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The Effect of Gadget Use and Parental Involvement on the Speaking Skills of Children Aged 4–5 Years

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Abstrak

Penelitian ini dilatarbelakangi oleh masih rendahnya kemampuan berbicara anak usia 4–5 tahun di lingkungan Desa Lubuk Saung, Kecamatan Banyuasin III, yang diperkirakan dipengaruhi oleh tingginya penggunaan gadget dan rendahnya keterlibatan orang tua. Penelitian ini bertujuan untuk menganalisis pengaruh penggunaan gadget dan keterlibatan orang tua terhadap kemampuan berbicara anak. Metode penelitian ini menggunakan pendekatan kuantitatif dengan jenis ex post facto. Populasi berjumlah 40 anak dengan teknik pengambilan sampel yang digunakan adalah teknik sampling jenuh. Adapun pengumpulan data dilaksanakan melalui observasi, angket (kuesioner), dan dokumentasi. Proses analisis data dilakukan melalui beberapa pengujian, yakni uji validitas, reliabilitas, normalitas, regresi linier berganda, uji t, uji F, dan koefisien determinasi (R^2). Temuan penelitian menghasilkan bahwa seluruh instrumen valid (r hitung > 0,312) dan reliabel (a = 0,922–0,955), serta data berdistribusi normal (Sig. 0,116 > 0,05). Persamaan regresi diperoleh: $Y = -6,775 – 0,052X_1 + 0,407X_2 + e$. Hasil analisis menggunakan uji t menunjukkan bahwa penggunaan gadget berpengaruh secara signifikan (Sig. 0,000 < 0,05; Ho ditolak) serta keterlibatan orang tua juga memberikan pengaruh positif yang signifikan (Sig. 0,000 < 0,05; Ho ditolak). Selain itu, hasil uji F mengindikasikan adanya pengaruh simultan yang signifikan (Sig. 0,000 < 0,05). 0,05; Ho ditolak). Nilai R^2 sebesar 0,374 menunjukkan kontribusi kedua variabel sebesar 37,4% terhadap kemampuan berbicara anak. Dengan demikian, penggunaan gadget yang tinggi cenderung menurunkan kemampuan berbicara anak, sedangkan keterlibatan orang tua yang optimal dapat meningkatkan kemampuan berbicara pada anak.

***Kata kunci**: kemampuan berbicara, keterlibatan orang tua, penggunaan gadget.*

Abstract

This research is motivated by the low speaking ability of children aged 4-5 years in Lubuk Saung Village, Banyuasin III District, which is thought to be influenced by the high use of gadgets and low parental involvement. This study aims to determine the effect of gadget use and parental involvement on children's speaking ability. The method used is quantitative with ex post facto type. The population is 40 children with saturated sampling technique. Data collection is done through observation, questionnaires, and documentation. Data analysis includes validity, reliability, normality, multiple linear regression, t-test, F-test, and coefficient of determination (R^2). The results show that all instruments are valid (r count > 0.312) and reliable (α = 0.922–0.955), and the data are normally distributed (Sig. 0.116 > 0.05). The regression equation obtained is $Y = -6.775 – 0.052X_1 + 0.407X_2 + e$. The t-test shows that gadget use has a significant negative effect (Sig. 0.000 < 0.05; H_0 rejected) and parental involvement has a significant positive effect (Sig. 0.000 < 0.05; H_0 rejected). The F-test shows a significant simultaneous effect (Sig. 0.000 < 0.05; H_0 rejected). The R^2 value of 0.374 indicates that the contribution of both variables is 37.4% to children's speaking ability. Thus, high gadget use tends to decrease children's speaking ability, while optimal parental involvement can improve children's speaking ability.

Keywords: gadget use, parental involvement, speaking ability

Introduction

Issues related to children's growth and development are becoming more common. The number of cases involving young children experiencing these issues is on the rise. Children who have difficulty speaking may face challenges in reading and writing at an early age, which can lead to lower learning abilities (Hidayat et al., 2025). If this condition is not addressed promptly, children are likely to face obstacles in socializing and adapting to their surroundings. Ministry of Education and Culture Regulation No. 137 of 2014 contains provisions regarding the National Standards for Early Childhood Education (PAUD), which serve as a reference for the development of early childhood education.

Children need to be developed in six main aspects, namely: (1) moral and religious values; (2) physical development, which includes gross and fine motor skills; (3) cognitive development, which includes general knowledge, science, and concepts of shape, color, size, patterns, and numbers; (4) social-emotional development; (5) language; and (6) the

arts. Every child is unique at each stage of their development, so it is important for parents and educators to understand these characteristics and provide stimulation tailored to the child's needs. One aspect that plays a major role in a child's development is language ability, so it must be taken seriously. Through language, children are able to communicate, form social relationships, express ideas and thoughts, and absorb various forms of knowledge from their environment (Talango, 2020).

Verbal skills play a central role during the "golden period" of human development, as they serve as a bridge for children to express their ideas, subjective desires, and emotional fluctuations. From a normative-theoretical perspective, children aged 4 to 5 years should have achieved a level of independence in constructing simple sentences for the purpose of reciprocal communication (Afifah et al., 2021). However, empirical reality in the field often reveals a sharp discrepancy; there are still many children with verbal delays characterized by a limited vocabulary, articulation difficulties, and a tendency to rely on nonverbal communication or body language.

Speaking is, in essence, a complex psychomotor operation in which a child transmits thoughts so that they can be accurately interpreted by the person they are speaking with (Fadhillah et al., 2023). This ability is an absolute prerequisite for the creation of harmonious social integration. The development of this linguistic capacity is highly dependent on the quality of circular communication that takes place within the child's immediate environment, particularly on the closeness of dialogic interaction with parental figures (Alfira et al., 2024).

Kurniasih emphasizes that a child's verbal proficiency is largely determined by the quantity and quality of the lexicon or vocabulary they acquire through interactions with adults in both domestic and school settings. There is a strong positive correlation between the quality of a child's speech and the intensity of consistent language exposure they receive (Fernando, 2018). In line with this perspective, Fatmawati underscores that providing language stimulation from an early age is key to enabling children to translate their feelings, dreams, and logical reasoning into verbal form (Kurniasih 2017). Hurlock et al. (2015), in their classic work on child development, explain that speech is a functional form of language that utilizes the coordination of vocal articulation to convey specific intentions.

This phenomenon involves synergy between the muscular mechanisms of the speech organs and cognitive processes to link meaning with the sounds produced. Lestari (2016) emphasizes that in children aged 4–5 years, indicators of speech maturity can be

observed in their confidence in expressing personal opinions and their accuracy in responding to verbal stimuli through complete and clear sentence structures. At this stage, the clarity of intonation and the accuracy of responses serve as key parameters for assessing a child's developmental progress. One external variable that significantly influences the dynamics of a child's speech development is the intensity of interaction with digital devices. Although electronic devices such as smartphones and tablets can provide beneficial educational content, their uncontrolled and unsupervised use can actually hinder language development. This situation often positions children as passive audiences who merely receive one-way information from digital screens without any space for dialogue or the exchange of ideas. Zein (2020) explains that this reliance on technology results in children experiencing visual dominance but experiencing a decline in verbal performance.

Excessive screen exposure reduces children's motivation to communicate verbally because they feel satisfied with instant visual stimulation. Safitri et al. (2024) also confirm that excessive device use is a primary trigger for children's difficulties in responding during conversations and delays in constructing simple sentences. Oktaviana et al. (2021) add that high screen time is inversely proportional to the frequency of social interaction and opportunities to receive high-quality language stimulation. Papalia (2015) notes that screen time exceeding normal limits robs children of productive time needed to practice their interpersonal communication skills. This ultimately weakens the density of social interaction and hinders linguistic development, as young children fundamentally require active and participatory verbal experiences (Salsabila, 2022). Therefore, the family unit must remain the cornerstone of the speech stimulation process (Hartati, 2020), with ongoing dialogue between parents and children serving as its most fundamental foundation.

Various empirical studies on the correlation between device use and parental involvement in children's speech development have provided profound insights. Research conducted by Septyani et al. (2021) revealed a crucial finding, children who use digital devices without parental presence or supervision have up to a 79% probability of experiencing speech delay. This study is grounded in the theoretical framework of Vygotsky et al. (1978), which views social interaction as the primary driver of children's language development.

In line with this, Sofiyah et al. (2024), through their research on parenting styles and gadget use, concluded that a responsive parenting style and wise screen time management make a highly significant positive contribution to children's speech development. Children

raised in an environment of active parenting tend to exhibit far superior verbal performance. Overall, the various studies confirm that the misuse of technology, coupled with a lack of parental presence, can impair the quality of language development in young children.

Based on the results of observations and initial interviews conducted with parents, it was found that a number of children in Lubuk Saung Village experience difficulties with speech, such as trouble expressing ideas in complete sentences, speaking unclearly, and struggling to develop the vocabulary needed for communication. The interview results also showed that parents reported their children spent more time playing with gadgets than interacting directly with parents or peers. Children tended to focus on phone or tablet screens without engaging in two-way communication. This situation is a serious concern, given that early childhood is the golden age for the development of children's language and speech skills.

Parents' busy schedules lead children to play alone more often, while verbal interaction between parents and children becomes very limited. Parents also tend to provide one-way forms of play, such as through the use of gadgets. The content displayed on these devices such as videos without sound or with unclear language is often not accompanied by parental guidance. As a result, children who continuously watch such videos tend to become passive and less verbal. When asked questions, children mostly respond with body movements or nods and head shakes that they mimic from what they see on the gadgets. Parental involvement is a form of collaborative interaction between parents and children that creates a more positive environment and strengthens their bond and mutual support (Siregar & Ritonga, 2024). Under these conditions, children are still unable to listen to and respond to conversations with their peers.

Efforts such as reading books to children from an early age can serve as stimulation that helps children develop language skills, while also encouraging them to understand and express what needs to be done to prevent speech delays in early childhood. According to Epstein (2011), parental involvement encompasses six main components: parenting styles, communication between home and school, volunteering in educational settings, support for children's learning activities at home, participation in decision-making processes, and collaboration with the surrounding community.

Parental participation encompasses caregiving, communication, and support for children's learning. Santrock (2019) also notes that consistent parental involvement and

support can strengthen children's social-emotional development and language skills, particularly through intensive and meaningful communication. Parental involvement plays a crucial role in optimizing children's language development and emotional well-being through regular and meaningful communication. Meanwhile, according to Vygotsky et al. (1978), a child's language abilities develop to their fullest potential through social interaction with adults within the Zone of Proximal Development (ZPD). Thus, social interaction with adults plays a role in optimizing a child's language development.

The findings of this study are expected to serve as a strategic reference for various stakeholders from education practitioners to policymakers in developing more effective methods for addressing speech disorders. Additionally, the results of this study are expected to provide parents with a new perspective on reforming their parenting styles to better support children's language development from an early stage. Based on a synthesis of the empirical phenomena and theoretical framework presented, a hypothesis can be formulated that intensive device use and the quality of parental involvement are the two main determinants influencing the speech ability profile of 4–5-year-old children. Therefore, this study specifically aims to conduct an in-depth analysis of the extent to which the variables of digital device usage and the level of parental involvement influence children's speech competence in the Lubuk Saung Village area, Banyuasin III Subdistrict.

Methodology

This study employed a quantitative approach using an ex post facto research design. The choice of this quantitative framework was based on the researcher's need to precisely calculate the degree of influence exerted by the variables of device use and parental involvement on children's verbal skills through numerical representations and statistical analysis procedures. An ex post facto design was used because this study observed phenomena or events that had occurred naturally without researcher manipulation, with the primary objective of identifying the factors that triggered or caused these events (Sugiyono 2019).

The study population in this research comprises all children aged 4–5 years residing in Lubuk Saung Village, Banyuasin III Subdistrict, with a total of 40 subjects. Referring to Arikunto (2019), it is emphasized that if the population size is less than 100 people, it is strongly recommended to include all members of that population in the research sample. This procedure is known as saturation sampling, in which the entire population is selected

as the sample to enhance the generalizability of the research findings. In an effort to collect primary data, the researcher employed a strategy involving direct interaction with data sources. The primary instrument used was a structured questionnaire that had been carefully prepared for completion by the respondents.

Specifically, the data collection process focused on variables related to the influence of digital device use and parental involvement on the speech competencies of young children. In addition to the questionnaires, the researcher also enriched the data through in-depth field observations and document analysis to ensure the completeness of the necessary information. All collected data were then processed through several rigorous stages of statistical analysis. The initial stage began with a normality test to verify whether the research data followed a normal distribution a prerequisite for parametric statistical analysis. Next, the researchers conducted a multicollinearity test by examining the Tolerance and Variance Inflation Factor (VIF) values to ensure that there were no extremely strong correlations or overlaps among the independent variables. Additionally, a heteroscedasticity test was applied to detect any unequal variances of the residuals in the regression model.

For hypothesis testing, partial analysis or t-tests were conducted to examine the independent effects of each independent variable, namely intensity of device use and parental involvement on the dependent variable of speech ability. Furthermore, simultaneous tests or F-tests were performed to evaluate the extent to which these two independent variables collectively influence the dependent variable. Finally, the coefficient of determination (R^2) was used to estimate the percentage of variation in children's speaking ability that is explained by the independent variables.

Results and Discussion

Results

The findings from the testing phase of the research instrument which evaluated the correlation between the intensity of device use and parents' active involvement in relation to the verbal abilities of children aged 4 to 5 years in Lubuk Saung Village, Banyuasin III Subdistrict confirmed that all measurement instruments met the required academic validity standards. Through the item validity analysis procedure, involving 40 research subjects (n=40) at a 5% significance level, the r-table parameter was set at 0.312. All statement indicators comprising the variables of device usage, parental involvement, and children's

speaking competence showed calculated r coefficients that consistently exceeded this r-table threshold. More specifically, the distribution of calculated r values for the device usage dimension ranged from 0.696 to 0.878; the parental involvement dimension recorded values between 0.366 and 0.743; while the verbal ability dimension ranged from 0.753 to 0.934. Based on this accumulated data, it can be justified that each item in the instrument possesses a valid level of measurement accuracy (Arikunto, 2019).

Furthermore, an examination of the instrument's reliability provides an indication of highly satisfactory measurement stability. This is evidenced by the significant Cronbach's Alpha coefficients obtained: 0.937 for the device usage intensity variable, 0.922 for the parental involvement variable, and the highest value of 0.955 for the verbal ability variable. Given that all these values are well above the minimum consistency threshold of 0.60, it can be concluded that this research instrument possesses a very robust degree of reliability (Guilford, 1956). Thus, the instrument meets the quality criteria for use as a tool for collecting primary data in this study, as it is capable of producing statistically reliable data.

As a crucial step before proceeding to test the research hypotheses, all collected data first underwent a series of classical assumption tests to ensure the appropriateness of the estimation model. First, in testing the data distribution using the Kolmogorov-Smirnov test, a p-value of 0.116 was obtained. Since this p-value is greater than the critical threshold of 0.05, it can be concluded that the residual data in this model are normally distributed (Aminoto, 2024). Second, to verify the presence or absence of excessive linear relationships among the independent variables, a multicollinearity test was conducted, yielding a Tolerance value of 0.981 and a Variance Inflation Factor (VIF) score of 1.020. These results indicate that the research model is free from multicollinearity constraints because the VIF value is well below 10 (Indartini & Mutmainah, 2024).

Third, a check for potential heteroscedasticity was conducted through visual inspection of the scatterplot. The data visualization showed that the data points were randomly distributed and widely scattered without forming any systematic geometric patterns. This finding confirms that the regression model used meets the requirement of homoscedasticity, meaning it has constant residual variance (Efendi et al., 2020). In essence, this series of tests reinforces the initial indication that there is a trend whereby the higher the frequency of device use among children, the more significant the decline in their speaking ability. This finding underscores the need for in-depth attention to patterns of digital interaction among young children.

Table 1. Multiple Regression Test Results

Variable	ß coefficient	Standard Error
Constants	-6,775	9,066
Gadget Use	-0,052	0,117
Parental Involvement	0,407	0,087

The regression equation derived from the table shows a constant of -6.775, indicating that if the variables for gadget use and parental involvement are assumed to be zero, the child's verbal ability takes on a negative value. When analyzed separately, the gadget use variable has a beta coefficient of -0.052 with a standard error of 0.117. This negative coefficient suggests an inverse relationship between the duration of digital device use and children's verbal skills, meaning that any increase in gadget use carries the risk of reducing their speaking ability, although statistically, this effect requires further examination based on its significance level.

On the other hand, the parental involvement variable showed a positive and significant contribution to children's development, with a beta coefficient of 0.407 and a standard error of 0.087. This implies that any increase in parental participation and active interaction is followed by a noticeable improvement in children's speaking ability. Compared to gadget use, the factor of parental involvement has a far stronger and more dominant influence on stimulating language skills. Thus, parents act as a crucial catalyst capable of optimizing children's communication development while mitigating the negative effects of excessive exposure to technology.

Discussion

1. **The Effect of Gadget Use on the Speaking Skills of Children Aged 4–5 Years**

   Based on the data analysis, it was found that gadget use has implications for children's verbal articulation capacity, as indicated by a negative correlation. This phenomenon suggests that an increase in the duration and intensity of digital device use is inversely proportional to the quality of children's speech performance, which tends to deteriorate. Referring to the results of the individual parameter test (t-test), a significance value of 0.000 was obtained, which is well below the threshold of 0.05, and is supported by a regression coefficient of -0.052. These statistical data provide strong evidence that the variable of digital device usage has a highly significant effect on children's linguistic competence, albeit with a contradictory relationship.

Furthermore, the calculated t-score of -0.448 confirms the existence of an inverse or negative relationship between the two variables. Thus, it can be inferred that the use of electronic devices beyond reasonable limits has the potential to have adverse consequences for the development of children's oral communication skills. These research findings align with the postulate by Ghozali & Dan (2017), who state that if the significance level is below 0.05, this validates the existence of a significant effect between the independent and dependent variables. In line with this, Santrock explains that children's language competence reaches its peak through active socialization; thus, the lack of social interaction caused by device distractions can act as a barrier to the acquisition of speaking skills (Santrock 2019). This argument is further reinforced by Lev Vygotsky's theoretical framework, which emphasizes that the dynamics of social interaction are a fundamental pillar in the phase of children's language acquisition. Through the process of socializing with their surrounding environment, young individuals receive linguistic stimulation that serves as the primary catalyst for the development of their speaking skills.

If the frequency of such interactions is reduced due to excessive consumption of digital content, the child's language development trajectory is at high risk of being hindered (Vygotsky et al., 2018). Furthermore, Jean Piaget's perspective on the preoperational stage experienced by children aged 4–5 years also emphasizes that language maturation is heavily influenced by active engagement and empirical experiences in the physical environment. The passive nature of device use causes children to miss valuable opportunities to engage in proportionate two-way dialogue (Goswami, 2019). In line with this, Albert Bandura (2020) explains that children's learning occurs through the mechanisms of observation and imitation of the external environment. If children focus their attention more frequently on device screens than on people, the opportunities to imitate human language patterns become severely limited, which ultimately results in deficits in speech ability.

In fact, dependence on digital technology can lead to a decline in the frequency of direct communication between children and their surrounding social communities. However, two-way communication is a crucial determinant in stimulating language development; a lack of such verbal stimulation results in children's inability to fully develop their speech potential. Before testing the main hypothesis, the data in this

study were confirmed to meet the prerequisites for classical assumption testing as the basis for the validity of the analysis.

The results of the normality test showed a significance value of 0.116 (> 0.05), which was also validated by a Monte Carlo value of 0.522 (> 0.05), confirming that the data distribution is normal. Next, in the multicollinearity test, a Tolerance value of 0.981 (> 0.10) and a VIF of 1.020 (< 10) were found, indicating that there is no overlap or interference in the relationships among the independent variables. Finally, the heteroscedasticity analysis did not reveal any specific distribution pattern in the data, concluding that the proposed regression model is free from the problem of constant residual variance in this study.

2. The Effect of Parental Involvement on the Speech Skills of Children Aged 4–5 Years

The findings of this study confirm that active parental participation has a constructive and meaningful impact on children's verbal proficiency. This phenomenon suggests that an increase in the intensity of parental involvement is directly proportional to an improvement in the quality of the children's speaking skills. Based on the results of the partial t-test, a significance value of 0.000 (below the 0.05 threshold) was recorded, with a regression coefficient of 0.407. Furthermore, the calculated t-value of 4.702 strengthens the evidence that parental presence and involvement have a massive driving force on the progression of children's verbal abilities. Therefore, it can be inferred that parental involvement is a fundamental determinant in laying the foundation for language development in early childhood.

These results are consistent with the thesis put forward by Sugiyono (2019), in which a p-value less than 0.05 serves as a strong indicator that the hypothesis proposed in the study should be accepted. In line with this view, Hurlock (2018: 113) also explains that a child's linguistic development is closely tied to the quality of their communication with adults, particularly parents as their primary social ecosystem. Parents' tangible role can be manifested through continuous dialogue, the provision of varied linguistic stimulation, and guidance in daily routines, thereby giving children ample room to fully realize their speaking potential. The above argument is reinforced by Lev Vygotsky's postulate, which positions social interaction as the central axis of language development; through the exchange of information with their surroundings,

children receive guidance and stimulation that accelerate their verbal proficiency (Vygotsky et al., 2019).

Furthermore, Mushi (2002) explains that parents hold strategic control in facilitating their children's language acquisition. In this regard, parents act as catalysts who provide linguistic role models, systematic guidance, and moral support during their children's linguistic development. On the other hand, Albert Bandura (2020) also argues that children's learning mechanisms rely on the processes of observation and imitation of their environment. In this context, the presence of parents provides a model of language behavior that children naturally imitate, thereby enabling their speaking skills to develop in a more progressive direction.

From a methodological perspective, based on classical assumption tests, the primary data in this study were found to meet the normality prerequisite with a significance value of 0.116 (> 0.05), consistently supported by a Monte Carlo value of 0.522 (> 0.05), indicating that the data distribution follows a normal distribution. Furthermore, the calculation results also demonstrate that this model is free from indications of multicollinearity or heteroscedasticity, meaning that the applied regression framework is valid, credible, and meets all the strict criteria of the classical assumption tests.

3. The Effect of Gadget Use and Parental Involvement on the Speaking Skills of Children Aged 4–5 Years

Collectively, the findings of this study demonstrate that the interaction between the intensity of device use and the degree of parental involvement has a highly significant impact on the verbal competence of young children. This phenomenon confirms that these two independent variables are important determinants in explaining fluctuations in speech quality among the study participants. This argument is validated by the results of the F-test, which yielded a significance value of 0.000—a figure well below the critical threshold of 0.05 ($p < 0.05$)—thereby establishing that this regression model exhibits a very high overall level of accuracy.

Based on the results of the multiple linear regression analysis, the following mathematical formula was derived: $Y = -6.775 - 0.052X_1 + 0.407X_2 + e$. The constant and coefficients in this equation confirm that the use of digital devices has negative consequences for children's speech development, whereas, on the other hand, the presence and active involvement of parents serve as the primary drivers in accelerating

children's communication skills. Furthermore, the results of the coefficient of determination (R^2) test yielded an R^2 value of 0.374, equivalent to 37.4%. These data indicate that the variables of gadget use and parental involvement together account for 37.4% of the total variation in children's speech abilities, while the majority 62.6% is determined by other external variables not included in the scope of this study. These empirical findings align with the thesis proposed by Hair et al. (2019) and Emilia Kurniawati & Sulastri Rini Rindrayani (2025), which explains that a p-value below 0.05 in a simultaneous test indicates that all independent variables collectively influence the dependent variable.

Field also emphasized that the significant F-test result proves that the applied regression framework is capable of empirically explaining the relationships among variables based on accurate field data, theoretical synthesis, and the developmental context. This analysis is further reinforced by Urie Bronfenbrenner's ecological perspective on development, which posits that a child's growth is the product of various environmental systems, with the family unit serving as the closest and most influential microsystem (Tudge et al, 2021).

Within this framework, gadget use and the quality of parental engagement are functional environmental elements that have a direct impact on a child's linguistic development. In line with this, the social constructivism theory of Vygotsky & Cole (1978) also emphasizes that a child's language development is highly dependent on the quality of the social interactions they experience. Parental participation acts as scaffolding for language development, whereas excessive exposure to gadgets has the potential to degrade the quality of these interpersonal interactions. This underscores that two-way communication is a fundamental pillar of language acquisition.

Furthermore, Bahn (2001), through Bandura social learning theory, explains that children acquire knowledge through observation and imitation of behavior. Active parental presence provides positive models of verbal communication for children to emulate, while excessive use of electronic devices reduces children's golden opportunities to imitate forms of verbal communication directly from real-life figures. Thus, it can be concluded that high levels of technology use without moderation specifically, parental involvement poses a significant risk of lowering children's speech quality. Conversely, optimizing the parental role not only enhances speaking ability but also acts as a shield to minimize the negative effects of device use. Finally, through a

series of preliminary tests, it was confirmed that this model is free from multicollinearity and heteroscedasticity, as no correlations were found among the independent variables nor any systematic patterns in the distribution of residual data..

Conclusion

Based on the results of the research analysis, it can be concluded that gadget use has a significant negative impact on the speech abilities of children aged 4–5 years. Conversely, parental involvement has a significant positive impact on improving children's speech abilities. Together, these two variables were found to have a significant impact on children's speech abilities, accounting for 37.4% of the variation, while the remainder is influenced by other factors outside the scope of this study. These findings indicate that excessive gadget use without supervision and guidance can hinder the development of children's speaking skills. Conversely, active parental involvement through communication and the provision of language stimulation can support the optimal development of children's speaking skills. Therefore, parents are advised to better control their children's gadget use and to increase the intensity and quality of interactions in daily life. Future researchers are encouraged to examine other variables that influence children's speech abilities using a wider variety of research approaches and methods to obtain more comprehensive results.

Bibliography

Afifah, & Chandra, A. (2021). Perkembangan bahasa anak usia 4–5 tahun (ditinjau dari pemerolehan semantik dan fonetik) dengan menggunakan kegiatan bercerita jurnal pagi dan cerita sehari-hari di TK Muslimat NU Masyitoh 19 Annisa. *International Journal of Elementary School, 1*(1), 45–58.

Alfira, D., Fuad, M., & Siregar, Z. (2024). Pentingnya peran orang tua dalam memajukan keterampilan berbahasa anak usia dini melalui komunikasi. *Jurnal Pendidikan Anak Usia Dini, 1*(4), 1–15. https://doi.org/10.47134/paud.v1i4.641

Aminoto, T. (2024). *Statistika penelitian kuantitatif*. Minhaj Pustaka.

Arikunto, S. (2019). *Prosedur penelitian: Suatu pendekatan praktik*. Rineka Cipta.

Dolores Bahn. (2001). Social Learning Theory: its application in the context of nurse education. *Nurse Education Today*, 21,2. https://doi.org/10.1054/nedt.2000.0522

Berliana, D., Rosidah, L., & Sayekti, T. (2022). Pengaruh penggunaan gadget terhadap interaksi sosial anak usia 5–6 tahun. *Kiddo: Jurnal Pendidikan Islam Anak Usia Dini, 3*(1), 23–37. https://doi.org/10.19105/kiddo.v3i1.5065

Tudge, J. R. H., Navarro, J. L., Merçon-Vargas, E. A., & Payir, A. (2021). The promise and the practice of early childhood educare in the writings of Urie Bronfenbrenner. Early Child Development and Care, 191(7–8), 1079–1088. https://doi.org/10.1080/03004430.2020.1844193

Creswell, J. W., & Creswell, J. D. (2017). *Research design: Qualitative, quantitative, and mixed methods approaches*. Sage Publications.

Efendi, A., Fitriani, R., Wardhani, N. W. S., & Sumarminingsih. (2020). *Analisis regresi: Teori dan aplikasi dengan R*. UB Press.

Epstein, J. L. (2002). *School, family, and community partnerships: Preparing educators and improving schools*. https://doi.org/10.1002/j.1556-6678.2002.tb00155.x

Fadhillah, N., Kusumawardani, R., & Rosidah, L. (2023). *Pengaruh penggunaan YouTube terhadap kemampuan berbicara pada anak usia 4–5 tahun*. Universitas Sultan Ageng Tirtayasa.

Fernando, F., & Etriyanti. (2018). Hubungan stimulasi orang tua terhadap perkembangan bicara dan bahasa anak usia batita. *Jurnal Ilmu Kesehatan, 3*(2), 140–145. https://doi.org/10.33757/jik.v3i2.144

Ghozali, I. (2017). *SPSS*. Badan Penerbit Universitas Diponegoro.

Goswami, U. (Ed.). (2013). *The Wiley-Blackwell handbook of childhood cognitive development*. John Wiley & Sons.

Guilford, J. P. (1956). *Fundamental statistics in psychology and education* (3rd ed.). McGraw-Hill Book Company.

Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2019). *Multivariate data analysis* (8th ed.). Cengage Learning.

Hidayat, N., Fernanda, Y., & Umam, K. (2025). Dampak keterlambatan bicara dan kurangnya penguasaan bahasa isyarat pada anak tunarungu. *Jurnal Studi Pendidikan Dasar, 3*(1), 93–105.

Hurlock, E. B. (2015). *Perkembangan anak*. Erlangga.

Indartini, M., & Mutmainah. (2024). *Analisis data kuantitatif*. Lakeisha.

Kurniasih, I. (2017). *Pendidikan anak usia dini*. Kata Pena.

Kurniawati, E., & Rindrayani, S. R. (2025). Pendekatan kuantitatif dengan penelitian survei: Studi kasus dan implikasinya. *SOSIAL: Jurnal Ilmiah Pendidikan IPS, 3*(1), 65–69. https://doi.org/10.62383/sosial.v3i1.596

Lestari, S. (2016). *Psikologi keluarga: Penanaman nilai dan penanganan konflik dalam keluarga*. Prenada Media.

Mushi, S. (2002). Acquisition of Multiple Languages Among Children of Immigrant Families: Parents' Role in the Home-School Language Pendulum. *Early Child Development and Care*, *172*(5), 517–530. https://doi.org/10.1080/03004430214546

Oktaviana, A. (2021). Dampak penggunaan gadget terhadap interaksi sosial anak usia dini perspektif hadis. *4*(2), 145–153.

Papalia, D. E. (2015). *Human development*. McGraw-Hill Education.

Safitri, L. (2024). Pengaruh penggunaan gadget terhadap perkembangan bahasa anak usia dini. *UMMAT Scientific Journals, 4*(1), 54–66. https://journal.ummat.ac.id

Santrock, J. W. (2019). *Life-span development*. McGraw-Hill Education

Septyani, R. A., Lestari, P., & Suryawan, A. (2021). Penggunaan gadget pada anak: Hubungan pengawasan dan interaksi orang tua terhadap perkembangan bicara dan bahasa anak. *Jurnal Obsesi: Jurnal Pendidikan Anak Usia Dini, 6*(2), 121–130. https://doi.org/10.31004/obsesi.v6i2

Siregar, I. A., & Ritonga, S. (2024). Analisis antara kompetensi sosial guru dan keterlibatan orang tua dalam pendidikan anak. *Qalam lil Mubtadiin, 2*(2), 9–15.

Sofiyah, I., Susaldi, N., & Sumanti, N. T. (2024). Hubungan pengetahuan, pola asuh orang tua, dan durasi paparan gadget dengan kejadian *speech delay* (keterlambatan berbicara) pada anak prasekolah usia 3–6 tahun di Klinik Ikhlas Medika 2 tahun 2023. *Sinergi: Jurnal Riset Ilmiah, 1*(2), 90–98. https://doi.org/10.62335/vxf61z66

Sugiyono. (2019b). *Metode penelitian pendidikan: Pendekatan kuantitatif, kualitatif, dan R&D*. Alfabeta.

Talango, S. R. (2020). Konsep perkembangan anak usia dini. *Early Childhood Islamic Education Journal, 1*(1), 92–105.

Tanjung, P. S., & Hartati, S. (2020). Pengaruh pola komunikasi verbal orang tua terhadap kemampuan berbicara anak usia dini. *Jurnal Pendidikan Tambusai, 4*(3), 3380–3386. https://doi.org/10.31004/jptam.v4i3

Vygotsky, L. S., & Cole, M. (1978). *Mind in society: Development of higher psychological processes*. Harvard University Press.