Gadget Addicted Phenomenon in Elementary School Children: Challenges or Opportunities in Learning?

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ARTICLE INFO	ABSTRACT
	Gadget addiction is characterized by a person's inability to part with the gadget they have. One type of gadget that is used quite massively is the Android mobile phone. The use of mobile phones with all their advanced features has created a new phenomenon at the age of elementary school children called gadget addiction. The number of students who experience this addiction is increasing day by day. Based on this phenomenon, it is necessary to conduct research to find out whether the gadget addiction phenomenon is a challenge or opportunity in learning. This research was designed in the form of library research. The study material in this research is the publication of scientific articles found in national and international journals. The results of the study show that the uncontrolled use of mobile phones on the one hand is a threat, but on the other hand it can actually be used as a support for learning activities. The negative side of uncontrolled use of mobile phones can interfere with mental development, socio-emotional development and can even interfere with students' intellectual development. The positive side of using mobile phones in elementary school-age children is a great opportunity that teachers can use as Android-based learning media. Students who are used to using Android mobile phones are no longer stuttering with technology. Teachers can design educational games based on Android so they don't only access entertainment content on their gadgets. Through educational games students learn more easily so that their enthusiasm for learning increases. Educational games can be developed especially for subjects that have been considered difficult by students such as mathematics. Mobile phones can also be used as a source of knowledge so that students can explore knowledge independently.

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1. INTRODUCTION

Gadgets are electronic devices that have various advanced features. There are many benefits that can be obtained from using gadgets. The appearance of gadgets is very appealing, they are practical to use, and they can assist human activities in communication, accessing information, providing entertainment, expanding knowledge, and serving as lifestyle indicators (Morris & Cravens Pickens, 2017)[1]. One of the most widely used types of gadgets is the Android mobile phone. Nowadays, mobile phones are an essential necessity that cannot be separated from human life. The sophistication of features offered in Android mobile phones makes

everyone desire to own one. The use of Android is not limited to adults but starts with children, even at a very young age. In fact, children are often more proficient at operating Android than adults. For elementary school-age children, Android devices are predominantly used to access entertainment content such as games, YouTube, and other entertainment materials (Merida & Fitriyana, 2019)[2].

The use of Android devices among elementary school-age children has resulted in a new phenomenon called gadget addiction (Zakaria, 2019)[3]. This phenomenon is characterized by an individual's inability to separate themselves from their gadgets (Saputri & Pambudi, 2018; Setiaputri, 2021; Suhana, 2018; Wardhani, 2018)[4][5][6][7]. There is a feeling of anxiety and unease when not holding an Android device. This anxiety can occur due to excessive use of gadgets (Kumar & Sherkhane, 2018)[8]. The gadget addiction phenomenon needs to be addressed wisely by teachers and parents. The role of parents in controlling gadget addiction is significant. Parents have the authority to regulate gadget usage to prevent addiction in children. Wise parents will not allow their children to experience uncontrolled addiction, but they also won't restrict their children's development amidst technological advancements (Dewi, 2020)[9]. Technological advancements should be utilized wisely so that children do not experience negative impacts while also keeping up with the times.

The use of gadgets among students is increasing nowadays, both for learning purposes and recreational activities. In the context of learning, gadgets are utilized as learning resources, while outside of learning, they are used for playing games and accessing other entertainment content (Chasanah & Kilis, 2018)[10]. One common issue encountered when students are allowed to bring gadgets to school is their tendency to sneak in game-playing during class hours. This has prompted schools to impose bans on bringing gadgets to school, aiming to prevent children from becoming addicted to gadgets. From the perspective of teachers, the presence of gadgets during the learning process can disrupt the teaching and learning processes. This issue raises the question of whether gadgets truly hinder the learning process. Based on these issues, it is necessary to conduct research on the challenges and opportunities of gadget addiction in elementary school education.

2.   RESEARCH METHODS

This research is qualitative and conducted using a literature review approach. The main instrument in this research is the researcher (Sugiyono, 2019)[11]. In a literature review, researchers examine previous research literature to answer research questions. Data is collected through articles published in national and international scientific journals. The research process involves keyword searches on platforms such as Google Scholar, Proques.com, academia, and other digital libraries. Keywords to search for include gadget addiction, educational games, learning opportunities, and elementary school. The results of the literature search were then reduced, the context and content analyzed, synthesized, and conclusions drawn.

3.   RESULT AND DISCUSSION

Gadget Usage Intensity

Christiany Judhita [12] divides gadget usage duration into three categories: high usage (more than 3 hours per day), moderate usage (around 3 hours per day), and low usage (less than 3 hours per day). According to data from Nielsen, the average Indonesian uses a smartphone for 189 minutes (equivalent to 3 hours and 15 minutes) per day. Within this usage, approximately 62 minutes are spent on communication, 45 minutes on entertainment such as playing games and watching videos or audio content, 38 minutes on exploring new downloaded applications, and 37 minutes on internet browsing. According to a report from the UK media company We Are Social, cited by KompasTekno.com in February of last year, Indonesians spend an average of 8 hours and 52 minutes per day accessing the internet. The most commonly used applications are Youtube, Whatsapp, Instagram, Facebook, Tiktok, and Twitter. Consistent with this data, databoks.com also notes that social media users in Indonesia are predominantly aged 25–34, followed by the 18-24 age group, with the lowest number of users being in the 55-64 age group.

According to the research by Pratiwi et al [13] with 106 samples, the majority of children addicted to gadgets have a duration of gadget usage of more than 120 minutes per day, which accounts for 77.4% of the sample. Syifa (2020)[14] found that among 103 university students, 2 (13%) had low-intensity smartphone usage, 42 (40.8%) fell into the moderate category, and 59 (57.3%) had high-intensity smartphone usage. These data indicate that the majority of social media users in Indonesia are young people. While social media provides various conveniences and benefits, it cannot be denied that excessive or addictive use of social media can have negative impacts.

Negative Aspects of Gadget Usage in Education

Technological advancements, on the one hand, have positive impacts, but on the other hand, there are also negative impacts, including with gadgets. The use of gadgets in schools is expected to help students quickly access information and knowledge, but the reality is that only a few students utilize gadgets for learning purposes. Gadgets are mostly used for gaming, music, accessing YouTube, and social media (Champeaux et al.,

2022)[15]. The majority of content accessed by students through gadgets is entertainment related. Various activities carried out on gadgets, if not stopped immediately, can hinder academic achievement. This can occur because students are busy accessing entertainment content, thus disrupting their learning activities. Moreover, if students become engrossed in the sophistication of applications found on gadgets and engage in uncontrolled usage, gadget addiction can develop.

Gadget addiction results in students being unable to detach themselves from their gadgets. The majority of their time is spent playing with gadgets. Gadget addiction can affect students' mental and socio-emotional development (Widodo & Wartoyo, 2020)[16]. In certain cases, gadget addiction can also impact health, cognitive development, and social skills (Setiawati et al., 2019)[17]. A student who shows signs of acute gadget addiction often struggles to control themselves (Chusna, 2017)[18]. This undoubtedly disrupts their learning activities. The concentration ability of students experiencing gadget addiction disturbances decreases, making it difficult for them to focus and effectively absorb lessons (M. Rahmawati & Latifah, 2019)[19]. With disrupted learning activities, students' academic achievements at school also tend to decline.

The occurrence of gadget addiction among students can be attributed to several factors, both internal and external. Internally, the causes of addiction are related to sensation-seeking behavior and low self-control among students (Lestari, 2020)[20]. Students are unable to control themselves and seek pleasure. They find pleasure and excitement when playing with gadgets, which contributes to their increasing addiction. Externally, gadget addiction can be influenced by environmental factors, a lack of parental control, and the allure of advanced features in gadget applications. In addition to internal and external factors, gadget addiction can also occur due to situational factors. Generally, situations that lead children to play with gadgets arise from feelings of boredom and frustration during studying. When students feel bored with their lessons, they tend to seek immediate pleasure by playing with gadgets (Bhattacharyya, 2018)[21]. This behavior is repeated continuously and forms patterns or habits. Feelings of study-related boredom can drive students to continue playing with gadgets. When they feel frustrated with their studies, they turn to gadgets for entertainment.

Learning Innovation Opportunities Through the Use of Gadgets

The advancement of technology, including the use of gadgets in education, should not be resisted. One of the positive aspects of gadgets is their potential as learning resources. The connectivity and internet capabilities of gadgets can assist students in finding information to support their learning in school (Hasiholan & Fernando, 2021)[22]. Gadgets are more practical, flexible, and faster at accessing knowledge compared to books. The features of Android devices make it easier for students to access information quickly. Literature reviews have shown that the use of gadgets facilitates students' accessing study materials and watching educational videos. Incorporating gadgets into learning can make it more engaging, diverse, and exciting for students, thereby enhancing their enthusiasm for learning. Gadgets, when used as educational tools, can be effective in improving language skills, promoting self-directed learning, and serving as a means for character development (Z. D. Rahmawati, 2020)[23].

Gadgets, with all their sophistication, need to be optimized as learning tools. Gadgets should not be seen as challenges in education but as opportunities to achieve higher quality learning in line with the times (Hasiholan & Fernando, 2021)[24]. Teachers can utilize gadgets as a means to foster creativity in education. When properly utilized as learning tools, gadgets can bring significant benefits to the learning process. The use of appropriate media can ignite students' enthusiasm for learning, increase motivation, stimulate active engagement, and have positive psychological effects on students (Putra, 2017)[25]. The appropriate approach in the digital era is to invite students to learn in their own world, the digital world. Teachers must not shy away from the technology-savvy world of students; instead, they should embrace it, guiding and supporting students in using gadgets wisely.

The key question to address is how teachers can harness the power of gadgets to optimize learning. To answer this question, teachers need to start with themselves by learning about technology. Teachers must adapt to technological advancements to effectively utilize gadgets for creative teaching practices. At the very least, with the presence of gadgets, teachers can guide students in exploring learning resources, communicating through social media, and utilizing gadgets as tools for assignments and projects. According to research, gadgets can be used as additional, supportive, and alternative means to enhance learning activities (Simbolon et al., 2019)[26]. The benefits of using gadgets in education include quick interaction between teachers and students through social media, prompt assistance in addressing students' learning difficulties, easy access to information, efficient study time, and the potential for interactive learning experiences (Putra, 2017)[27].

The use of gadgets in education provides various opportunities for innovative learning approaches. Here are some potential innovations in learning through the use of gadgets:

1. Mobile Applications: Educational mobile applications offer interactive and engaging learning experiences. These apps can provide personalized learning materials, quizzes, simulations, and interactive

exercises that cater to individual student needs. They enable students to learn anytime and anywhere, making education more accessible and flexible.

2. Multimedia Content: Gadgets allow the integration of multimedia elements such as videos, images, and audio into educational materials. Teachers can use multimedia presentations, animations, and virtual reality (VR) applications to deliver complex concepts in a more engaging and understandable way. This stimulates students' visual and auditory senses, enhancing their comprehension and retention of information.

3. Collaborative Learning: Gadgets facilitate collaborative learning by enabling students to connect and collaborate with their peers and teachers. Online discussion forums, video conferencing, and collaborative document editing tools promote active participation, knowledge sharing, and teamwork among students. This fosters a collaborative learning environment, encourages critical thinking, and develops communication and collaboration skills.

4. Gamification: Gamifying education involves incorporating game elements, such as points, levels, and rewards, into the learning process. Educational games and gamified applications can make learning enjoyable and motivate students to actively participate and progress in their studies. Gamification can be applied to various subjects, from language learning to mathematics and science, making the learning experience more interactive and immersive.

5. Personalized Learning: Gadgets enable personalized learning experiences tailored to individual student needs and preferences. Adaptive learning platforms can analyze student performance and provide personalized recommendations and learning pathways. Through data analytics and artificial intelligence, gadgets can track and assess student progress, identify learning gaps, and deliver targeted interventions to support their individual learning journeys.

6. Augmented Reality (AR) and Virtual Reality (VR): AR and VR technologies provide immersive and interactive learning experiences. By overlaying virtual elements onto the real world or creating virtual environments, students can explore and interact with subjects that are otherwise inaccessible or too complex to visualize. AR and VR can be used in science experiments, historical reconstructions, virtual field trips, and simulations, enhancing students' understanding and engagement.

Optimizing the Use of Gadgets in Education Through Educational Games

Gadgets are one of the ICT-based devices that can be utilized as learning tools. The advantage of ICT-based devices is their ability to serve as communication tools, information management systems, and efficient distributors of information due to the integration of technology and information elements. With various advantages, gadgets can complement conventional learning or even become the primary medium for modern education (Rahman & Tresnawati, 2016; Winarni et al., 2020)[28][29]. Digital learning platforms available in modern education can be easily accessed through gadgets. These platforms facilitate students' learning, managing information, and exchanging information with other students.

One example of ICT implementation in education is the development of educational games for learning purposes. Educational games can be conveniently accessed through gadgets (Fithri & Setiawan, 2017)[30]. Through educational games, students become more enthusiastic about learning because the combination of learning and gaming is highly enjoyable (Pratama et al., 2019)[31]. An important lesson learned from incorporating educational games into teaching is that teachers can enter the world of children in line with their era, the digital and gaming world (Rahman & Tresnawati, 2016)[32]. This means that children's desire to play can be channeled while gaining knowledge, and teachers can deliver lessons without hindering children's inclination to play (Erri et al., 2016)[33]. If utilized by teachers, this approach prevents students from getting bored during lessons, thus ensuring the achievement of expected learning outcomes. Educational games can be developed for essential subjects that students often find challenging to learn. One such subject is mathematics, which has traditionally been taught in a monotonous manner and tends to make students quickly lose interest (Amami et al., 2017)[34]. Prioritizing the development of educational games for these essential subjects can ignite students' enthusiasm for learning and help them better understand the subject matter (Adrian & Apriyanti, 2019; Pramuditya et al., 2018)[35][36]. Therefore, the development of educational games is expected to enhance the quality of education and contribute to the achievement of desired learning outcomes

4.   CONCLUSIONS

Based on the findings and discussion, it can be concluded that the phenomenon of gadget addiction does not always have negative effects on students. As long as the use of gadgets remains controlled, they can be effectively utilized by teachers to enhance the quality of education. The fact that many students engage with gadgets indicates their familiarity with technology. This situation can be leveraged by teachers to design more engaging learning experiences, including the use of educational games. By incorporating educational games, students' desire to play with gadgets can be fulfilled without interrupting the transfer of knowledge. Through educational games, learning becomes more enjoyable and relevant to students' real-life experiences.

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