

Implementation of Role Playing Method to Improve Students' Learning Outcomes in Science Learning At Upt Sdn 25 Tanjung Barulak

Nuzurwandi¹, Yufi Latmini Lasari²

^{1,2} Faculty of Tarbiyah and Teaching Science, Universitas Islam Negeri Mahmud Yunus Batusangkar

¹nuzurwandi@gmail.com

²yufilatminilasari@uinmybatusangkar.ac.id

Abstrak

This literature review examines the increasing smartphone addiction among elementary school students and its impact on their social-emotional development. According to Kominfo data (2022), smartphone usage among children aged 6-12 years has reached 67%, a significant increase compared to 23% five years ago. This study aims to identify the causes of smartphone addiction in elementary school students and analyze its impact on social-emotional development. The research method used is a literature study by collecting and analyzing various relevant sources. The results show that smartphone addiction is caused by internal factors, including physiological aspects related to dopamine release, and external factors, such as lack of parental supervision. While controlled smartphone use can enhance digital skills and support learning processes, excessive use leads to difficulties in social interaction, emotional control problems, and decreased socialization abilities. This study suggests the importance of consistent parental supervision and the integration of traditional games as alternative activities to reduce children's dependence on smartphones.

Keyword: *smartphone addiction, elementary school students, social-emotional development, parental supervision, digital technology.*

(*) Corresponding Author: ginatsania505@gmail.com

Received: 2024-12-15

Revised: 2025-04-18

Accepted: 2025-04-30

How to Cite: Nuzurwandi & Yufi Latmini Lasari (2025). *Implementation of Role Playing Method to Improve Students' Learning Outcomes in Science Learning At Upt Sdn 25 Tanjung Barulak*, *Jurnal Ilmiah Pendidikan Guru Sekolah Dasar*, XI (1): 85-93

INTRODUCTION

The development of information and communication technology has brought many changes to human life, including the widespread use of gadgets (Smartphones) by students in elementary schools. This phenomenon has attracted serious attention because of its complex impact on students' social and emotional development. According to Kominfo data (2022), the use of gadgets (smartphones) in children aged 6-12 years has reached 67%, a significant increase compared to the previous 5 years which was only 23%. Children should use smartphones with supervision and the development of children is very dependent on the role of parents in monitoring, supervising, and providing adequate nutritional intake.

The rapid influence of information technology also contributes to shaping children's character and personality. The things they observe, do, and imitate from

technological developments will affect the direction of their development. Therefore, parental assertiveness is very important to prevent children from falling into deviations or negative impacts of technological developments, especially smartphones.

The increasing use of gadgets (smartphones) among students in elementary schools has resulted in several worrying problems. This is based on the results of observations in elementary schools which show that students find it increasingly difficult to concentrate on learning, show symptoms of anxiety when not using gadgets (smartphones), and experience a decrease in the ability to interact directly with their peers. In line with the study by Widyastuti and Handayani (2021), the average time spent using smartphones by elementary school students reaches 4-6 hours per day, far exceeding the WHO recommendation which suggests a maximum of 1-2 hours of screen time for elementary school students.

Children often use smartphones to access the internet such as playing online games, socializing on social media, watching videos, and various other activities. A study conducted by Hedge et al. (2018) revealed that around 69% of children aged 12 to 16 years have a habit of using smartphones before going to bed. According to the data, 59% of respondents reported experiencing morning headaches and difficulty sleeping, while 53% reported having trouble concentrating, both at school and while studying at home. Although smartphones are not the only cause of children's health problems, their use has a significant impact on various mental health problems.

Various studies have shown that smartphone addiction has both negative and positive impacts. A Longitudinal study by Pratama et.al., (2023), that children who use smartphones for more than 4 hours a day are 2.5 times more likely to experience social anxiety disorders and difficulty managing emotions than children whose smartphone use is limited. This phenomenon is further exacerbated by the COVID-19 pandemic which has accelerated dependence on digital devices. Distance learning introduced during the pandemic has resulted in smartphone usage patterns that unfortunately cannot be aligned with appropriate digital skills for both students and parents.

According to data from the Ministry of Education, 78% of elementary school students experienced increased smartphone use during the pandemic, and 45% of them have not returned to normal usage patterns even though face-to-face learning has been implemented. The aspect of social-emotional development in elementary school-aged children is an important foundation for personality development and social adaptability in the future. Erik Erikson's Psychosocial Development Theory emphasizes that elementary school is a critical period where children develop a sense of social competence and the ability to form relationships with their peers.

Smartphone addiction causes significant disruption to this development process, because children prefer to interact with digital devices. This concern is further strengthened by research by Sulistyowati (2023). The study identified several indicators of social-emotional development disorders in children who use smartphones excessively, including difficulty recognizing and expressing emotions, decreased empathy, difficulty forming and maintaining friendships, and isolating themselves. In addition, this study found that 65% of children who are addicted to smartphones show at least three of these indicators.

The behavior shown by children, both positive and negative, is greatly influenced by the parenting patterns applied by their parents. A person's value in society is not only determined by their level of knowledge but is also assessed based on the personality and behavior seen when they interact with their surroundings (Arifin and Yanti, 2021). In addition, other studies have revealed that some children use smartphones mainly to play and watch animated films. As a result, they often ignore their surroundings and lose time socializing with their friends.

Continuous use of smartphones can make children dependent and will become a daily habit. The facilities and convenience provided by smartphones make it difficult for individuals to separate from them, thus potentially causing dependence. (Marjorsy et al., 2013). Therefore, parental supervision is important to monitor children's activities in using smartphones every day, so that the negative impacts of smartphone use can be minimized (Ariston et.al., 2018).

Based on the urgency of the problems above, this study aims to identify the causes of gadget (smartphone) addiction in elementary school children and analyze the impact of gadget (smartphone) addiction on social-emotional development.

METHODS

The method used is literature study or literature review. Data collection is carried out by collecting and filtering various related literature sources, such as scientific journals, books, interviews, and additional sources related to the topic discussed, namely the increasing addiction to gadgets (smartphones) in elementary school children and its impact on social-emotional development. For data analysis, the content analysis method is used which is based on the literature that has been collected by the author. The literature review method was chosen with the aim of integrating various findings from previous studies, so that it is expected to produce new findings.

RESULTS & DISCUSSION

Causes of Gadget Addiction (Smartphone)

The term smartphone addiction refers to a new type of addiction that has developed due to the advancement of media such as the internet and smartphones in the communications industry. Meanwhile, according to Kwon et.al., (2013), the term smartphone addiction refers to Dependence on smartphones has the potential to cause social problems, such as difficulty in carrying out daily activities or the occurrence of various forms of disorders.

Smartphone addiction can be described as the inability to control oneself from using the device despite knowing its negative impacts. Smartphones can provide comfort, reduce heartache, and overcome stress. But at the same time, it can trigger difficulties in controlling its use. This often happens which leads to serious consequences that affect financial, physical, psychological conditions and social life (Cha and Seo, 2018).

According to research conducted by Annisa and Pramudiani (2022), one of the factors causing smartphone addiction is the decision of parents to give their children smartphones to support the learning process. This triggers children to become

excessively addicted to smartphones with long usage time. As a result, they tend to reduce social interaction, care less about the surrounding environment, often use impolite words when playing with friends, and show a lack of respect for others. Meanwhile, research by Susanti and Safitri (2018), there are several factors that contribute to the emergence of these negative impacts, namely: (1) minimal supervision, guidance, and restrictions on smartphone use by parents, (2) the attitude of parents who tend to fulfill all children's requests, (3) dependence on online games, (4) the influence of the child's social environment.

In an article published by the UGM Psychology Channel (2024), there are several factors that cause gadget addiction in children, including internal and external factors. From the internal side, physiological factors play an important role, where the use of gadgets stimulates the release of dopamine in the brain, known as the "happiness hormone". Gadgets provide fast and interesting entertainment, such as games, social media, and online videos, which offer visual stimulation and continuous interaction. In addition, gadgets also provide a sense of social connectedness, although the interactions that often occur are less in-depth than direct communication. The ease of access offered by gadgets also encourages children to communicate with their friends through social media.

On the external side, the lack of supervision and regulation from parents is one of the main causes. Many parents choose to give gadgets as a practical solution to divert children's attention or as a form of reward. However, without clear time rules, children can easily get caught up in excessive gadget use. In addition, children prefer to spend time with gadgets rather than doing more productive and useful activities.

The Impact of Gadgets on Children's Social-Emotional Development

Based on literature studies, the use of these gadgets has an impact on the social-emotional development of elementary school-aged children. The use of gadgets can have both positive and negative impacts. In accordance with research conducted by Ulfa and Uce (2024), it shows that parental supervision in the use of gadgets plays an important role in minimizing negative impacts while optimizing their benefits. The use of gadgets with uncontrolled duration can have various negative impacts, such as reduced ability to interact socially, difficulty controlling oneself, addiction, delayed development of language skills, and eye health disorders in children.

In the era of modern technology, gadgets have become the most important part of daily routines, including among children. Although providing wide access to information and entertainment, its impact on children's social-emotional development should not be ignored. In line with research conducted by Rofiqo and Fauziah (2024), where excessive use of gadgets can trigger addiction, reducing the time that should be used to interact directly with peers and family. Children who spend too much time in front of the screen often experience obstacles in building interpersonal communication skills that are very important for social development. In addition, excessive exposure to inappropriate digital content can interfere with children's emotional development. This can increase the risk of stress, anxiety, and other mental health problems. The inability to manage emotions is often associated with excessive exposure to intense digital stimuli.

In some cases, children use gadgets as an escape from social conflicts or emotional problems, thus reducing their ability to face challenges in the real world. Dependence on technology can also affect family relationships. The presence of gadgets often disrupts family time, which ultimately reduces effective interaction and communication within the family. Therefore, parents need to play an active role in supervising and regulating the duration of gadget use by children. They must create an environment that supports balanced social-emotional development. Awareness of these negative impacts is very important so that children can be directed to use technology wisely.

Other studies also highlight that the use of gadgets under parental supervision can provide benefits. With proper guidance, it can help children improve their digital skills, provide wider access to information, and support the learning process. This is in accordance with research conducted by Surono and Lestari (2022) based on research, it was found that students at MI Darul Ilmi showed positive attitudes in various aspects even though the use of gadgets affected them. For example, in speaking when emotional, most students can maintain good language and do not use indecent language. In addition, they also show good social behavior, good emotional management skills, and openness in socializing with their friends. With consistent supervision from parents, the negative impacts of gadgets can be minimized, while their benefits can be optimized to support children's positive social-emotional development.

Meanwhile, the results of a study conducted by Putri and Yarni (2023) at SDN 01 Nan Sabaris revealed that the use of gadgets not only has negative impacts, but also positive impacts. Some students experienced increased cognitive and independent learning abilities through gadgets without direct guidance from parents. However, negative impacts such as sleep disturbances, difficulty controlling emotions, and radiation exposure are also of concern.

Strategies to Overcome Gadget Addiction

Based on literature studies referring to various scientific journals, gadget addiction in elementary school children is a serious challenge that needs to be overcome. An effective strategy involves not only controlling gadget use, but also an approach that is integrated with the psychological, educational, and social aspects of children. The following are strategies to overcome gadget addiction, including:

1. Introduction of traditional games. One of the effective solutions to minimize gadget addiction in children is to introduce traditional games. This has also been done by Jufrida et al. (2021) which was implemented at elementary school 04/IV and elementary school 10 Jambi City where the introduction and assistance of traditional games can reduce the frequency of gadget use and increase student social interaction. This strategy can also train social skills and character such as cooperation, honesty, and responsibility.
2. To overcome the impact of gadget addiction, parental strategies are also needed to overcome these impacts. This is also in line with research conducted by Adwiah and Diana (2023) which revealed that to overcome the impact of gadget use on children's social development, parents apply various strategies such as accompanying and participating when children use gadgets, and supervising the activities carried out by children. They must also set time limits for using gadgets so that they do not get used to using them too often and can avoid addiction. In addition, parents provide advice and understanding if the child's behavior is

considered bad and encourage children to play outside the home so that they can interact and socialize with their surroundings.

Short-term and long-term impacts of gadget use on elementary school children

Short-term effects: Impaired concentration and productivity - using your smartphone too often allows you to focus on learning and working, sleep disturbance - blue light from smartphone screens can inhibit melatonin production, leading to sleep disturbances, eye strain and headaches - staring at the screen can cause eye and headaches for a long time, fear and stress - too often, social media notifications and reviews can increase fear, reduced Social Interaction - smartphone-dependent users are usually more busy on the screen than interacting with people around them. Long-term Impacts: mental health problems - studies show that smartphone addiction is associated with an increased risk of depression and mood disorders, Increased risk of obesity - lack of physical activity due to excessive device use can contribute to obesity, Technical dependence-difficulty setting up a smartphone can negatively impact productivity and personal life balance, brain function disease - studies show that excessive information consumption from smartphones can change the brain's pathways and pathways to process information (Desi & Tasiana Fridayati, 2023; Jeperson Simanjuntak & Imanuel Sri Mei Wulandari, 2022; Mentari Kusuma Rini % Titih Huriah, 2020)

CONCLUSION

Based on the research findings, parents should use consistent monitoring of children's device usage by setting clear time limits and accompanying children when using devices. It is also expected that educators can integrate learning activities, including direct interaction and traditional games, to reduce children's dependence on devices. For further research development, a more comprehensive longitudinal study is needed on the effectiveness of various strategies for handling gadget addiction in elementary school children, as well as the development of intervention models that can be applied both in family and school environments.

ACKNOWLEDGEMENT

I would like to express my deepest gratitude to all parties who have contributed to the completion of this article. First, I express my gratitude to Allah SWT for His blessings. Next, I would like to express my gratitude to my supervisor, Nabela Allani, M. Pd, for her input and guidance, as well as to my family and friends, whose support and understanding have been a source of strength and inspiration. May this work provide a positive contribution.

REFERENCES

- American Academy of Pediatrics. (2023). Children and Media Tips from the American Academy of Pediatrics.
- Annisa, AF, & Pramudiani, P. (2022). Smartphone Use on Polite Behavior in Elementary School Students. *Cakrawala Pendas Journal*, 8(4), 1408-1416.
- Arifin, Z., & Yanti, YE (2022). The Relationship between Mindful Parenting and Parental Guidance on Elementary School Students' Moral Behavior During Online Learning. *Edukatif: Journal of Educational Sciences*, 4(1), 308-315.
- Ariston, Y., & Frahasini, F. (2018). The impact of gadget uses on the social development of elementary school children. *Journal of educational review and research*, 1(2), 86-91.
- Arsyad, F., & Nurhayati, S. (2023). The Impact of Excessive Smartphone Use on the Social-Emotional Development of Elementary School Students. *Indonesian Journal of Education*, 12(2), 145-158.
- Cha, S.S., & Seo, B.K. (2018). Smartphone Use and Smartphone Addiction in Middle School Students in Korea: Prevalence, Social Networking Service, and Game Use. *Health Psychology Open*, 5(1), 1-15.
- Dewi, MP, Kusuma, R., & Wardani, SY (2022). Analysis of Smartphone Usage in Elementary School Children during the COVID-19 Pandemic. *Journal of Public Health*, 10(1), 23-35.
- Desi & Tasiana Fridayati. (2023). Pengaruh Kecanduan Smartphone Terhadap Mood (Suasana Hati) And Feeling Pada Remaja, *Journal of Human Health, Journal of Human Health*, 2(2), 49 – 58.
- Hedge, K. C., Kumar, A., & Pinto, V. J. (2018). Effect of Smartphone Usage on Quality of Sleep among Medical Students. *International Journal of Community Medicine and Public Health*, 5(1), 201-204.
- Jeperson Simanjuntak & Imanuel Sri Mei Wulandari. (2022). Gangguan Emosi Dan Perilaku Remaja Akibat Kecanduan Gadget, *Malahayati Nursing Journal*, 4(4), 1057-1065
- Jufrida, J., Basuki, FR, & Kurniawan, W. (2021). Traditional Game Driving Agent: A Solution to Reduce Gadget Addiction in Children. *Surya Masyarakat Journal*, 4(1), 1-9.
- Mentari Kusuma Rini & Titih Huriyah. (2020). Prevalensi dan Dampak Kecanduan Gadget Pada Remaja: Literature Review, *Jurnal Keperawatan Muhammadiyah* 5 (1), 185-194.
- Ministry of Communication and Information of the Republic of Indonesia. (2022). Research on the Use of ICT and its Implications for Socio-Cultural Aspects of Society.

- Kwon, M., Lee, JY, Won, WY, Park, JW, Min, JA, Hahn, C., & Kim, DJ (2013). Development and Validation of a Smartphone Addiction Scale (SAS). *PloS one*, 8(2), e56936.
- Lee, S. J., Kim, B., & Choi, J. (2022). Smartphone Addiction to Elementary School Students: A Comprehensive Review. *International Journal of Environmental Research and Public Health*, 19(3), 1081-1095.
- Majorsy, U., Kinasih, A.D., Andriani, I., & Lisa, W. (2013). The relationship between social skills and social networking site addiction in early adulthood. *Proceedings of PESAT*, 5.
- Pratama, H., Syafril, S., & Puspitasari, W. (2023). The Impact of Smartphone Addiction on Social-Emotional Development among Indonesian Elementary School Students. *Journal of Education and Learning*, 17(1), 78-89.
- Putri, RS, & Yarni, N. (2023). Analysis of The Effect of Gadget Use on Socio-Emotional Development in Elementary School Children. *Pendas: Scientific Journal of Elementary Education*, 8(1), 2551-2559.
- RA, A., & Diana, RR (2023). Parental strategies in overcoming the impact of gadget use on the social development of early childhood. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 7(2), 2463-2473.
- Rofiqo, MI, & Fauziah, LH (2024, July). The Impact of Technology and Gadgets on Social-Emotional Development in Children. *In Proceedings of The National Psychology Seminar (Synopsis)* (Vol. 2).
- Sulistyowati, R. (2023). Identification of Social-Emotional Development Disorders in Children Who Are Excessive Smartphone Users. *Journal of Educational Psychology*, 8(2), 112-125.
- Surono, RN, & Lestari, Y. (2022). The Influence of Gadget Use on Children's Social-Emotional Development at Darul Ilmi Elementary School, Banjarbaru City. *Padaringan, Journal of Sociology Anthropology Education*, 4(1), 7-15.
- Susanti, MM, Widodo, WU, & Safitri, DI (2018). The Relationship Between Addiction to Playing Online Games on Smartphones (Mobile Online Games) and The Eating Patterns of Elementary School Children in Grades 5 and 6 at SD Negeri 4 Purwodadi. *The Shine Cahaya Dunia Ners*, 3(2).
- Ulfa, A., & Uce, L. (2024). The Relationship between Smartphone Use and Children's Social Emotional Development. *Integrated Multidisciplinary Scientific Journal*, 8(6).
- Widyastuti, DA, & Handayani, P. (2021). Screen Time and Child Development: A Study on Elementary School Students in Indonesia. *Journal of Nursing and Midwifery*, 12(1), 89-102.
- World Health Organization. (2023). *Guidelines on Physical Activity, Sedentary Behavior and Sleep for Children under 5 Years of Age*.

Zhang, X., Wu, Y., & Liu, S. (2022). Digital Device Use and Mental Health among Elementary School Children: A Systematic Review. *Child Development*, 93(5), 1234-1249.