate a contextualized policy approach.

The findings of this study underscore the significance of implementing a firm yet educational school policy regarding the use of digital devices. A solely restrictive approach is insufficient; it must be complemented by enhancing digital literacy, fostering self-regulation-based learning, and integrating digital devices pedagogically to facilitate active learning (UNESCO, 2020). Additionally, educators should be equipped with strategies for digital classroom management to minimize distractions while promoting innovative learning. However, the study's limitations warrant consideration. The relatively small and localized sample constrains the generalizability of the results. Furthermore, the reliance on self-report instruments may introduce social desirability bias. Future research should consider employing a longitudinal design and a mixed methods approach, as well as incorporating mediating variables such as parental control, classroom climate, and learning motivation, which have been demonstrated to influence students' digital behavior (Domoff et al., 2019).

Overall, this study contributes both theoretically and practically by highlighting that the excessive use of digital devices poses a significant challenge to the quality of learning. This research broadens the discourse on digital literacy beyond mere technical competence to include aspects of self-regulation and academic discipline. Consequently, the findings of this study serve as a valuable reference for educators, school

administrators, and policymakers in developing adaptive and sustainable educational strategies in the digital era.

CONCLUSION

This study concludes that the excessive use of electronic devices significantly adversely affects the learning concentration and discipline of Madrasah Aliyah students in Kabar, East Lombok. The analysis results demonstrated a significant negative correlation between the intensity of gadget use and learning concentration ($r = -0.45$) as well as student discipline ($r = -0.38$). These findings suggest that increased duration of gadget use, particularly for non-educational purposes, correlates with a diminished capacity for students to maintain focus on learning and adhere to academic regulations during the educational process. Regression analysis identified gadget use as a significant predictor, accounting for 20.3% of the variance in learning concentration and 14.5% of the variance in student discipline. While other factors also influence students' learning behaviors, these results underscore that uncontrolled gadget use is a critical risk factor in reducing learning effectiveness. Classroom observations further corroborated the quantitative findings, indicating that gadget use during learning contributes to an overall decline in class focus. Based on these findings, this study underscores the necessity of judiciously managing gadget use within the school environment. Schools should develop clear and contextually relevant policies on gadget use, enhance digital literacy with an emphasis on time management and self-regulation, and pedagogically integrate gadgets as tools to support productive learning. Thus, the use of digital technology can be optimized to enhance educational quality without compromising students' concentration and discipline.

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