



The Influence of Gadget Use on Early Childhood Social Interaction: A Study on the Decline of Interest in Traditional Play

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ABSTRACT:

This study aims to analyze the influence of gadget use on the social interaction of early childhood and the phenomenon of declining interest in traditional play. A quantitative method with an explanatory research approach was employed. The sampling technique used was probability sampling with a simple random sampling method. Instruments included questionnaires and tests. Data analysis prerequisites were tested using normality (Kolmogorov-Smirnov test) and linearity tests, while hypothesis testing utilized correlation and regression analysis with the assistance of SPSS version 26. The research was conducted at Kober Assa'idiyah, West Bandung Regency, with a population comprising all students and a sample of 20 participants. Results revealed that the data were normally distributed, with Kolmogorov-Smirnov significance values of 0.143 for gadget use and 0.200 for social interaction. Correlation analysis produced a Correlation Coefficient of 0.961, indicating a very strong and significant relationship between gadget use and social interaction. Regression analysis yielded the equation $Y=13.506+0.902X$, meaning an increase of one unit in gadget use correlates with a 0.902 unit increase in social interaction. While gadget use has a significant impact, the study also highlights the importance of managing gadget use to avoid diminishing the quality of social interaction and interest in traditional play. The implications of this research underline the critical role of parents, educators, and policymakers in regulating gadget use to optimally support early childhood social development.

Keywords: Gadget Use, Social Interaction, Early Childhood, Traditional Play.

INTRODUCTION

In this rapidly evolving era, gadgets have become a necessity for everyone, from adults to children (Khaironi, 2020; Riyanto, 2022; Trisnawati & Sugito, 2020). It is evident that gadgets are no longer just tools for communication but also facilitate daily activities, such as online shopping, ordering transportation services, and providing educational features and games (Ridzal, 2022). Often, to calm a tantruming child or keep them quiet, parents hand their children gadgets. Over time, this practice has expanded and started to influence various aspects of life, particularly in terms of social interaction and children's play patterns. Nowadays, children are more interested in spending their time playing with gadgets rather than interacting directly with their peers or engaging in games that involve physical and social activities (Itsna & Rofi'ah, 2021).

The "golden age" refers to a critical period in a child's life, a sensitive developmental phase between the ages of 1 and 5 years, commonly known as early childhood (Hewi & Shaleh, 2020; Hidayati, 2020; Rahman & Sudirman, 2024). During this period, all aspects of

a child's development, including intellectual, emotional, and spiritual intelligence, experience rapid growth. The development that occurs during this stage has a significant impact on shaping the child's future (Hidayati, 2020). Therefore, it is crucial to limit gadget use in children. Improper use of gadgets can have detrimental effects on a child's characteristics. Children often become lazier, reluctant to interact with peers, and parents themselves are frequently preoccupied with the digital world, controlled by technology. Many young children today do not even know the joy of traditional games such as hide and seek.

Traditional games like hide-and-seek, jump rope, or congklak play a vital role in supporting children's social, emotional, and motor development (Tamphu et al., 2024). These activities involve direct interaction with peers, fostering communication, teamwork, and empathy. Unfortunately, with the increasing amount of time children spend in front of screens, interest in traditional games has gradually declined. Previous studies have shown that gadgets tend to promote interaction with devices rather than with other people, thereby hindering children's ability to build social relationships (Carmela & Suryaningsi, 2021).

Other studies have also found that early gadget use can reduce social skills and the ability to resolve conflicts directly (Al Ayyubi, Martini, et al., 2024). Moreover, research by Fitria et al. (2024) reveals that children who frequently use gadgets often face difficulties in developing a sense of togetherness when playing with peers. However, these studies have not specifically addressed how this shift impacts children's interest in traditional games, an essential aspect of social development. On the other hand, some research suggests that gadget use does not always have negative effects if used wisely, for example, in the context of controlled learning or entertainment (Fauzi et al., 2025). Nevertheless, gaps remain in the literature, particularly concerning the extent to which gadgets affect early childhood social interactions in the context of traditional play in Indonesian society.

While there is extensive research on the impact of gadgets on child development, most studies focus on their effects on cognitive and physical aspects, such as the studies conducted by Pratama (2024); Rahmawati (2020). However, research examining the influence of gadgets on early childhood social interactions, particularly regarding the decline of interest in traditional games, remains limited. Traditional games, which involve direct interaction among children, not only enrich motor skills but also foster social abilities such as sharing, problem-solving, and adapting to diverse social situations (Al Ayyubi, Martini, et al., 2024; Al Ayyubi, Masfuroh, et al., 2024; Arif et al., 2023). The lack of social interaction through traditional play may impact children's ability to build healthy relationships and develop emotionally.

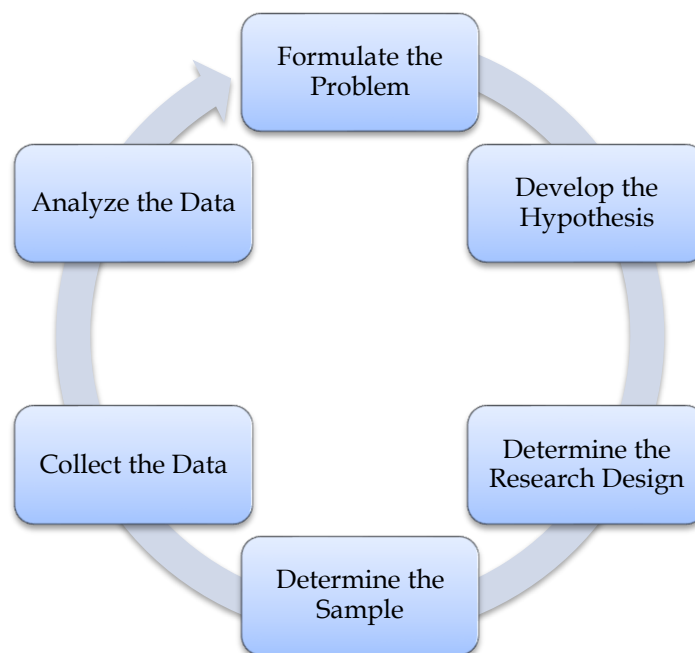
This study aims to explain how gadget use can affect early childhood social interactions, particularly in reducing their interest in traditional games. It also focuses on the factors influencing children's preferences for certain types of play and the potential long-term impacts of these habits. The research seeks to identify more effective solutions to balance gadget use with activities that better support children's social and emotional

development while contributing to policy development efforts to mitigate the negative effects of gadget use on young children.

METHOD

This study utilizes a quantitative research method with an explanatory research approach (Sugiyono, 2021). The objective of the research is to describe the relationship and causal effects between the independent variable (gadget use) and the dependent variable (social interaction in early childhood). Thus, the study adopts a causal-correlational design. A causal-correlational study is a method used to examine relationships or influences between independent and dependent variables (referred to as variable X and variable Y) without direct manipulation. The research was conducted at Kober Assa'idiyah in West Bandung Regency, with the population consisting of all students and a sample size of 20.

The sampling technique used was probability sampling with simple random sampling. The instruments used for data collection included questionnaires and tests. The data analysis prerequisites included: 1) Normality Test, conducted using the Kolmogorov-Smirnov test. 2) Linearity Test, to determine the relationship between variables. For hypothesis testing, correlation and regression analyses were performed with the assistance of SPSS version 26 (Arnani, 2024; Setyawan et al., 2021; Wulansari, 2023). If the data were normally distributed, Pearson's correlation test was conducted, followed by regression analysis to predict the dependent variable based on the independent variable. If the data were not normally distributed, Spearman's correlation test was conducted without proceeding to regression analysis. This methodological framework enables the identification of the relationship and influence between gadget use and social interaction among young children while ensuring rigorous data analysis procedures.



Picture 1. Research Design Steps

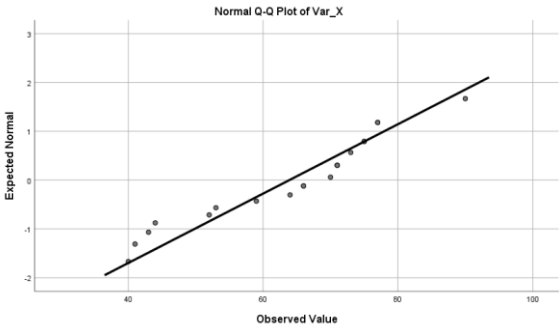
RESULTS AND DISCUSSION
RESULTS

The normality test was conducted to determine whether the data obtained originates from a population with a normal distribution. This test is a prerequisite for inferential statistical analysis. In this case, the researcher used the Kolmogorov-Smirnov test to assess normality.

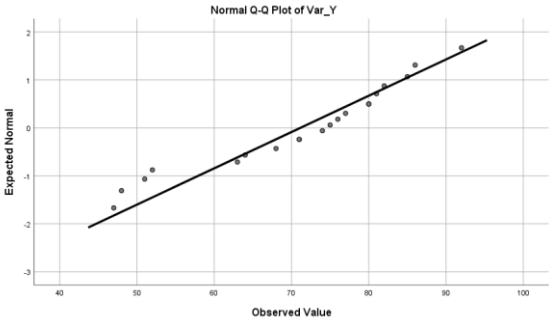
Tabel 1. Output of Data Normality Test

		Statistic	Sig.
Value	Gadget Usage	.168	.143
	Social Interaction	.145	.200*

Based on the data in Table 1, the significance values for gadget usage and social interaction in early childhood are 0.143 and 0.200, respectively. Since the significance values are greater than 0.05, based on the decision-making criteria, H_0 is accepted, indicating that the data is normally distributed.



Picture 2. Normal Q-Q Plot Var_X



Picture 3. Normal Q-Q Plot Var_Y

In the Normal Q-Q Plot diagram for gadget usage and social interaction in early childhood, the data points are scattered around and along the diagonal line. This distribution confirms that the data can be considered normally distributed. The strength of the correlation is further explained in the table below.

Table 2. Correlations

		Var_X	Var_Y
Gadget Usage	Pearson Correlation	1	.961**
	Sig. (2-tailed)		.000
Social Interaction	Pearson Correlation	.961**	1
	Sig. (2-tailed)	.000	

Based on the data in Table 3, the significance value for variables x and y, which represent gadget usage and social interaction in early childhood, is 0.000. Since the significance value is less than 0.05, according to the decision-making criteria, H_0 is rejected. This indicates that gadget usage significantly influences social interaction in early childhood.

Table 3. Correlation Values

Coefficient Interval	Strength of Relationship
0,00 – 0,19	Very Low
0,20 – 0,39	Low
0,40 – 0,59	Moderate
0,60 – 0,79	Strong
0,80 – 1,00	Very Strong

The value of the Correlation Coefficient is 0.961, which falls within the interval 0.80–1.00. According to the interpretation guidelines in Table 3, this indicates that the relationship between gadget usage and social interaction in early childhood is very strong. Additionally, the Correlations output shows that variables x and y are marked with the semicolon "**," confirming that these variables are significantly correlated.

Table 4. Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.961 ^a	.923	.919	3.769

The value of the Correlation Coefficient is 0.961, which falls within the interval of 0.80–1.00 based on the interpretation guidelines in Table 3. Therefore, it can be concluded that the relationship between gadget usage and social interaction in early childhood is very strong. Additionally, the Correlations output shows that variables x and y are marked with the symbol "**," indicating that these two variables are significantly correlated.

Table 5. ANOVA^a

Model		Mean Square	F	Sig.
1	Regression	3062.878	215.635	.000 ^b

Based on the data in Table 5, the significance value for regression is 0.000. Since the significance value is < 0.05 , according to the decision-making criteria, H_0 is rejected. This indicates that the linear regression model meets the linearity criteria and can be used to predict the independent and dependent variables, namely gadget usage and social interaction in early childhood.

Table 6. Coefficients^a

Model	Unstandardized Coef.		Standardized	t	Sig.
	B	Std. Error	Coefficients Beta		
1	(Constant)	13.506	4.015	3.364	.003
	Gagdet Usage	.902	.061	.961	.000

From the Coefficients table, using the constant coefficient and variable coefficient in the column for Unstandardized Coefficients BBB, the regression equation model is $Y=13.506+0.902XY = 13.506 + 0.902XY=13.506+0.902X$. This means that if gadget usage is zero, the social interaction score in early childhood is 13.506. The regression coefficient of 0.902 indicates that for every one-unit increase in gadget usage, social interaction in early childhood increases by 0.902. Additionally, since the significance value for gadget usage is < 0.05 , it can be concluded that gadget usage has a significant effect on social interaction in early childhood.

DISCUSSION

Based on the results above, it can be concluded that the data obtained is normally distributed, as shown by the Kolmogorov-Smirnov normality test with significance values of 0.143 for gadget usage and 0.200 for social interaction in early childhood. The significance values greater than 0.05 indicate that the normality assumption is met, which is further supported by the data distribution pattern in the Normal Q-Q Plot, which is centered around the diagonal line. Additionally, the correlation analysis shows a very strong relationship between gadget usage and social interaction in early childhood, with a Correlation Coefficient of 0.961, which falls within the 0.80–1.00 interval. The significance value of the correlation, 0.000 (less than 0.05), indicates that this relationship is statistically significant. Therefore, gadget usage has a significant effect on social interaction in early childhood.

In the regression analysis, the linear equation model $Y=13.506+0.902X$ indicates that for every one-unit increase in gadget usage, social interaction in early childhood increases by 0.902 units. The constant value of 13.506 shows that when gadget usage is zero, social interaction in early childhood is at a certain baseline level. The regression significance value of 0.000 reinforces that this model is valid for predicting the relationship between the independent and dependent variables. According to Papalia, Olds, and Feldman, the social development of early childhood children is highly influenced by direct interaction with their surrounding environment, including traditional play. However, excessive gadget

usage can reduce the time children spend interacting directly with peers, potentially hindering the development of their social skills (Rahim et al., 2024). The impact of gadget usage on children's development has both positive and negative effects.

The positive impacts include: 1) Increasing Knowledge, according to Dhani Rizki Syaputra, it is concluded that using advanced technology gadgets allows children to easily and quickly access information related to their school tasks. For example, one can browse the internet anytime and anywhere to find what they need. Therefore, the internet helps in expanding knowledge. 2) Expanding Social Networks, gadgets can expand social networks because they allow easy and fast access to social media platforms. This makes it easier to share and connect with friends. 3) Facilitating Communication, gadgets are tools equipped with advanced technology, enabling people to easily communicate with others from all over the world. 4) Fostering Creativity, technological advancements have led to the creation of various creative and challenging games. Many children, especially those with ADHD, benefit from these games due to the high level of creativity and challenges they offer (Nurhikmah, 2024). According to Baihaqi and Sugiarmin, ADHD stands for Attention Deficit Hyperactivity Disorder, which is a developmental disorder characterized by increased motor activity in children, leading to unusual and often excessive behaviors (Afif et al., 2022).

Additionally, there are negative impacts caused by gadget usage, including: 1) Disrupting Health, gadgets can harm human health because the radiation effects from technology are particularly dangerous for children under the age of 12. Excessive radiation can result in various harmful diseases. 2) Disrupting Child Development, gadgets come with advanced features such as cameras, videos, and games, which can interfere with the learning process at school. For example, when a teacher is explaining a lesson, a student may be distracted by playing with their gadget, or the gadget could be used for inappropriate purposes. 3) Vulnerability to Criminal Activity, everyone tends to update information wherever they are, and some people may use this excessive updating as an opportunity to engage in criminal activities. 4) Influencing Children's Behavior, gadgets can impact children's behavior (Achmad et al., 2022).

Technological advancements may make children quickly satisfied with the knowledge they obtain (Agustian & Salsabila, 2021; Grass Ramírez et al., 2023; Haleem et al., 2022), leading them to believe that the knowledge they gain from the internet or other technologies is the most complete and final (Donkoh et al., 2023; Nurhayati & Musa, 2020; Sabrina, 2019; Setiadi et al., 2023; Souza & Debs, 2024). In fact, there are many aspects of knowledge that need to be explored through traditional learning processes, and the internet cannot replace the depth of knowledge. If not carefully considered, there is a tendency for future generations to become easily satisfied and prone to shallow thinking (Marina & Lessy, 2024). While technological advancements bring many conveniences, future generations may struggle to deal with difficulties. In other words, children might think or feel that life should be easy, leading them to simplify problems and avoid challenges.

Technological advancements accelerate everything, and without realizing it, children are conditioned to be intolerant of delays. As a result, children are becoming weaker in terms of patience and concentration, and they quickly demand immediate gratification. Playing with gadgets for extended durations every day can lead children to develop into antisocial individuals (Itsna & Rofi'ah, 2021; Pratama, 2024; Rahmaniar et al., 2021; Setiadi et al., 2023; Tamin et al., 2022). This occurs because these children are not encouraged to socialize with others. Furthermore, it may promote shallow relationships, as time for face-to-face interactions is reduced, and more time is spent enjoying activities in solitude.

There are several impacts of gadget usage on children's development, including: 1) Difficulty Concentrating on the Real World, addiction to gadgets can make children easily bored, restless, and angry when separated from their favorite gadgets. When children feel comfortable playing with their gadgets, they tend to isolate themselves and enjoy their own company. As a result, they experience difficulty interacting with the real world, making friends, and playing with peers. 2) Disruption of PFC Function, addiction to technology can also affect the brain's development, particularly the parts of the brain that control emotions, self-control, responsibility, decision-making, and other moral values. Children addicted to technology, such as online games, may experience an overproduction of dopamine, leading to disruption in the function of the prefrontal cortex (PFC). 3) Introversion, children who are dependent on gadgets view them as essential. They become anxious and restless when separated from their gadgets. Most of their time is spent on gadgets, leading to a lack of closeness between parents and children and contributing to introversion (Pratama, 2024). Overall, this research shows that gadget usage has a significant and strong influence on the social interactions of young children. These findings underscore the need for attention to how gadgets are used, especially in the context of their impact on the declining interest in traditional play, which holds vital social, emotional, and motor skills development.

CONCLUSION

Based on the research results, it can be concluded that gadget usage has a significant impact on the social interactions of young children. This is shown through the correlation analysis, where the Correlation Coefficient of 0.961 indicates a very strong relationship between the two variables. Additionally, the regression results show that for every one-unit increase in gadget usage, there is a 0.902 unit increase in young children's social interactions. Although there is a significant influence, attention should be focused on how gadgets are used to avoid negative effects on social interaction. It was also found that the data follows a normal distribution based on normality tests, which supports the validity of the regression model in predicting the relationship between gadget usage and social interaction. However, the results also indicate a change in children's play patterns, where they tend to reduce traditional playtime, which is rich in social, emotional, and motor values. This change emphasizes the importance of managing gadget usage wisely among children.

This research highlights that, while gadgets can offer benefits such as entertainment and education, excessive use can reduce the time spent on face-to-face interactions with

peers. This impact could hinder the development of young children's social skills, which is a critical period for shaping their communication, sharing, and teamwork abilities. The findings also show that gadget usage must be managed with an approach that considers the developmental needs of children. Parents, educators, and policymakers play an essential role in ensuring that gadgets are used as tools to support, not replace, social interaction and play activities. Furthermore, this study could serve as a reference for further research on the impact of gadgets on other aspects of child development, such as cognitive, emotional, or motor skills. Exploring how technology can be used to positively support social interaction also presents future research opportunities. There is a need to raise public awareness about the impact of gadget usage on young children. Campaigns on the importance of traditional play and social interaction could be an initial step to minimize the negative effects of gadget dependence in children.

REFERENCES

- Achmad, F., Alhadad, B., Sultoni, A., & Rasyid, M. (2022). Peran Guru Dalam Pembentukan Karakter Religius Pada Anak Usia Dini 5-6 Tahun Di TK Manurung Goto Tidore Kepulauan. *Jurnal Ilmiah Cahaya Paud*, 4(2), 63–75. <https://doi.org/https://doi.org/10.33387/cahayapd.v4i2.5182>
- Afif, N., Ayuningrum, D., Imran, A., & Qowim, A. N. (2022). Inovasi Pengembangan Kurikulum dengan Pendekatan Saintifik Untuk RA/PAUD di Provinsi Banten. *Edukasi Islami: Jurnal Pendidikan Islam*, 11(01), 79. <https://doi.org/10.30868/ei.v11i01.2244>
- Agustian, N., & Salsabila, U. H. (2021). Peran Teknologi Pendidikan dalam Pembelajaran. *Islamika*, 3(1), 123–133. <https://doi.org/10.36088/islamika.v3i1.1047>
- Al Ayyubi, I. I., Martini, S., Fauziah, Z., Irfansyah, I., & Masfuroh, A. S. (2024). Penanaman Nilai-nilai Keagamaan pada Anak Usia Dini berdasarkan QS Ash-Shaffat. *Banun: Jurnal Pendidikan Islam Anak Usia Dini*, 2(2), 12–27. <https://journal.albadar.ac.id/index.php/BANUN/article/view/172>
- Al Ayyubi, I. I., Masfuroh, A. S., Noerzanah, F., Muhaemin, A., & Apriyanti, N. S. N. (2024). Konsep Pendidikan Anak Usia Dini Perspektif QS Luqman Ayat 13-19. *Al-Fahmu: Jurnal Ilmu Al-Qur'an Dan Tafsir*, 3(1), 31–41. <https://doi.org/https://doi.org/https://doi.org/10.58363/alfahmu.v3i1.181>
- Arif, A., Al Ayyubi, I. I., & Gunawan, H. S. (2023). Pengaruh Model Quantum Teaching Terhadap Minat Belajar Anak Usia Dini Di RA Al Hidayah Citapen. *Jurnal El-Audi*, 4(1), 18–25. <https://doi.org/https://doi.org/10.56223/elaudi.v4i1.71>
- Arnani, N. P. R. (2024). *Statistika Non Parametrik Konsep dan Aplikasi SPSS*. Lakeisha.
- Basyiroh, I., Ramdani, C., Miftahudin, U., Padmi, F. N., Fauziyah, S., Samsiah, S., & Nurmala, S. (2025). *Pendidikan Karakter Berbasis Literasi untuk Anak Usia Dini: Problematika dan Strategi Optimalisasi*. El Akhyar Pustaka Mandiri.
- Carmela, H. R. F., & Suryaningsi, S. (2021). Penegakan Hukum dalam Pendidikan dan Perlindungan Anak di Indonesia. *Nomos: Jurnal Penelitian Ilmu Hukum*, 1(2), 58–65. <https://doi.org/10.56393/nomos.v1i2.570>
- Donkoh, R., Lee, W. O., Ahoto, A. T., Donkor, J., Twerefoo, P. O., Akotey, M. K., & Ntim, S. Y. (2023). Effects of educational management on quality education in rural and urban primary schools in Ghana. *Heliyon*, 9(11), e21325. <https://doi.org/https://doi.org/10.1016/j.heliyon.2023.e21325>

- Fauzi, H. A. H., Hidayat, W., Al Ayyubi, I. I., Nurhikmah, & Al-Ghatnaini, R. A. S. (2025). Work Stress Levels At Madrasah Tsanawiyah Arrukhshatul'ulum: The Challenges of Digitalization in Developing Islamic Educational Institutions. *Mudir: Jurnal Manajemen Pendidikan*, 7(1), 19–27. <https://doi.org/https://doi.org/10.55352/mudir.v7i1.1469>
- Fitria, A., Ramdani, C., Miftahudin, U., Badar, A., Purwakarta, C., Karakter, P., & Education, C. (2024). Peran sekolah dalam upaya optimalisasi pendidikan karakter anak usia dini. *Banun: Jurnal Pendidikan Islam Anak Usia Dini*, 2(2), 57–67.
- Grass Ramírez, J. F., Muñoz, R. C., & Zarthia Sossa, J. W. (2023). Innovations and trends in the coconut agroindustry supply chain: a technological surveillance and foresight analysis. *Frontiers in Sustainable Food Systems*, 7, 1048450. <https://doi.org/https://doi.org/10.3389/fsufs.2023.1048450>
- Haleem, A., Javaid, M., Qadri, M. A., & Suman, R. (2022). Understanding the role of digital technologies in education: A review. *Sustainable Operations and Computers*, 3(February), 275–285. <https://doi.org/10.1016/j.susoc.2022.05.004>
- Hewi, L., & Shaleh, M. (2020). Refleksi Hasil PISA (The Programme For International Student Assesment): Upaya Perbaikan Bertumpu Pada Pendidikan Anak Usia Dini). *Jurnal Golden Age*, 4(01), 30–41. <https://doi.org/10.29408/jga.v4i01.2018>
- Hidayati, R. (2020). Peran Orang Tua: Komunikasi Tatap Muka dalam Mengawal Dampak Gadget pada Masa Golden Age. *Source: Jurnal Ilmu Komunikasi*, 5(2). <https://doi.org/https://doi.org/10.35308/source.v5i2.1396>
- Itsna, N. M., & Rofi'ah, R. (2021). Dampak Penggunaan Gadget pada Interaksi Sosial Anak Usia Dini. *Ummul Qura Jurnal Institut Pesantren Sunan Drajat (INSUD) Lamongan*, 16(1), 60–70. <https://doi.org/https://doi.org/10.55352/uq.v16i1.380>
- Khaironi, M. (2020). Perkembangan Anak Usia Dini. *Jurnal Golden Age Hamzanwadi University*, 1(1), 92–105. <https://doi.org/10.54045/ecie.v1i1.35>
- Marina, D. F., & Lessy, Z. (2024). Peran Guru dalam Mengembangkan Kognitif Anak Usia Dini Melalui Permainan Sains Sederhana Taman Kanak-Kanak Harapan Jaya Bandar Lampung. *Jurnal Pendidikan Islam Anak Usia Dini*, 3, 1–10.
- Nurhayati, S., & Musa, S. (2020). Analysis of Students' Internet Utilization to Improve Public Information Literacy in the Industrial Revolution Era 4.0. *Society*, 8(2), 557–566. <https://doi.org/https://doi.org/10.33019/society.v8i2.231>
- Nurhikmah, N. (2024). Character Education Islam From the Views of Imam Al-Ghazali. *Jurnal Al Burhan*, 4(1), 53–66. <https://doi.org/10.58988/jab.v4i1.300>
- Pratama, D. W. Y. (2024). Pengaruh Gadget Terhadap Perkembangan Anak Usia Dini. *Jurnal Akselerasi Merdeka Belajar Dalam Pengabdian Orientasi Masyarakat (AMPOEN): Jurnal Pengabdian Kepada Masyarakat*, 2(1b), 394–397. <https://doi.org/https://doi.org/10.32672/ampoen.v2i1b.2008>
- Rahim, A., Nursalam, Suhartatik, Nurhikmah, & Akhiruddin. (2024). Konsep Ideologi Sastra Lisan Doangang Makassar dalam. *Jurnal Onoma: Pendidikan, Bahasa, Dan Sastra*, 10(3), 3274–3282.
- Rahman, H., & Sudirman, S. (2024). From Bayt al-Hikmah to Algebra: The Intellectual Legacy of the Islamic Golden Age. *Journal of Islamic Thought and Philosophy*, 3(2), 170–186. <https://doi.org/https://doi.org/10.15642/jitp.2024.3.2.170-186>
- Rahmaniar, E., Maemonah, M., & Mahmudah, I. (2021). Kritik Terhadap Teori Perkembangan Kognitif Piaget pada Tahap Anak Usia Sekolah Dasar. *Jurnal Basicedu*, 6(1), 531–539. <https://doi.org/10.31004/basicedu.v6i1.1952>
- Rahmawati, I. (2020). Hubungan Penggunaan Gadget terhadap Perkembangan Sosial Emosional

Anak Usia 5-6 Tahun di Era 4.0. Universitas Muhammadiyah Ponorogo.

- Ridzal, D. A. (2022). Edukasi Pemnfaatan Gadget Sebagai Media dan Sumber Pembelajaran. *JCES (Journal of Character Education Society)*, 5(3), 612-619. <https://doi.org/https://doi.org/10.31764/jces.v5i3.9434>
- Riyanto, M. (2022). Strategi Pembelajaran Pendidikan Anak Usia Dini Di Masa Pandemi Covid-19. *Jurnal Suara Pengabdian* 45, 1(1), 48-54. <https://doi.org/https://doi.org/10.14421/jga.2020.53-05>
- Sabrina, A. R. (2019). Literasi Digital Sebagai Upaya Preventif Menanggulangi Hoax. *Communicare : Journal of Communication Studies*, 5(2), 31. <https://doi.org/10.37535/101005220183>
- Setiadi, D., Nurhayati, S., Ansori, A., Zubaidi, M., & Amir, R. (2023). Youth's Digital Literacy in the Context of Community Empowerment in an Emerging Society 5.0. *Society*, 11(1), 1-12. <https://doi.org/10.33019/society.v11i1.491>
- Setyawan, I. D. A., Ade Devriany, S. K. M., & Huda, N. (2021). *Buku Ajar Statistika*. Penerbit Adab.
- Souza, A. S. C. de, & Debs, L. (2024). Concepts, innovative technologies, learning approaches and trend topics in education 4.0: A scoping literature review. *Social Sciences & Humanities Open*, 9, 100902. <https://doi.org/https://doi.org/10.1016/j.ssaho.2024.100902>
- Sugiyono. (2021). *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Alfabeta.
- Tamin, K. B., Ubadah, U., & Mashuri, S. (2022). Tantangan Pendidikan dalam Era Abad 21. *Prosiding Kajian Islam Dan Integrasi Ilmu Di Era Society 5.0 (KIIIES 5.0) Pascasarjana*, 1, 338-342.
- Tamphu, S., Suyitno, I., Susanto, G., Budiana, N., & Salim, M. R. (2024). Building bridges to the future of learning : Exploring artificial intelligence research using R- Studio assisted bibliometrics. *Cogent Education*, 11(1). <https://doi.org/10.1080/2331186X.2024.2417623>
- Trisnawati, W., & Sugito, S. (2020). Pendidikan Anak dalam Keluarga Era Covid-19. *Jurnal Obsesi : Jurnal Pendidikan Anak Usia Dini*, 5(1), 823-831. <https://doi.org/10.31004/obsesi.v5i1.710>
- Wati, E. S., Zaman, B., & Ramdani, C. (2024). Parents' Perception of Their Role in Character Education for Early Childhood in Indonesia. *Jurnal Komunikasi Pendidikan*, 8(2), 225-234.
- Wulansari, A. D. (2023). *Aplikasi Statistika Nonparametrik dalam Penelitian*. Thalibul Ilmi Publishing & Education.