Between Parents and Screens: The Impact of Parental Support and Gadget Use on EFL Learning in Early Childhood

Marsika Sepyanda[a] and Fenni Kurnia Mutiya[b]
[1]*Department of Sport Science, Faculty of Sports Science, Universitas Negeri Padang, Indonesia*
[2]*Department of Statistics, Faculty of Mathematics and Natural Sciences, Universitas Negeri Padang, Indonesia*

Keywords: Parental Support, Gadget Use, EFL, Early Childhood, Screen Time.

Abstract: This study explores the impact of parental involvement and gadget use on early English as a Foreign Language (EFL) acquisition among preschool-aged children. In the recent digital age, young learners are increasingly exposed to screen-based media, while the role of parents remains critical in shaping children's language development. This study was a quantitative correlational design which involved 65 parents of children aged 4 to 6 years. They were selected through volunteer random sampling. Data were collected using a structured questionnaire including 26 Likert-scale items divided into three parts: parental involvement, gadget use, and EFL acquisition. Statistical analysis discovered that both parental involvement and gadget use significantly correlated with children's language development, with a higher correlation for parental involvement ($r = 0.6909$) compared to gadget use ($r = 0.5238$). Multiple regression analysis showed that 65.36% of the variance in EFL acquisition was explained by the two variables combined, with parental involvement ($\beta = 0.53111$) employing a stronger influence than gadget use ($\beta = 0.28867$). These findings suggest that active parental engagement through language-rich interaction and guided screen mediation plays a dominant role in encouraging early EFL learning, while responsible gadget use helps as a supportive tool. The study emphasizes the importance of involving parents in home-based language practices and promoting digital literacy strategies to optimize early language development in young learners.

1 INTRODUCTION

In the rapid growth of the technology era, digital media has become an inseparable part of early childhood living experiences. The use of mobile devices, smartphones, and other types of gadgets by children has merged globally, often beginning as early as the first year of life. As a result, young learners are increasingly exposed to screen-based content, including educational applications and language learning tools. While this shift offers new opportunities for enhancing English as a Foreign Language (EFL) instruction in early childhood, it also raises concerns about developmental and linguistic risks, especially when screen time replaces interactive, human-mediated learning (Al Hosani et al.; Axelsson et al.).

Besides the development of technology, early childhood education and parental involvement have become increasingly significant, particularly in contexts where English as a Foreign Language (EFL) learning is introduced at a young age. As digital devices such as smartphones and tablets become increasingly accessible to children, their presence in early learning environments, whether they are both formal and informal, brings important questions about their pedagogical potential and developmental impact (Srinahyanti et al.; Rizki et al.; Maiziani and Amilia). In early childhood, when linguistic, cognitive, and social foundations are rapidly developing, the role of digital media should be carefully evaluated, especially when it relates to second language acquisition.

Previous research recognized that screen exposure can influence language development in both positive and negative ways (Ghofururrohim et al.; Srinahyanti et al.). On one hand, digital tools may facilitate early language learning through interactive storytelling,

[a] https://orcid.org/0000-0002-8149-2267
[b] https://orcid.org/0009-0007-5449-6821

Sepyanda, M. and Mutiya, F. K.
Between Parents and Screens: The Impact of Parental Support and Gadget Use on EFL Learning in Early Childhood.
DOI: 10.5220/0014068200004935

In *Proceedings of the 7th International Conference on Early Childhood Education (ICECE 2025) - Meaningful, Mindful, and Joyful Learning in Early Childhood Education*, pages 17-23
ISBN: 978-989-758-788-7; ISSN: 3051-7702

phonics games, and visual vocabulary development (Habibie; Damar et al.). On the other hand, unregulated or excessive screen use in early childhood has been associated with delays in speech, limited expressive language, and reductions in parent–child verbal interactions (Al Hosani et al.; Hutton et al.; Liu et al.). As children's screen time increases, there is often a corresponding decrease in the quality and quantity of caregiver–child communication, which is essential for effective EFL learning (Ewin et al.; Moon et al.).

The growing exposure of young children to digital technologies has prompted educators and researchers to investigate how gadgets influence EFL learning. On one hand, educational applications, videos, and interactive platforms can offer engaging, multisensory experiences that support vocabulary acquisition, phonological awareness, and communicative competence (Najiha et al.). On the other hand, concerns have been raised regarding the passive consumption of content, overreliance on screen-based input, and potential delays in expressive language development due to excessive or unsupervised screen time (Stiglic and Viner; Liu et al.)

In this digital learning era, parental support emerges as a critical factor. Parents act not only as facilitators of digital access but also as mediators who figure out children's experiences with technology through guidance, monitoring, and participation (Ho et al.; Pek and Mee; Lanjekar et al.). Previous research shows that co-viewing and active mediation strategies can significantly improve children's comprehension and language outcomes during digital interactions (Najiha et al.; Moorhouse and Beaumont). This is especially crucial in EFL contexts, where children's limited exposure to English in their environment makes scaffolded interaction essential.

Therefore, the effectiveness of EFL learning in early childhood is not only determined by the presence of digital tools, but by the quality of parental involvement in those learning episodes. Parents' digital literacy and beliefs about technology also play a substantial role in shaping children's screen habits and language learning outcome (Clinton and Hattie; Rahayu et al.; Chasanah and Pranoto). For example, a study highlights that when parents possess strong digital capabilities, they are more likely to curate and engage with appropriate language-learning content for their children (Garim and Latief).

However, gaps in parental digital literacy, time availability, and awareness of EFL pedagogical practices present challenges in optimizing gadget use for learning. Moreover, the shift toward screen-based education during the COVID-19 pandemic has further intensified the dependency on home support systems, revealing both opportunities and limitations of parental roles in early EFL instruction (Jong et al.; Pek and Mee).

Related to the increasing relevance of screen-based media in early education and the crucial role of parents in mediating its use, this study aims to investigate the relationship between parental support, gadget use, and early EFL acquisition. Specifically, it examines how parents' engagement, control strategies, and perceptions of technology affect their children's English language exposure and development. By focusing on young learners in EFL settings, the study aims to contribute to a deeper understanding of how digital and familial environments connection to support or hinder language learning in early childhood.

2 METHOD

This study conducted a quantitative correlational design to explore the relationship between parental support, gadget use, and children's English as a Foreign Language (EFL) acquisition. A correlational approach is appropriate when examining the degree to which independent variables where in this case, parental involvement and gadget use are related to a dependent variable (language acquisition) without manipulating any variables (Creswell and Creswell).

Participants were selected using non-probability volunteer sampling because the total population was unknown. A total of 65 parents of early childhood learners participated in the study, representing various educational and occupational backgrounds. Data were collected using a structured questionnaire consisting of three main sections: parental support, gadget use, and EFL acquisition. Items were measured using a 5-point Likert scale. The questionnaire was adapted from previous validated instruments and pilot-tested for clarity and relevance.

To ensure quality, the instrument underwent validity and reliability testing. Content validity was reviewed by experts, while construct validity was checked through item-total correlations. Cronbach's alpha coefficients for all scales exceeded 0.70, indicating strong internal consistency (Nunnally & Bernstein, 1994). Data were also tested for normality, and all assumptions were met. Statistical analysis using multiple linear regression revealed that parental support and gadget use accounted for 65.36% of the variance in children's EFL development, suggesting a

strong combined influence on language learning outcomes.

3 RESULT AND DISCUSSION

3.1 Result

Based on the questionnaire distributed to the respondents, there were 65 parents who give information related to the parental support, gadget use and early EFL acquisition. The data can be seen on the following graph.

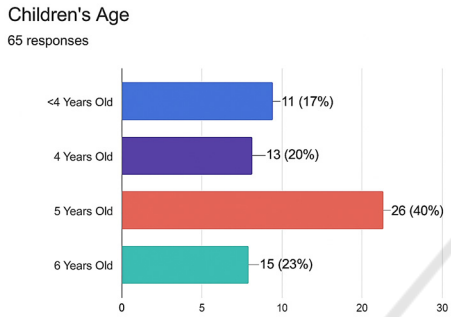

Figure 1: Classification of the Children based on the Age.

3.1.1 Validity Testing

The validity test ensures that each item in the questionnaire accurately measures the intended variable. Using Pearson Product Moment correlation (α = 0.05, r-table = 0.2441), all questionnaire items for the three variables (Parental Involvement, Gadget Use, and Language Acquisition) showed correlation coefficients higher than the threshold. It indicates that all items are statistically valid.

The following bar charts show the correlation coefficients of each item, clearly above the r-table reference line (0.2441), reinforcing their validity:

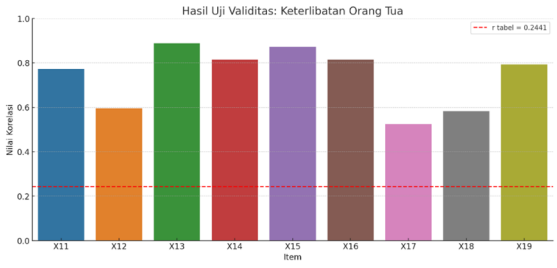

Figure 2: Validity Results for Parental Involvement.

Figure 2 above presents the validity test results for the questionnaire items measuring parental involvement in early childhood EFL learning. Using the Pearson Product Moment correlation technique with a significance level of 0.05 and a critical r-table value of 0.2441 (df = 63), all nine items (X11 to X19) exceeded the threshold, with correlation coefficients ranging from 0.5249 to 0.8892. This indicates that each item strongly correlates with the overall construct and is statistically valid. The high validity confirms that the instrument effectively captures the multidimensional aspects of parental involvement, including monitoring, guidance, and language support at home.

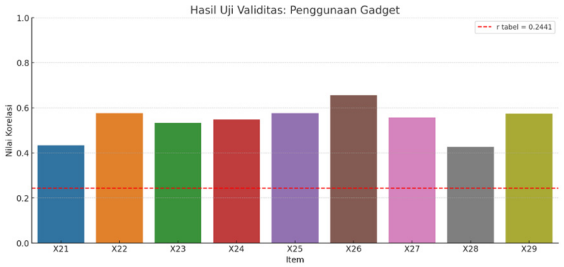

Figure 3: Validity Results for Gadget Use.

Figure 3 illustrates the validity test outcomes for items assessing children's gadget usage. All nine items (X21 to X29) demonstrated significant positive correlations with the total score, with correlation coefficients ranging from 0.4264 to 0.6557, well above the minimum required r-value of 0.2441. These results suggest that each item reliably measures different dimensions of gadget use, such as duration, purpose, parental control, and content exposure. The overall statistical validity supports the inclusion of these items in the final instrument, ensuring accurate measurement of how digital device engagement intersects with early language development.

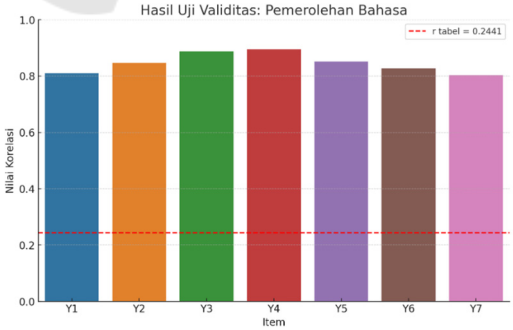

Figure 4: Validity Results for Language Acquisition.

Figure 4 displays the validity analysis for questionnaire items related to children's language acquisition. The correlation coefficients for the seven items (Y1 to Y7) range between 0.8033 and 0.8949,

all surpassing the critical r-value of 0.2441. These high correlations signify that each item is a valid measure of the children's language acquisition abilities, including vocabulary range, sentence formulation, comprehension, and verbal expression. The strong item-total correlations confirm that the instrument is statistically sound and capable of capturing key indicators of EFL language development in early childhood learners.

3.1.2 Reliability Testing

The reliability test in this study was conducted using the Cronbach's Alpha formula to evaluate the internal consistency of the questionnaire items. Internal consistency refers to the degree to which the items within a scale are correlated, indicating they measure the same underlying construct (Tavakol & Dennick, 2011). The higher the Cronbach's Alpha value, the greater the reliability of the instrument. According to George and Mallery (2003), a Cronbach's Alpha value above 0.7 is generally considered acceptable, with values above 0.8 indicating good reliability and values above 0.9 considered excellent. The formula used to calculate Cronbach's Alpha is as follows:

$$\alpha = \frac{k}{k-1}\left(1 - \frac{\Sigma \mathrm{var}(x_i)}{var(x_{total})}\right)$$

This formula helps quantify the proportion of the total score variance that is attributable to true score variance rather than measurement error. In this study, reliability testing showed that the instruments used to measure parental involvement, gadget use, and language acquisition demonstrated high internal consistency, thereby confirming the reliability of the questionnaire for further data analysis. The result can be seen as follow.

$$\alpha = \frac{9}{9-1}\left(1 - \frac{11{,}6712}{58{,}5096}\right) = 0{,}9006$$

It can be seen that, he reliability coefficient for the parental involvement variable is 0.9006, which indicates a very high level of internal consistency among the questionnaire items. This suggests that the items effectively and consistently measure the construct of parental involvement in early childhood EFL learning.

$$\alpha = \frac{9}{9-1}\left(1 - \frac{10{,}6798}{27{,}7091}\right) = 0{,}6914$$

The Cronbach's Alpha value for the gadget use variable is 0.6914, which falls within the acceptable range of reliability. Although slightly below the commonly recommended threshold of 0.70, the consistency is still considered adequate for early-stage research or exploratory studies.

$$\alpha = \frac{7}{7-1}\left(1 - \frac{7{,}3260}{36{,}4197}\right) = 0{,}9320$$

With an alpha value of 0.9320, the instrument used to measure language acquisition demonstrates excellent internal reliability. This very high score confirms that the items reliably capture the construct of EFL language development in early childhood. These results indicate that the questionnaires are reliable and consistent for data collection, as most coefficients are above the recommended threshold of 0.70.

3.1.3 Normality Testing

The normality test was conducted to determine whether the data distribution met the assumption of normality, which is a key requirement for many parametric statistical analyses. The Shapiro–Wilk test was used in this study, as it is well-suited for small to moderate sample sizes and provides a reliable measure of distribution normality (Shapiro & Wilk, 1965). The criterion for normality is that the p-value should be greater than the significance level (α = 0.05). The result of the test, conducted using R software, yielded a p-value of 0.6731, which is well above the threshold. Therefore, it can be concluded that the residuals are normally distributed, fulfilling the assumption necessary for further inferential analysis.

```
        Shapiro-Wilk normality test

data:  residuals(reg_lin)
W = 0.98598, p-value = 0.6731
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Figure 5: Normality Results.

3.1.4 Correlation Analysis

To examine the strength of the relationship between the independent variables (Parental Involvement and Gadget Use) and the dependent variable (Language Acquisition), a Pearson correlation analysis was performed.

Table 1: Correlation results.

Variable Pair	Pearson r	Interpretation
Parental Involvement & Language Acquisition	0.680	Strong positive correlation
Gadget Use & Language Acquisition	0.497	Moderate positive correlation

Based on the table above, it can be seen that the correlation coefficient of 0.680 between parental involvement and language acquisition suggests a strong and statistically meaningful positive relationship. This means that greater parental involvement tends to be associated with higher levels of early childhood EFL acquisition. The correlation between gadget use and language acquisition is moderate (r = 0.497), indicating that gadget use also plays a supportive role in language learning, though not as strong as parental involvement.

Moreover, the results of the study show a statistically significant relationship between parental support, gadget use, and early childhood EFL acquisition. Based on the multiple linear regression analysis, the adjusted R^2 value was 0.6536, suggesting that 65.36% of the variance in children's English language acquisition can be explained by the combination of parental support and gadget use. This represents a strong model fit, implying that both factors jointly contribute substantially to language learning outcomes.

The regression equation generated is:

$$Y = 0.72228 + 0.53111X_1 + 0.28867X_2 + \varepsilon,$$

In this study, X_1 represents parental support and X_2 represents gadget use. The coefficient for parental support (B = 0.53111) was higher than that of gadget use (B = 0.28867), indicating that parental involvement had a stronger influence on children's EFL development compared to digital device usage.

These findings are visually presented in the following bar chart, showing the magnitude of each independent variable's contribution:

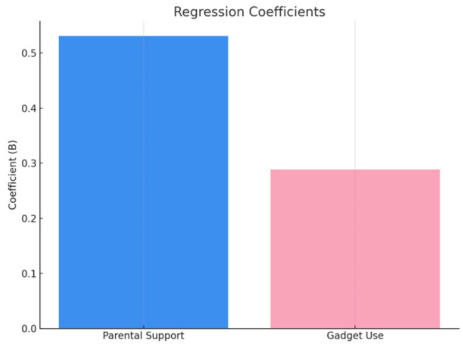

Figure 6: Regression Coefficient.

These results support the assumption that parental support remains a dominant factor in facilitating early EFL learning, while responsible gadget use can serve as a meaningful supplement when guided effectively. The significant regression coefficients and strong correlation values reinforce the importance of parental involvement as a consistent and powerful influence on children's language acquisition. At the same time, the moderate yet positive impact of gadget use indicates that digital tools, when appropriately monitored and integrated into children's routines, can contribute constructively to their language development. Therefore, these findings highlight the necessity of a balanced approach, where traditional parenting roles are complemented by the strategic use of technology to optimize early English language learning outcomes.

3.2 Discussion

The findings of this study emphasize the strong influence of parental involvement in early EFL learning. The regression results show that parental involvement (X_1) holds a higher coefficient (0.53111) than gadget use, indicating that parents' active participation has a more significant impact on children's language acquisition. This supports Vygotsky's Sociocultural Theory, which argues that social interaction and scaffolding provided by more knowledgeable others such as parents which are essential for cognitive and linguistic development. When parents engage directly with their children during learning activities, they create a zone of proximal development that enables more effective language acquisition.

While gadget use (X_2) also demonstrated a positive contribution to EFL learning (coefficient = 0.28867), its effect was notably smaller. This suggests that while technology can serve as a supportive tool, it should not be seen as a replacement for human interaction. Previous research affirms this view; for example, Plowman et al. (2012) and Habibie (2021) highlight that digital tools can enhance learning only when integrated thoughtfully and when they complement rather than replace interpersonal engagement. The key is not the presence of gadgets, but the quality of interaction surrounding their use.

This study also underlines the importance of digital parenting and guided mediation. When parents co-view, discuss, or guide their children's screen experiences, the linguistic benefits are significantly enhanced. Estrada Chichón (2022) and Najiha et al. (2023) found that such active mediation leads to better vocabulary growth and comprehension in early learners, compared to unmediated or passive screen use. These findings align with the results of the current study, emphasizing that digital learning environments require parental scaffolding to be truly effective.

Moreover, the results in line with previous studies showing that interaction matters more than exposure. According to Hirsh-Pasek et al. (2015), the duration of screen time alone does not predict language gains. Instead of that, it is the interactional quality, such as talking about the content, asking questions, and relating it to real-life experiences, that facilitates learning. Therefore, meaningful engagement, rather than mere access to digital content, is what enhances early language development.

Finally, the remaining 34.64% of unexplained variance points to the possibility of other influential factors not captured in this study. Elements such as socioeconomic status, the home literacy environment, parental education, and language exposure at school may also contribute to children's EFL proficiency. This indicates a need for future research to adopt a more holistic perspective, incorporating both environmental and individual variables to provide a fuller understanding of the mechanisms underlying early language learning.

In light of these findings, several implications for parents and educators emerge. There is a growing need to educate parents not only on limiting screen time but also on how to optimize digital tools for language enrichment. Schools and early childhood educators may consider developing programs that combine interpersonal strategies and digital learning, while also encouraging more parental involvement in the language development process. This integrative approach could help bridge the gap between home and school, technology and human connection, ultimately supporting young learners in their journey toward EFL proficiency.

4 CONCLUSIONS

It can be concluded that parental involvement has a significantly stronger role than gadget use in supporting early childhood English language acquisition. The correlation analysis revealed a strong positive relationship between parental involvement and language acquisition ($r = 0.6909$), while gadget use also showed a moderate positive correlation ($r = 0.5238$). These findings suggest that while both variables are beneficial, consistent and engaged parental support has a greater impact on children's EFL development. Moreover, the effectiveness of gadget use depends on guided mediation and meaningful interaction, underscoring the importance of human engagement in digital learning contexts. Therefore, digital tools should be used to create a balance part, not to replace, active parental involvement in early language learning.

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