

The Role of Digital Games in Stimulating Language Development in Children Aged 5 - 6 Years

Kartika¹, Ade Dwi Utami², Nurjannah³

¹Universitas Negeri Jakarta, Indonesia. kartikakartika625@gmail.com

²Universitas Negeri Jakarta, Indonesia

³Universitas Negeri Jakarta, Indonesia

*Correspondence:

Kartika

Email:

kartikakartika625@gmail.com

Published: May, 2024



Copyright: © 2024 by the authors. Submitted for possible open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<http://creativecommons.org/licenses/by/4.0/>).

Abstract: The development of language plays a key role in shaping the communication and cognitive abilities of young children. Through language, children are able to receive and understand information acquired from their environment. Language development in young children needs to be stimulated using appropriate methods and media. Digital games are currently gaining attention as one of the alternative media that can be used to stimulate various aspects of early childhood development, including language development. This research aims to investigate the influence of digital games in stimulating the language abilities of young children. This research method utilizes literature review by analyzing and identifying various empirical studies and theoretical studies related to the use of digital games and the language development of young children. The results of this research indicate that digital games are able to stimulate various aspects of language development in young children, including speaking, reading, and writing skills. Digital games also have interactive aspects that allow children to experience learning through play.

Keywords: Digital play, Language development, Early childhood

INTRODUCTION

The utilization of digital games has emerged as a progressively prevalent occurrence in the lives of children in the contemporary digital era. Children are perpetually linked to a multitude of digital devices, which frequently exert control over their life (Van Der Westhuizen & Hannaway, 2021). Consequently, as part of their mentoring endeavor, educators must embrace and integrate digital technology into the classroom. Education must unavoidably drive technical advancements in order to adapt to the era of society 5.0 (Maulidia, Suparno, & Rosyidah, 2023). Children are now being exposed to technology at a younger age compared to previous generations (Stojanova, Koccev, Koceska, & Koceski, 2015). In the present digital age, there is a requirement for the revitalization of digital learning materials that are visually appealing and offer numerous advantages for young children (Rahayu, Mustaji, & Bachri, 2022). Technology enables instructors to foster new and diverse learning experiences (Dewi & Agung, 2021). Introducing digital game-based technology to children at an early age is crucial as a learning medium. Introducing technology to children at an early age offers numerous advantages in boosting various elements of their development.

With the advancement of technology, children are highly drawn to digital games used for educational purposes, which in turn stimulates their enthusiasm to learn (Widjayatri et al., 2022). Digital games can serve as an instructional medium that employs a hands-on learning approach (Haris & Isyanti, 2021). Not solely for the sake of amusement. According to this paradigm, youngsters must tackle preexisting difficulties. Digital

games also offer youngsters educational opportunities that enhance several elements of their development (Ongoro & Mwangoka, 2014). Utilizing digital games as a learning method can enhance various elements of children's development (Mardhotillah & Rakimahwati, 2021). Utilizing digital games enhances children's visual, auditory, and verbal aptitude. With the advancement of technology, children are highly drawn to digital games utilized for educational purposes, which in turn stimulates their motivation to learn.

Proficiency in language is a crucial cornerstone in a child's growth, not just for effective communication, but also for facilitating the broader process of acquiring knowledge. Language facilitates youngsters in articulating their thoughts and viewpoints, so establishing effective communication (Afifah, Rahayu, Veronica, & Abidin, 2023). The function of language for early childhood is actually a tool to communicate with other individuals or the environment (Purandina, 2021). The development of language aspects includes three important basic abilities, namely receptive language skills (receiving language), language expression skills and literacy (Mardhotillah & Rakimahwati, 2021). The stimulation of language development is a crucial feature in early infancy. Language serves as the primary basis for children to engage and communicate with others in the future.

Problems related to language skills are still widely found in various age groups, especially early childhood. The problems found include children being passive and bored when learning related to letters (Widyatmojo & Muhtadi, 2017). Children have not been able to answer questions using complex language due to the lack of vocabulary owned by children (Afifah et al., 2023). These problems are not only found in children, but also found in teachers. Lack of teacher's ability to manage learning in the classroom (Van Der Westhuizen & Hannaway, 2021), teachers only use worksheet in learning (Ongoro & Mwangoka, 2014), learning is done monotonously (Dewi & Agung, 2021). The problems that have been found above can be overcome by using digital games as a solution. Digital games are considered to have an influence on early childhood language skills.

Given this exposure, it is imperative to thoroughly undertake a comprehensive literature assessment on the impact of digital games on children's language proficiency. This is based on studies undertaken by the Massachusetts Institute of Technology (MIT) that successfully demonstrated the ability of games to enhance the educational process (Rulyansah, Hidayat, Rihlah, Shari, & Mariati, 2023). Given this exposure, it is imperative to thoroughly undertake a comprehensive literature assessment on the impact of digital games on children's language proficiency. This is based on studies undertaken by the Massachusetts Institute of Technology (MIT) that successfully demonstrated the ability of games to enhance the educational process.

METHOD

Research design

A systematic literature review (SLR) is a qualitative method used in systemic reviews to succinctly summarise the findings of descriptive investigations. This research was carried out by collecting scientific articles related to the use of digital games in stimulating the language development of children aged 5–6 years. After a number of articles were found, a sorting of the articles was performed using more relevant and detailed criteria according to the research. The article was then analysed using the aid of a matrix (Appendix). The results of the matrix were analysed and re-examined to obtain conclusions.

Population and Sample

The population used in this study is an article related to the use of digital games in children aged 5–6 years. In this study, we found 35 articles related to this study. Then a re-selection is made that is more relevant to the criteria that have been set, so that 20 articles are obtained. The sample consisted of 20 research articles

focusing on the impact of digital games on children's language development. The publications were selected based on the criteria that they were published within the last decade, from 2014 to 2024. Articles are utilized in both Indonesian and English languages. The study utilized articles obtained from various sources such as Google search, Google Scholar, ERIC, ResearchGate, and Portal Garuda, which were used as a database. The search terms employed are "digital games" and "language development" in the context of youngsters aged 5-6 years.

Once all the articles were gathered, the data were consolidated using narrative techniques. This involved categorizing the extracted data based on the assessed outcomes in order to accomplish the objectives and summarize the results or conclusions. The journal summary is subsequently finalized by analyzing the data obtained from the research objectives and research results. After analyzing the content of the journal, conclusions can be made by comparing and contrasting the findings of each study. Once data has been gathered, these findings can subsequently be analyzed and deliberated over to formulate conclusions. Figure 1 displays a graphical representation of the research design



Figure 1: Research design chart

RESULTS AND DISCUSSION

According to the findings of studied studies on the impact of digital games on language abilities in children aged 5-6, it has been observed that digital games have a beneficial effect on language skills. This conclusion is derived from research conducted on the utilization of digital games in both formal and informal educational settings, the most efficacious genres of digital games, and the factors that impact language development in early childhood. Table 1 displays the categorization of articles according to indicators. The classification of articles based on indicators is shown in tables 2, 3, and 4 (appendix).

Table 1. Article's Indicator

No.	Indicator
1	The use of digital games in formal and informal education contexts
2	The most effective types of digital games
3	Factors affecting early childhood language development

Digital games are now a learning medium that must be introduced to early childhood. The use of digital games is now starting to be used in formal and informal education both in kindergartens or playgroups. The development of worldwall digital games was carried out by Hasanah & Gudnanto in 2023. which was then used in kindergartens proved to be able to improve aspects of language development of children aged 5-6 years (Hasanah, 2023). Android-based digital games were also developed by Nirwana in 2021. The digital game is used in one of the informal institutions with ages 5-6 years. In using the game, it is proven that digital

games can improve children's ability to recognize letters, which is an aspect of children's language skills (Nirwana, 2021). The use of digital games in learning in formal and informal education is a new innovation.

Children are much more active when playing using computer games (Widyatmojo & Muhtadi, 2017) children do this learning activity with enthusiasm and fun (Purandina, 2021) and digital-based games are technically able to improve student understanding (Yasbiati, Gandana, & Rahman, 2019). Teachers and students at kindergarten can turn traditional teaching techniques into enjoyable learning experiences by utilizing digital games (Majid & Ridwan, 2019). Utilizing digital game media for simulation facilitates the acquisition of knowledge regarding symbols and the organization of arbitrary phrases for early childhood education. Digital game-based learning is the integration of educational content and gaming (Chowdhury et al., 2024). A digital platform is used as the medium for instruction, and gaming components are used to impart specific knowledge or meet predetermined learning objectives.

In the sphere of education, digital games are crucial (Rulyansah et al., 2023). Children can benefit from playing digital games by developing their working memory and planning skills, for example. Digital games may provide a hard-to-achieve level of fun while guiding users through independent and immersive learning experiences (Govender & Arnedo-Moreno, 2021). Digital games can be used in various types and forms tailored to the age of the child. Among them are in the form of scratch (Chowdhury et al., 2024). Mobile games developed with Unity 3D (Majid & Ridwan, 2019), Mobile games developed with OpenGL ES 1.0 version (Stojanova et al., 2015), world wall website (Hasanah, 2023), Android-based game (Nirwana, 2021), and games developed using action scripts (Widyatmojo & Muhtadi, 2017). These types of digital games are starting to be found in early childhood learning. It is not uncommon to use animated videos or power point games (Nurjaman & Kartika, 2022) is also used.

Another type of digital game is also referred to as Digital Card Games (DCGs) as a learning tool in education spanning decades (2003-2013). DCGs are a type of flexible digital game that offers a certain framework - consisting of cards and rules - where the learning subject can be adjusted or changed (Rahayu et al., 2022). Digital game-based language learning (DGBLL) is another word for game-based learning, which includes both playing and producing non-digital and digital games (Chowdhury et al., 2024). In this term, children create games independently to improve language skills. Another approach related to digital games is the term game-based approach. Game-based approaches work by making technology more engaging (Ongoro & Mwangoka, 2014). The approach is done by encouraging users to solve existing problems through a game so that it is not boring.

Early language development is significantly impacted by the use of digital games. Language skill development is influenced by a number of things. Hurlock said that in addition to social standing, IQ, family dynamics, economic standing, and punishment style, other elements have affected how children learn their language (Yuswati & Setiawati, 2022). Early childhood language learning starts with meaning followed by listening, letter recognition, and matching (Rakimahwati, Ismet, & Roza, 2021). Another factor that supports children's language development is the readiness and maturity of children in terms of age (Rahayu et al., 2022). The older a child is, easier and faster it is for a child to develop language skills.

Children's language skills are also influenced by genetic and environmental factors (Sumaryanti, 2017). As he is still learning the differences between good and evil, suitable and inappropriate, the child in this situation will mimic what he sees, feels, and observes from his surroundings. Children are typically greatly impacted by their environment. where kids pick up offensive language from their peers or by using social media alone (Ananda, Desyandri, & Murni, 2022). By being given stimulation using the right media, the development of children's language skills will be optimal. Digital games have negative impacts that can be

handled well if their use is accompanied by parents (Chowdhury et al., 2024). One such negative impact on the development of a child's language is the discovery of a bad system of languages for children (Ananda et al., 2022). Through digital games, children can meet and interact with other people of far different ages. Such interactions usually use a language that deserves to be spoken. When the children often hears these things, they makes the children imitate and follow the same language. However, with the help of teachers and parents, children are able to use games that are suitable for their age.

CONCLUSION

Digital games have many benefits for stimulating the development of children. Through digital games, children are able to engage in exploration that has an impact on all aspects of their development. There are different kinds of digital games that can be developed by teachers and conceived by children. Nowadays, a variety of platforms are available that can develop digital games easily and can be operated by children. Through digital games, early child language skills can be developed and stimulated well. Nevertheless, the negative impact of digital games also needs to be tackled wisely. The possibility of addiction to screen time in children up to the use of language is worthy of being a concern when using digital games. Based on this, there is a need for support from parents or teachers in the use of digital games to fit the age of the child.

REFERENCES

- Afifah, N., Rahayu, A. P., Veronica, N., & Abidin, R. (2023). Penggunaan TIK Berbasis Video Animasi dengan Metode Show And Tell pada Perkembangan Bahasa Anak. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 7(4), 4107–4118. <https://doi.org/10.31004/obsesi.v7i4.3659>
- Ananda, R., Desyandri, D., & Murni, I. (2022). Pengaruh Game Online terhadap Perkembangan Perilaku Buruk Bahasa Anak Usia Sekolah Dasar. *Jurnal Pendidikan Tambusai*, 6(2), 10586–10589.
- Behnamnia, N., Kamsin, A., Ismail, M. A. B., & Hayati, A. (2020). The effective components of creativity in digital game-based learning among young children: A case study. *Children and Youth Services Review*, 116(March), 105227. <https://doi.org/10.1016/j.childyouth.2020.105227>
- Chowdhury, M., Dixon, L., Kuo, L.-J., Donaldson, J. P., Eslami, Z., Viruru, R., & Luo, W. (2024). Digital game-based language learning for vocabulary development. *Computers and Education Open*, 6(December 2023), 100160. <https://doi.org/10.1016/j.caeo.2024.100160>
- Dewi, N. P. A. P., & Agung, A. A. G. (2021). Game Education Berbasis Multimedia Interaktif pada Aspek Bahasa Anak Usia Dini. *Jurnal Pendidikan Anak Usia Dini Undiksha*, 9(2), 149. <https://doi.org/10.23887/paud.v9i2.35439>
- Elan, E., Gandana, G., & Fauziah, D. E. (2023). Analisis Penggunaan Flashcard Berbasis Digital untuk Meningkatkan Kemampuan Bahasa Reseptif Anak Usia Dini. *Ceria: Jurnal Program Studi Pendidikan Anak Usia Dini*, 12(1), 63. <https://doi.org/10.31000/ceria.v12i1.9023>
- Govender, T., & Arnedo-Moreno, J. (2021). An analysis of game design elements used in digital game-based language learning. *Sustainability (Switzerland)*, 13(12). <https://doi.org/10.3390/su13126679>
- Habibah, U., Hasibuan, R., & Setyowati, S. (2021). Keefektifan Literasi Digital untuk Meningkatkan Kemampuan Berpikir Logis dan Mengungkapkan Bahasa Anak. *Jurnal Pelita PAUD*, 6(1), 81–91. <https://doi.org/10.33222/pelitapaud.v6i1.1427>

- Haris, I., & Isyanti, S. (2021). *Pengembangan Game Edukatif dalam Meningkatkan Kemampuan Keaksaraan Anak Usia Din. 1*, 40–51.
- Hasanah, U. (2023). Pemanfaatan Game Edukasi Wordwall Untuk Meningkatkan Kemampuan Kognitif Anak Usia Dini. *Khazanah Pendidikan-Jurnal Ilmiah Kependidikan (JIK)*, 17(2), 73–84. <https://doi.org/10.30595/jkp.v17i2.17650>
- Majid, N. W. A., & Ridwan, T. (2019). Development of the traditional digital games for strengthening childhood's verbal skill. *Jurnal Pendidikan Vokasi*, 9(1), 75–82. <https://doi.org/10.21831/jpv.v9i1.22802>
- Mardhotillah, H., & Rakimahwati, R. (2021). Pengembangan Game Interaktif Berbasis Android untuk Meningkatkan Kemampuan Membaca Anak Usia Dini. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(2), 779–792. <https://doi.org/10.31004/obsesi.v6i2.1361>
- Maulidia, L. N., Suparno, S., & Rosyidah, U. J. (2023). A Systematic Literature Review on Technology-Based Learning Media in ECE to Face Society 5.0 Era. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 7(5), 5181–5195. <https://doi.org/10.31004/obsesi.v7i5.4997>
- Nirwana, E. S. (2021). Pengembangan Media Pembelajaran Berbasis Game Android untuk Anak Usia 5-6 Tahun. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(3), 1811–1818. <https://doi.org/10.31004/obsesi.v6i3.1684>
- Nurhayati, E., El Fitri, I., Durtam, D., & Jazariyah, J. (2022). Educational Computer Game and Their Implications on Early Children's Language Skill. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(6), 6766–6776. <https://doi.org/10.31004/obsesi.v6i6.3488>
- Nurjaman, I., & Kartika. (2022). Upaya Meningkatkan Kemampuan Mengenal Huruf Melalui Media Permainan Engklek Modifikasi Pada Anak Kelompok B Di Paud Mutiara Kasih Tangerang. *Ceria: Jurnal Program Studi Pendidikan Anak Usia Dini*, 11(1), 1. <https://doi.org/10.31000/ceria.v11i1.6634>
- Ongoro, C. A., & Mwangoka, J. (2014). Using Game-Based approach to enhance language learning for preschoolers in Tanzania. *Proceedings of the 2nd Pan African International Conference on Science, Computing and Telecommunications, PACT 2014*, 121–126. <https://doi.org/10.1109/SCAT.2014.7055145>
- Purandina, I. P. Y. (2021). Implementasi Media Digital Untuk Perkembangan Bahasa Inggris Anak Usia Dini. *Pratama Widya : Jurnal Pendidikan Anak Usia Dini*, 6(1), 66. <https://doi.org/10.25078/pw.v6i1.2086>
- Rahayu, R., Mustaji, M., & Bachri, B. S. (2022). Media Pembelajaran Berbasis Aplikasi Android dalam Meningkatkan Keaksaraan. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(4), 3399–3409. <https://doi.org/10.31004/obsesi.v6i4.2409>
- Rakimahwati, R., Ismet, S., & Roza, D. (2021). Studi pengembangan Psikolinguistik Anak dengan Game Interaktif Berbasis Role Playdi Taman Kanak-kanak Fadhillah Amal 3 Kota Padang. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 6(3), 1955–1964. <https://doi.org/10.31004/obsesi.v6i3.934>
- Rulyansah, A., Hidayat, M. T., Rihlah, J., Shari, D., & Mariati, P. (2023). Digital Play for Enhancing Language Learning in Early Grades. *Pegem Egitim ve Ogretim Dergisi*, 13(2), 182–190. <https://doi.org/10.47750/pegegog.13.02.22>
- Stojanova, I., Kocev, I., Koceska, N., & Koceski, S. (2015). *Digital Games As a Context for Early Childhood*

Learning and Development. 43.

- Sumaryanti, L. (2017). PERAN LINGKUNGAN TERHADAP PERKEMBANGAN BAHASA ANAK. *Occupational Medicine*, 53(4), 130.
- Van Der Westhuizen, L. M., & Hannaway, D. M. (2021). Digital play for language development in the early grades. *South African Journal of Childhood Education*, 11(1). <https://doi.org/10.4102/sajce.v11i1.925>
- Veronica, N., & Gupita, N. (2020). Electronic media and language development of early childhood. *Journal of Physics: Conference Series*, 1469(1). <https://doi.org/10.1088/1742-6596/1469/1/012106>
- Widjayatri, R. D., Suzanti, L., Alfarisa, F., Nurazka, R. A., Rahmadini, F., Safitri, D., & Audina, A. (2022). Pengenalan Media Pembelajaran Digital berbasis Aplikasi Android untuk Anak Prasekolah pada Pendidik Lembaga PAUD Article Info. *Jurnal Pengabdian Masyarakat PGSD*, 2(2), 203–214. Retrieved from <https://ejournal.upi.edu/index.php/jpmserang>
- Widyatmojo, G., & Muhtadi, A. (2017). Developing Interactive Teaching Multimedia in the Form of Games to Stimulate the Cognitives To Stimulate The Cognitive And Linguistic Aspects Of Kindergarten Students. *Jurnal Inovasi Teknologi Pendidikan*, 4(1), 38. Retrieved from <http://journal.uny.ac.id/index.php/jitp/article/view/10194>
- Yasbiati, Y., Gandana, G., & Rahman, T. (2019). Educative and digital based game (PowerPoint) game games as a stimulation method of discussion skill development early childhood. *Journal of Physics: Conference Series*, 13(18). <https://doi.org/10.1088/1742-6596/1318/1/012048>
- Yuswati, H., & Setiawati, F. A. (2022). Peran Orang Tua dalam Mengembangkan Bahasa Anak Pada Usia 5-6 Tahun. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini*, 6(5), 5029–5040. <https://doi.org/10.31004/obsesi.v6i5.2908>