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ASSESSING THE CORRELATION BETWEEN SMARTPHONE USAGE, LEARNING AUTONOMY, AND FOREIGN LANGUAGE ACQUISITION IN CHILDREN

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Abstract || Various opinions exist regarding the use of smartphones and their effects on children's language acquisition. While some suggest that smartphones can positively influence learning habits and language skills, others argue they may have negative consequences. To explore this issue, a correlational study was conducted to assess the relationship between smartphone usage, self-directed learning (SDL), and foreign language acquisition (FLA). A questionnaire with 12 Likert-scale questions was administered to 29 parents of children aged 5 to 7 years. Following the collection and quantification of the data through correlation analysis, the researcher discovered that, although there was no significant correlation between smartphone usage and either SDL or FLA, a meaningful and significant relationship was identified between SDL and FLA. This finding suggests that children who exhibit effective self-directed learning behaviors are likely to achieve optimal outcomes in foreign language acquisition.

Keywords || Correlation, Foreign language Acquistion, Learning autonomy, Smartphone

Abstrak || Berbagai pendapat muncul terkait penggunaan smartphone dan pengaruhnya terhadap pemerolehan bahasa pada anak. Beberapa pihak berpendapat bahwa smartphone dapat memberikan dampak positif pada kebiasaan belajar dan keterampilan berbahasa, sementara yang lain berargumen bahwa penggunaannya dapat membawa konsekuensi negatif. Untuk mengeksplorasi isu ini, sebuah penelitian korelasional dilakukan untuk menilai hubungan antara penggunaan smartphone, pembelajaran mandiri (Self-Directed Learning/SDL), dan pemerolehan bahasa asing (Foreign Language Acquisition/FLA). Sebuah kuesioner dengan 12 pertanyaan berskala Likert diberikan kepada 29 orang tua anak usia 5 hingga 7 tahun. Setelah data dikumpulkan dan dianalisis melalui analisis korelasi, peneliti menemukan bahwa, meskipun tidak ada korelasi signifikan antara penggunaan smartphone dengan SDL maupun FLA, terdapat hubungan yang bermakna dan signifikan antara SDL dan FLA. Temuan ini menunjukkan bahwa anak-anak yang menunjukkan perilaku pembelajaran mandiri yang efektif cenderung mencapai hasil optimal dalam pemerolehan bahasa asing.

Katakunci || Korelasi, Pemerolehan bahasa asing, pembelajaran mandiri, Gawai pintar

Introduction

The phenomenon where toddlers in developing countries unconsciously acquire a foreign language through interactions with smartphones is a vivid example of self-directed learning and linguistic exposure during the critical period of language development. Research on language development indicates that the critical period is a window of time when children have optimal capacity to learn languages (Lenneberg, 1967). With intensive exposure to foreign languages through apps, games, and videos, these children can naturally absorb new vocabulary and language structures, even if they are not explicitly learning the language. Research by Kuhl (2004) shows that children who are consistently exposed to a foreign language can develop second language skills more effectively, thanks to the high plasticity of the brain at an early age. Moreover, this interaction also reflects the principle of self-directed learning, where children control their own learning process through exploration and direct experience. This underscores the crucial role of technology in providing a language-rich environment, even in contexts where formal educational access may be limited (Hirsh-Pasek & Golinkoff, 2008).

Current education systems are predominantly teacher-centered, prompting an inquiry into whether this approach fosters self-directed learning (SDL). Investigating the impact of early learning experiences on children's social, emotional, and cognitive development is essential, as these initial interactions can significantly shape their future abilities (Morris & Rohs, 2021; Mustafa et al., 2019). Historically, children primarily engaged with language through interactions with their parents and family members, which provided a more controlled and intimate learning environment. In contrast, contemporary children are exposed to language through advanced technology, such as smartphones, which offer a different type of linguistic engagement. Modern devices allow children to interact with a wide range of content, including games, videos, and educational apps, enabling them to acquire language skills in a more informal and self-directed manner.

On the other hand, various studies indicate that children aged 1 to 5 who are frequently exposed to gadgets may face a higher risk of developing developmental language disorders, which can adversely impact their cognitive and social development (Putra et al., 2022). Excessive screen time during these critical early years can disrupt essential language acquisition processes and impede social interactions.

Overexposure to screens may delay language development by reducing meaningful verbal exchanges with caregivers and peers. This disruption can affect cognitive functions, such as problem-solving and memory, and hinder social skills, including effective communication and empathy. Moreover, research by Heuvel et al. (2019) shows a significant association between mobile media use and expressive speech delay in 18-month-old children. The study found that 6.6% of children exhibited expressive speech delays, and 8.8% had other communication delays reported by parents. For those using mobile media, each additional 30 minutes of daily use was linked to a higher likelihood of expressive speech delays. Additionally, families and teachers often hold more negative views than positive ones regarding smartphones, believing that the drawbacks outweigh the benefits (Josephine & Huertas-Abril, 2024). Conversely, (Kuimova et al. (2018) discovered positive effects of mobile devices on informal English learning among students. By correlating survey responses with English language test scores, they demonstrated a positive link between students' English proficiency and the amount of time spent learning English informally through media consumption and social network participation. The study highlighted that only 13% of students' time spent on English media involved mobile devices.

Additionally, students increasingly use smartphones to access references and complete assignments Wrigglesworth (2020), which promotes self-directed learning. The integration of smartphones into education aligns with modern demands and serves as a valuable tool for facilitating language learning (Jati, 2018). Smartphones enable students to engage in independent study and enhance their language acquisition by providing immediate access to resources and educational materials. This capability not only supports students in their language learning but also fosters greater autonomy in their educational journey.

However, despite the benefits of smartphones for self-directed learning, there is a notable gap in research regarding the impact of smartphone use on children's self-directed learning, particularly in the context of language learning and second language acquisition. While the potential for smartphones to enhance learning is recognized, the specific effects of self-directed learning through smartphones on young children have not been thoroughly explored. This gap highlights the need for further research to explore the relationship between smartphone use, self-directed learning, and children's foreign language acquisition.

In light of the ongoing debate about the potential negative effects of smartphones on children's language acquisition, the researchers seek to examine an alternative viewpoint. They aim to investigate the relationships among smartphone use, self-directed learning, and foreign language acquisition in children. To answer this question, the researchers will observe a group of children and their parents to assess foreign language acquisition, particularly in English. The study will utilize indirect measurement through surveys given to parents. The results from these surveys will be analyzed using the Pearson Product Moment Correlation Coefficient to determine if there is a correlation among these variables.

The main problem highlighted in the research title aims to tackle the following issues:

1) While smartphone games are widely used by children, there is limited understanding of how these games contribute to second language acquisition. The problem lies in evaluating whether these games provide meaningful, interactive, and educational experiences that positively impact language learning.
2) Self-directed learning is a key factor in educational development, but its interplay with smartphone games in the context of language learning needs further investigation. The problem here is to determine how self-directed learning facilitated through smartphone games affects children's engagement, motivation, and overall success in acquiring a second language.
3) There is a gap in research regarding how smartphone games and self-directed learning individually and collectively influence the effectiveness of second language acquisition in children. The challenge is to assess whether these tools enhance language skills and if so, how they contribute to language development compared to traditional learning methods.
4) The problem also includes the need to develop appropriate metrics and methodologies for evaluating the impact of smartphone games and self-directed learning on second language acquisition, including measurable outcomes and long-term effects.

By addressing these issues, the research seeks to provide insights into how modern digital tools can be leveraged to improve second language learning in children and to explore effective strategies for integrating these tools into educational practices.

The researchers have limited this study to focusing exclusively on children aged 5 to 7 years who actively use smartphones as a medium for play and learning. Additionally, the study will examine the development of lexical vocabulary and grammatical knowledge of a foreign language acquired during gaming and screen time sessions. This will help assess the extent to which self-directed learning and smartphone use facilitate their foreign language development.

The current research aims to explore the relationship between children's smartphone usage, learning autonomy, and language acquisition. The primary research question is whether there is a significant relationship among these three variables. This study is important because it can provide insights into how smartphone engagement may affect learning autonomy and children's language acquisition abilities, thus helping parents and educators create a more effective learning environment. To achieve these objectives, the researchers will conduct surveys among parents and children, followed by statistical analysis using the Pearson Product Moment Correlation Coefficient to evaluate the relationships among the three variables.

Second Language Acquistion

The study of Second Language Acquisition (SLA) originally developed within the framework of behaviorism, which was a prevailing approach to language studies from the 1940s through the 1990s. Behaviorism posits that language learning is driven by a stimulus-response mechanism, where language habits are established through reinforcement and repeated practice. According to this perspective, the learning process is characterized by the formation of new habits in response to environmental stimuli, rather than by internal cognitive processes.

Behaviorism largely dismisses the role of mental processes in learning, focusing instead on the observable behaviors and responses that occur in the learning environment. It views language acquisition as a process of imitation, where learners replicate the speech, they hear from their surroundings. This approach suggests that children acquire their first language by mimicking the speech of their caregivers, who provide a model for language use. This type of speech is often referred to as "caretaker speech," which is characterized by simplified and exaggerated language that is believed to help children learn more effectively (Johnson, 2008).

In this behaviorist framework, language learning is seen as a form of pattern recognition, where learners identify and reproduce language patterns based on the examples they encounter. The focus is on how repeated exposure and reinforcement of specific language forms lead to the development of language skills. This approach emphasizes external stimuli and responses, rather than the internal cognitive mechanisms involved in language acquisition.

Bloomfield (1984) explains the process of a child's first language acquisition through the concept of habit formation as follows:

Initial Vocalization: Children start by making and repeating various vocal sounds in response to different stimuli. This seems to be an instinctive behavior. For example, if a child makes a sound like "da" repeatedly, this repetition creates a habit. Whenever the child hears a similar sound, they tend to make the same mouth movements and repeat the sound "da". This babbling helps the child learn to produce vocal sounds that they hear.

Imitation of Adult Speech: When an adult, such as the mother, uses a word that resembles the child's babbling sound—like saying "doll" when showing the child their doll—the child's habit of making sounds like "da" gets activated. This is an early form of imitation. Many languages have simple nursery words like "mama" and "dada" that resemble early babbling, likely because these sounds are easy for children to repeat.

Association of Words with Objects: The mother consistently uses the word "doll" while presenting or giving the doll to the child. Repeatedly pairing the sight and handling of the doll with hearing and saying "doll" helps the child form a new habit. Eventually, the child will say "da" when they see the doll. Although this might not sound exactly like the adult word "doll," it represents the child's developing understanding and use of a word.

Formation of Further Habits: Over time, the child develops additional habits. For instance, if the child is given the doll after their bath every day and says "da, da, da" during this routine, they may start to say "da, da" even if the doll is not present. This indicates the child has begun using abstract or displaced speech, naming something even when it's not in sight.

Refinement Through Feedback: The child's pronunciation of "da, da" is refined through feedback. If the child says "da" clearly and the adults understand and give them the doll, this reinforces the child's use of the word. Conversely, if the child's pronunciation is not recognized, they do not receive the doll and may become confused or frustrated.

This process of repeating successful attempts and correcting mistakes continues throughout language development, leading to more accurate speech as the child grows.

In Bloomfield's theory, children start with early vocalizations that they repeat in response to stimuli, and then proceed to imitate adult speech and associate words with objects. The use of smartphones can impact these stages by providing access to various educational apps and videos that offer audio-visual stimulation and new vocabulary. While voice-based apps and videos can aid in speech imitation and vocabulary acquisition, excessive reliance on technology may reduce the essential direct interaction with caregivers that is crucial for early vocalization learning and natural language imitation. Thus, while smartphones can introduce new vocabulary, they also have the potential to hinder language development if they limit opportunities for children to engage directly and learn through real-life experiences.

The Difference Between Children's Language Acquisition and Adults' Language Acquisition

Ortega (2011) discusses the concept of the Language Acquisition Device (LAD) introduced by Noam Chomsky. LAD is a theory proposing that humans are born with an innate mechanism in the brain that enables them to naturally acquire language. Chomsky suggested that this device allows children to absorb and understand the rules of language from the input they receive, without explicit teaching of grammatical rules. Ortega extends this idea to second language acquisition (SLA), indicating that while LAD underpins first language acquisition, similar mechanisms influence how a second language is learned, especially concerning age and cognitive maturity.

The differences in second language acquisition between children and adults can be explained by the varying functionality of LAD at different ages. For children, LAD is highly active, facilitating the intuitive and efficient learning of a new language. Children's brains are more flexible, allowing them to easily grasp and internalize new language structures. In contrast, adults have a less active LAD and often rely more on explicit learning methods. They face greater challenges with pronunciation and unfamiliar structures due to reduced cognitive flexibility and the tendency to apply first language rules. Consequently, the main differences in SLA between children and adults stem from the activity and efficiency of LAD, as well as differences in brain plasticity and learning methods.

Self-Directed Learning

Self-directed learning (SDL) is gaining recognition as a crucial skill for managing the complexities and unpredictability of contemporary life. Initially a concept in adult education, SDL focuses on the ability to independently steer one's own learning journey, which includes setting personal goals, locating resources, and assessing progress. Experts emphasize the importance of cultivating SDL skills from an early age, as these skills prepare children to handle rapid changes and engage in lifelong learning.

Though SDL was first associated with adult learners, where it highlights the need for autonomy and self-regulation in acquiring new knowledge and skills Knowles (1975), recent studies advocate for its early introduction in childhood education. Research shows that children who develop SDL abilities are better equipped to take initiative in their learning, solve problems, and adjust to new circumstances effectively.

For example, Zimmerman (1989) note that promoting self-regulation among children can enhance their academic performance and increase their motivation to learn. They argue that when children are able to set their own objectives, track their progress, and adapt their strategies independently, they gain a sense of control and responsibility over their learning. This foundational SDL not only boosts academic success but also prepares children for future work environments where ongoing learning and adaptability are crucial.

Additionally, Deci & Ryan (2004) provide evidence that SDL can enhance intrinsic motivation. When children are allowed to explore subjects, they are passionate about and participate in activities they find meaningful, they develop a deeper, more enduring motivation to learn, which improves long-term educational results.

In conclusion, while SDL originated in the context of adult learning, its importance in childhood education is increasingly acknowledged. By fostering SDL skills early, educators can help children become more proactive and adaptable learners, better suited to thrive in a dynamic world. This approach aligns with modern educational objectives and supports the development of essential lifelong learning skills for personal and professional success.

Self-directed learning (SDL) in children involves empowering them to take charge of their own educational journey by making choices about what and how they learn, setting personal goals, and reflecting on their progress. To effectively encourage SDL in today's digital age, educators and parents can leverage technology by incorporating

interactive apps, educational games, and online resources that cater to children's interests and learning styles. Platform like educational YouTube channels offer engaging content that allows children to explore topics at their own pace. Additionally, providing opportunities for children to set their own learning objectives and tackle real-world problems independently can enhance their problem-solving skills and critical thinking. By integrating these modern tools and approaches, children can develop the autonomy and motivation necessary for lifelong learning and adaptability.

Self-directed learning (SDL) is closely related to second language acquisition (SLA) because it fosters key skills that enhance the effectiveness of learning a new language. SDL empowers learners to take control of their language learning process by setting personal goals, selecting resources, and engaging in self-assessment, which aligns well with the principles of SLA. For instance, when children actively choose language learning activities that interest them and reflect on their progress, they are more likely to develop a deeper and more meaningful understanding of the new language. This autonomy not only boosts their motivation but also allows them to practice language skills in a variety of contexts, enhancing their proficiency. Moreover, SDL encourages learners to explore language use in real-life situations, promoting practical application and reinforcing language acquisition. By integrating SDL strategies with SLA, learners can become more effective and engaged language users, capable of adapting to different linguistic environments and improving their overall language competence.

The research conducted by Toh & Kirschner (2020), investigates self-directed learning strategies in video games, focusing on how players utilize meta-behaviors, metacognition, and meta-emotions to navigate their learning processes. It analyzes strategies such as trial and error, observation, reinforcement learning, connected learning, and reflective practices during gameplay, offering insights into how these approaches enhance player experience and learning outcomes. In contrast, the current study adopts a different approach aimed at determining whether a significant relationship exists between smartphone usage, self-directed learning, and foreign language acquisition. This is undertaken to address the ongoing debate regarding whether smartphones are beneficial for learning foreign languages or if they serve as distractions that demotivate children during the learning process.

Methodology

This research was conducted in Palu, Sulawesi Tengah, involving parents and children as participants. The focus on both groups stems from the necessity of understanding children's behaviors and learning patterns, which are often observable through parental insights. Parents play a crucial role in providing information about their children's learning behaviors, communication styles, play habits, and language achievements. Such insights are vital since children may not fully comprehend or articulate their activities and interactions with technology.

Parental input is indispensable for indirectly measuring smartphone usage and self-directed learning in children. Children often lack the self-awareness to report their behaviors and usage accurately. They may struggle to articulate how they interact with technology or approach learning tasks. In contrast, parents offer a more comprehensive perspective, detailing the context of smartphone use, differentiating between educational and recreational activities, and observing how children manage their own learning tasks. Additionally, parents can identify patterns and influences that children might overlook, providing a more nuanced understanding of the interplay between smartphone usage, self-directed learning, and language development.

This study employs a quantitative research design, collecting numerical data to explore relationships between variables objectively. The Pearson Product Moment Correlation is a key analytical tool used to measure the strength and direction of linear relationships between variables, as emphasized by (Field, 2024). This method has been extensively applied across disciplines like education, psychology, and sociology (Yale et al., 2017). The research focuses on smartphone usage, self-directed learning (SDL), and foreign language acquisition (FLA).

The study involved children aged 5–7 years and their parents. Participants were selected using purposive sampling, ensuring criteria like active smartphone use and English learning were met. Data collection included questionnaires, interviews, documentation, and observations, analyzed through Pearson's Correlation to examine the relationships among the variables.

Results

Following the distribution of questionnaires to the parents of participating children, we reviewed a total of 33 responses, ultimately identifying 29 that met the inclusion criteria. Analysis of the data revealed that 48% of the children were 6 years old, 20.7% were 7 years old, and 34.5% were 5 years old. Gender distribution indicated that 58.6% of the participants were male and 41.4% were female. Regarding parental educational attainment, the data showed that 79.3% of parents held bachelor's degrees, 10.3% possessed master's degrees, and 3.4% had completed high school.

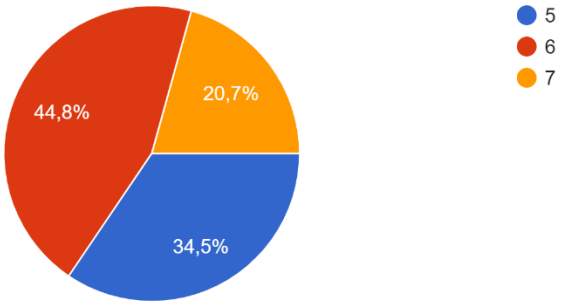

Figure 1. Children's age

Additionally, our analysis showed that among the 29 children examined, 69% reported using their smartphones for over three hours a day. This prolonged usage can be linked to the fact that many of these children possess their own personal devices, which enhances their accessibility. Furthermore, it was observed that not all parents enforce limits on their children's smartphone usage, contributing to increased screen time.

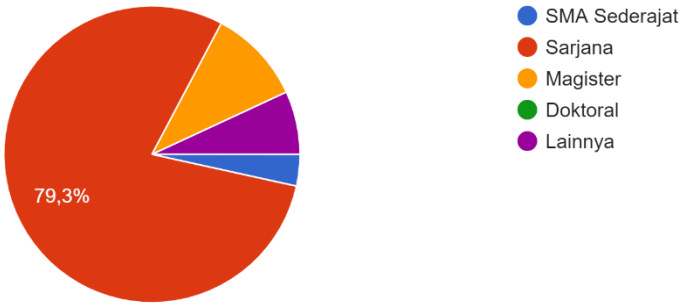

Figure 2. Parents' educational level

Moreover, our findings revealed that a significant majority, specifically 82.8% of the children, use smartphones daily without any restrictions. This unrestricted access indicates that smartphones are a

common part of their everyday lives. In contrast, 17.2% of the children do face some limitations, using their devices only a few days each week.

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Correlation Analysis

Table 1 presents the results of the correlation analysis involving three variables: Smartphone Usage, Self-Directed Learning (SDL), and Foreign Language Acquisition (FLA). The data indicates that smartphone usage does not exhibit a significant correlation with either of the other two variables. Specifically, the p-value for the correlation between smartphone usage and SDL is 0.397, which exceeds the significance level of 0.05. Similarly, the relationship between smartphone usage and FLA shows a p-value of 0.108, also above the 0.05 threshold. These findings confirm that smartphone usage does not have a meaningful correlation with either SDL or FLA.

Table 1. The result of Pearson Product Moment Correlation Coefficient

Correlations				
		Smartphone Usage	**SDL**	**FLA**
Smartphone Usage	Pearson Correlation	1	,164	,305
	Sig. (2-tailed)		,397	,108
	N	29	29	29
Self-Directed Learning	Pearson Correlation	,164	1	,761**
	Sig. (2-tailed)	,397		,000
	N	29	29	29
FLA	Pearson Correlation	,305	,761**	1
	Sig. (2-tailed)	,108	,000	
	N	29	29	29

**. Correlation is significant at the 0.01 level (2-tailed).

On the other hand, the analysis reveals a significant correlation between SDL and FLA. A correlation coefficient of 0.761 was observed, which lies within the range of 0.60 to 0.799, suggesting that

the two variables are thought to have a strong correlation. The p-value for this correlation is 0.000, indicating a highly significant relationship at the 0.01% level. This suggests a reciprocal influence between SDL and FLA, where improvements in self-directed learning positively impact foreign language acquisition and vice versa. Essentially, children who exhibit greater learning autonomy are likely to achieve better outcomes in foreign language acquisition, reinforcing the idea that fostering self-directed learning can enhance language skills.

The results of the correlation analysis reveal intriguing insights into the dynamics of smartphone usage, self-directed learning (SDL), and foreign language acquisition (FLA). The lack of significant correlation between smartphone usage and both SDL and FLA may stem from the nature of how children engage with their devices. While smartphones provide access to a variety of educational resources, they also present numerous distractions that can hinder focused learning. Without structured guidance or intentional use, children may struggle to translate smartphone engagement into productive learning experiences.

Conversely, the significant correlation found between SDL and FLA suggests that children who develop autonomy in their learning processes are more likely to excel in acquiring foreign languages. This relationship may arise from the fact that self-directed learners actively seek out resources, practice language skills, and engage with content that fosters language acquisition. As such, the findings highlight the critical role of encouraging self-directed learning strategies, which can empower children to take ownership of their educational journeys, ultimately enhancing their language proficiency.

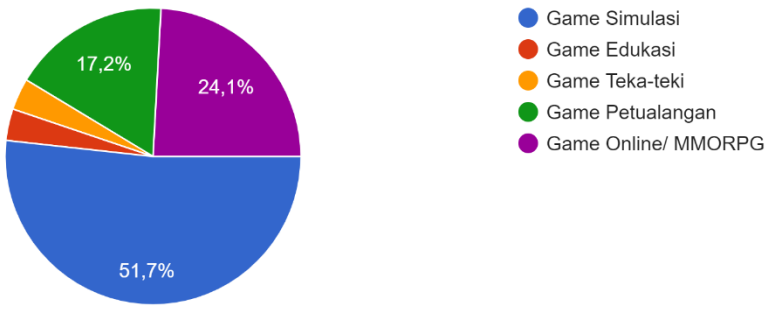

Figure 3. Type of games accessed by respondents

Another factor contributing to the study's findings is the type of games accessed by the children, with a significant portion engaging primarily in simulation games (51.7%). This is followed by online Massively Multiplayer Online Role-Playing Game (MMORPG) (24.1%) and adventure games (17.2%). Notably, only 3.4% of the children

reported playing educational games. The predominance of simulation and MMORPGs may limit the opportunities for language development, as these genres often emphasize gameplay mechanics and social interaction over structured learning or language practice.

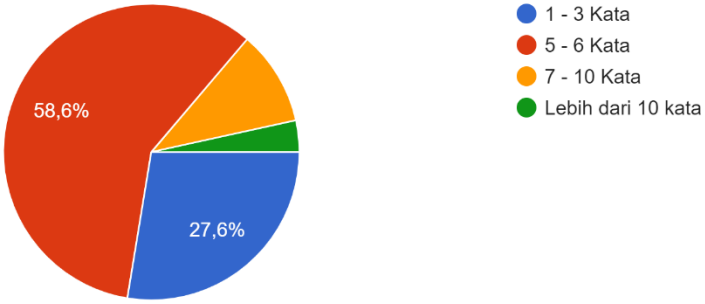

Figure 4. The number of vocabularies acquired by children

Moreover, among the 29 children who engaged in gaming, the majority were able to acquire only 5 to 6 words (58.6%) following their gaming sessions, with very few exceeding the threshold of 10 words. This limited vocabulary acquisition suggests that while gaming can be an entertaining activity, it may not effectively enhance language learning on its own. Notably, only 3.4% of the children demonstrated the ability to form simple sentences, a finding that highlights the crucial role of supplementary educational support from parents.

Discussion

Smartphones: Gateway to Foreign Language Acquisition or a Distraction for Young Learners?

This study found no significant relationship between smartphone use and self-directed learning or foreign language proficiency, mainly because smartphones can distract children and diminish their focus on learning. Children often spend excessive time on these devices. This is consistent with the findings of Gerosa & Gui (2023), which suggest that there is generally no significant effect of early smartphone ownership on the language skills development of adolescents. However, negative effects were noted among those who had already spent considerable time on screen media prior to acquiring the devices. While this evidence pertains to adults, the use of mobile (smart) phones among young learners can lead to various learning difficulties, behavioral issues, and negatively affect their emotional, moral, and social development (Nisa & Siddiqua, 2015).

In this study, the researcher discovered that children mainly engage with games that do not promote autonomous learning or language acquisition, even if they are in English. Consequently, children tend to focus more on entertainment and gameplay rather than on learning. While some vocabulary is picked up, it is mostly restricted to nouns. Only a few children manage to construct simple sentences using the vocabulary they acquire from games or video content. This is supported by the following interview:

"My son does pick up some foreign vocabulary from gaming, but I notice he enjoys the game more than the learning aspect, so the extensive time spent on smartphones doesn't significantly enhance his language development."

- Respondent 1

Moreover, the researcher observed that some children do achieve optimal language exposure through gaming, but these children also maintain a consistent self-study routine and benefit from additional foreign language classes provided by their parents. This highlights a potential bias in the study, as reflected in the following interview:

"I notice that my daughter finds math challenging, but excels in learning English, so we ensure she attends lessons from an early age. We have seen substantial progress from the extra learning she receives."

- Respondent 2

In light of the interview, it is evident that extended smartphone usage does not significantly impact children's ability to learn independently or acquire foreign languages. Rather, it poses risks of health problems, including deteriorating eyesight, diminished concentration from distractions, insufficient sleep, anxiety, and potentially reduced verbal abilities due to a lack of involvement in genuine communication activities (Pınar et al., 2018).

From Self-Directed Learning to Language Proficiency: What's the Connection?

The second finding we obtained indicates that children who actively engage in self-directed learning when accessing foreign languages tend to acquire vocabulary more effectively. This may be attributed to several factors. First, children who learn independently have greater control over their learning process (Biemiller & Meichenbaum, 2017). They can choose materials that align with their interests and needs, fostering a higher motivation to learn. When children feel engaged and

enthusiastic, they are more likely to remember and use the new vocabulary they encounter.

Second, in a self-directed learning environment, children can explore various resources, such as apps, videos, and books, which can enhance their understanding of the context in which vocabulary is used. This exploration helps them not only recognize words but also comprehend how to use them correctly in sentences.

Third, self-directed learning often involves more practice. Children engaged in activities such as conversing with native speakers, taking online courses, or playing educational games in a foreign language have more opportunities to practice and reinforce their understanding of new vocabulary.

Thus, independence in learning not only provides freedom but also enhances the effectiveness of the language learning process. This finding highlights the importance of supporting children in developing self-directed learning skills as an initial step towards achieving better foreign language proficiency

Conclusion

The results of the statistical analysis using the Pearson Product Moment Coefficient Correlation indicate a significant relationship between self-directed learning and foreign language acquisition. With a correlation coefficient of $r = 0.761$, it can be concluded that these two variables have a strong correlation. The obtained significance level, $p<0.001$, suggests that this result is statistically very significant, reinforcing the importance of independent learning in the process of acquiring a foreign language.

On the other hand, the analysis also reveals that there is no significant correlation between smartphone usage and either self-directed learning or foreign language acquisition. This means that although smartphones are often used as learning tools, their use does not significantly contribute to children's self-directed learning or their ability to master a foreign language. Overall, these findings highlight the crucial role of self-directed learning in supporting foreign language acquisition while demonstrating that reliance on smartphones does not always yield positive contributions to the learning process. Therefore, it is important to encourage children to develop independent learning skills as a primary strategy for achieving better language proficiency.

The researcher recognizes that this study still has several shortcomings. First, the number of respondents can be increased to

make the conclusions more representative. Second, direct observation is needed to measure children's speech patterns that can be categorized based on their structure. Additionally, the analysis could be expanded by using different correlation analysis methods to assess the consistency of the measurement results.

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