

**CHILDREN'S LANGUAGE ACQUISITION THROUGH WEB-BASED
GAMES: A CASE STUDY OF IBNU RAJAB AL-MAHDI**

THESIS

Submitted as Partial Requirement for the Degree of Education (S.Pd) In Teaching
English



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THESIS RATIFICATION

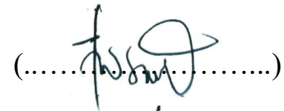
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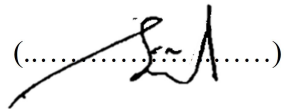
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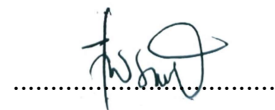
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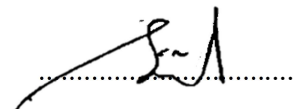
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Menyatakan dengan sesungguhnya dan penuh kesadaran bahwa skripsi ini benar adalah hasil karya sendiri. Jika dikemudian hari terbukti bahwa ini merupakan duplikasi, tiruan, atau dibuat oleh orang lain, sebagian atau seluruhnya, maka skripsi dan gelar yang diperoleh karenanya batal demi hukum.

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ABSTRACT

Bramantio Adi Putra (2024) *CHILDREN'S LANGUAGE ACQUISITION THROUGH WEB-BASED GAMES: A CASE STUDY OF IBNU RAJAB AL-MAHDI*. A Thesis. English Education Study Program. Faculty Of Tarbiyah and Teacher Training Manado State Institute Of Islamic Studies.

This study investigated the language acquisition of a four-year-old child through three months of engagement with web-based games. The research aimed to understand how these games influence language development in young children. Through observation and analysis of the child's interactions with the games, it was found that web-based games significantly impacted vocabulary acquisition, with the child demonstrating a rapid expansion of game-related terms. However, the study also revealed limitations in grammar development, as the child primarily used single-word utterances. The child's social interactions with caregivers during gameplay played a crucial role in enhancing language expression and comprehension. Overall, while web-based games offer a stimulating environment for vocabulary growth, they may not be sufficient for comprehensive language development, necessitating complementary learning approaches.

Keywords: *language acquisition, web-based games, early childhood, vocabulary development, grammar development, child language, technology in education*

ABSTRAK

Bramantio Adi Putra (2024) PEROLEHAN BAHASA ANAK MELALUI PERMAINAN BERBASIS WEB: STUDI KASUS IBNU RAJAB AL-MAHDI. Skripsi. Program Studi Tadris Bahasa Inggris. Fakultas Tarbiyah dan Keguruan Institut Agama Islam Negeri Manado.

Penelitian ini menyelidiki perolehan bahasa anak berusia empat tahun melalui permainan berbasis web selama tiga bulan. Penelitian ini bertujuan untuk memahami bagaimana permainan tersebut mempengaruhi perkembangan bahasa pada anak usia dini. Melalui observasi dan analisis interaksi anak dengan permainan, ditemukan bahwa permainan berbasis web secara signifikan mempengaruhi perolehan kosakata, dengan anak menunjukkan perluasan kosakata yang cepat terkait dengan permainan. Namun, penelitian ini juga mengungkapkan keterbatasan dalam pengembangan tata bahasa, karena anak terutama menggunakan ujaran satu kata. Interaksi sosial anak dengan pengasuh selama bermain memiliki peran penting dalam meningkatkan ekspresi dan pemahaman bahasa. Secara keseluruhan, meskipun permainan berbasis web menawarkan lingkungan yang merangsang untuk pertumbuhan kosakata, permainan tersebut mungkin tidak cukup untuk perkembangan bahasa yang komprehensif, sehingga diperlukan pendekatan pembelajaran komplementer.

Kata kunci: *perolehan bahasa, permainan berbasis web, anak usia dini, perkembangan tata bahasa, bahasa anak, teknologi dalam pendidikan.*

CHAPTER 1

INTRODUCTION

A. Background of the Research

The study of child language acquisition is truly fascinating and intriguing because we know the incredible development of language acquisition from age 0 to 4 years. One remarkable thing about first language acquisition is the high degree of similarity in children's early languages. The earliest vocalizations in language acquisition are babies crying involuntarily when they are hungry or uncomfortable. Even young children can hear subtle differences in human speech. For example, a young baby can distinguish between "pa" and "ma". By the end of the first year of life, they understand some frequently repeated words and can put together one or two words. By age two, most children produce at least 50 different words, some more, and begin to combine words to form simple sentences, for example, "mau main", "mau esklim" etc. Their simple sentences are called "telegraphic" because they often leave out such things as articles, prepositions and auxiliary verbs according to Sachs, J. (1983).¹

Some linguists state that language acquisition can be divide into two main stages: the pre-language stage (0-1 years old) and the language stage (1-5 years old). During infancy, motor skills occur instinctively. At 7-8 months of age, emotions and feelings begin to develop, but the mind and intellect are not yet capable of doing so. By 12-14 months of age, babies are able to perceive their surroundings socially and physically. Babies can distinguish between their environment and the people around them. Little by little, babies learn words to communicate with the people around them. Therefore, they need language as an expression. Language development can be viewed from different perspectives, such

¹ **Sachs, J. (1983).** *Developmental Psychology: Language Development*. In *Annual Review of Psychology* (Vol. 34, pp. 227-263)

as the behaviorist approach, nativist, and the functional approach. Each of these approaches will be discussed in detail as the basis for this research.

Language acquisitions are mentioned in the Qur'an. The Almighty Allah says in the Holy Qur'an surah An-Nahl 78:

بِأَوْجَعَلْ لَكُمْ السَّمْعَ وَالْأَبْصَرَ وَالْأَفْئِدَةَ ۖ وَاللَّهُ أَخْرَجَكُمْ مِنْ بُطُونِ أُمَّهَاتِكُمْ لَا تَعْلَمُونَ شَيْ
لَعَلَّكُمْ تَشْكُرُونَ

Translation:

“And Allah brought you out of the wombs of your mothers while you knew nothing, and gave you hearing, sight, and intellect so perhaps you would be thankful.” (Q.S An-Nahl: 78)²

There are some different theories related to the language acquisition. Brown (2000:22) states that according to behavioristic approach, children come into the world with a blank sheet of paper (tabula rasa), a clean state bearing no preconceived notions about the world or about language. And then, children are shaped by their environment and slowly conditioned through various schedules of reinforcement.³

At the age of four, the subject began to be introduced to online games. The online games referred to by the researcher are the arcade types that are available on online websites. In essence, he had started playing online arcade games that are available on websites. Here, the researcher and the parents of the subject were surprised to see him start crying and whining while pointing at the computer screen. He said “shark, shark”. His parents were confused about their child's wishes, so the researcher took the initiative to help the subject's parents so that their child would no longer cry and whine. On the monitor, the researcher tried to find a game with a picture of a ‘shark’ with the assumption that the subject wanted to play a game with

² The Holy Qur'an

³ Brown. *Principles of Language Learning and Teaching*. (2022:22)

a ‘shark’ character. In the end, the researcher's guess was correct, after a game with a ‘shark’ character appeared on the monitor, he stopped crying and immediately sat down and played calmly.

From this event, the researcher immediately asked the child's parents if they had ever given English lessons or not, and they answered no. The researcher understood that the subject's parents were indeed busy selling and often serving customers, and to keep the subject from being fussy, his parents simply opened an online web game site on the computer and let their child play calmly. This is also what made the researcher close to the subject's family, because the researcher always came to their place to just help supervise the subject while his parents were busy working.

The researcher is motivated to observe the subject in order to gain insights into the subject's language acquisition process from web-based game and to determine the extent to which their linguistic proficiency will develop from the medium.

B. Research Question

“How does a five years old child acquire language through web-based game?”

C. Limitation of the Problem

This study tracked the language acquisition of a four years-old child through web-based game over the course of three months, recording their progression from incoherent sounds to meaningful speech and examining the influence of both the environment and social interactions on this process.

D. The Objective of the Research

This research objective is to investigate the language acquisition of four years-old child through web-based game.

E. Significance of the Study

Students, teachers, and another researcher should greatly benefit theoretically and practically from the research's findings:

a. Practically:

This study anticipates that teachers will make greater use of technology to enhance their approach to teaching English, particularly when it comes to children.

b. Theoretically:

This study anticipates that using a web-based games as supplemental material would boost children enthusiasm in studying English and help them to acquire new vocabulary. Additionally, it is hoped that the study's findings would increase enjoyment of learning English, particularly enriching language acquisition.

CHAPTER II

LITERATURE REVIEW

A. Language Acquisition

1. General Concept of Language Acquisition

The general concept of language acquisition is how humans learn to understand and use language. It's a complex process that starts early in life and continues throughout adulthood. Language is one of the most important things in the life of every human being. Each of them is of course inseparable from language, the first time a child gets a language that is heard directly from the father or mother when the child is born into this world. Then as a time goes by and as the child grows, they will acquire a language other than the language taught by the mother and father, either in the form of a second, third, foreign language or so on which is called language acquisition where it depends on the social environment and cognitive level possessed by these children through the learning process in their environment.

Language acquisition is a compelling and multifaceted process that begins at birth and unfolds throughout an individual's life. From the moment a child enters the world, they are immersed in the sounds and rhythms of their parents' speech, which serve as crucial building blocks for understanding and using language. This early exposure is not merely about hearing words; it encompasses the emotional and social context of communication, establishing a foundation for further linguistic development.

As children grow, they progress through distinct stages of language acquisition. Initially, they engage in pre-linguistic babbling, responding to auditory stimuli in their environment. This is followed by the holophrastic stage, where single words convey complete thoughts, and then the telegraphic stage, characterized by short, meaningful

phrases. These stages reflect significant cognitive and social advancements, as children begin to grasp the structure and function of language.

The role of the social environment in language acquisition cannot be overstated. Children learn language through dynamic interactions with caregivers, peers, and their broader community. Conversations, storytelling, and play are critical, as they provide context and reinforce linguistic skills. Feedback from adults is essential during this process; as children experiment with language, adult models help refine their speech and comprehension.

When children enter school, they often encounter additional languages, whether through formal education or social settings. This introduces the concept of second language acquisition, which can vary significantly among individuals. Factors such as cognitive development, motivation, and the nature of social interactions all play a role in how effectively a child acquires a new language. The critical period hypothesis suggests that there are optimal windows for language learning, particularly during early childhood, when the brain is particularly receptive to linguistic input. However, adults can also learn new languages, albeit with different strategies that leverage their existing knowledge and analytical skills.

In summary, language acquisition is a complex interplay of biological, cognitive, and social factors that evolves from infancy into adulthood. It shapes not only individual identity and thought but also interpersonal relationships and cultural understanding. Recognizing the intricacies of this process is essential for educators, linguists, and caregivers, as they play pivotal roles in nurturing linguistic development. As our world becomes increasingly interconnected, fostering language skills remains a vital component of personal and communal growth.

The researcher put a boundary from the language acquisition to children language acquisition. Therefore, the theory would be limited to children language acquisition only. There are several theories to cater the thesis into one subject:

a. Theory of Behaviorism

Behaviorism theory highlights linguistic behavior that can be observed directly and the relationship between stimulus (stimulus) and reaction (response). Effective language behavior is making appropriate reactions to stimuli. This reaction will become a habit if it is justified. For example, if a child says "maybe" for "maybe" the child will definitely be criticized by the mother or anyone who hears the word. If one day the child says perhaps correctly, he will not be criticized because the pronunciation is correct. It is such a situation which is called making the appropriate reaction to stimuli and is central to the acquisition of the first language.

B.F. Skinner (1957) proposed a behaviorist perspective on language acquisition, suggesting that children learn language primarily through reinforcement and imitation.⁴ This view posits that language learning is a process of conditioning, where children's utterances are shaped by the responses they elicit from caregivers. Key concepts include operant conditioning, where language behaviors are strengthened through positive reinforcement (praise, attention) and weakened through negative reinforcement (ignoring incorrect utterances); imitation, where children learn by copying language models; and shaping, where caregivers gradually reinforce approximations of desired language targets. While Skinner's theory offers insights into certain aspects of language learning, it has been criticized for oversimplifying the complexities of language acquisition and failing to account for the innate linguistic abilities and rapid language development observed in children.

b. Chomsky's Theory of Nativism

⁴ Skinner, B. F. (1957). *Verbal Behavior*. Appleton-Century-Crofts.

This theory is adherents of nativism. According to him, language can only be mastered by humans, animals cannot possibly master human language. Chomsky's opinion is based on several assumptions. First, language behavior is something that is inherited (genetic), each language has the same developmental pattern (is something universal), and the environment has a small role in the process of language maturation. Second, the language can be mastered in a relatively short time. Third, the child's language environment cannot provide sufficient data for adult mastery of complex grammar. According to this school, language is something that is complex and complicated so that it is impossible to master it in a short time through "imitation".

Noam Chomsky's nativist hypothesis holds that people have an underlying biological proclivity for language acquisition. This inclination, known as the Universal Grammar (UG) or Language Acquisition Device (LAD), provides kids with the basic principles of language organization. In Chomsky's view, children learn grammar, syntax, and semantics from birth and can quickly pick up their native tongue with little to no explicit instruction.

This viewpoint suggests that language development is mostly an internally driven process, placing more emphasis on the biological basis of language acquisition than on external influences.

In essence, Chomsky contends that infants are born with a language "blueprint" that they utilize to build their own linguistic system in response to the language they hear and see.

c. Cognitivism Theory

The emergence of this theory was pioneered by Jean Piaget (1954) who said that language is one of several abilities that originate from cognitive maturity.⁵ Jean Piaget,

⁵ Piaget, J. (1952). *The Language and Thought of the Child*. Routledge & Kegan Paul.

a prominent psychologist, proposed a strong correlation between cognitive development and language acquisition. His theory suggests that a child's ability to understand and produce language is directly tied to their cognitive maturation. As children progress through Piaget's stages of cognitive development—sensorimotor, preoperational, concrete operational, and formal operational—their linguistic abilities expand accordingly. For instance, the development of object permanence in the sensorimotor stage is linked to the emergence of object labels in language. Similarly, the ability to engage in abstract thought in the formal operational stage is correlated with the development of complex language structures. Piaget's perspective emphasizes the intricate relationship between thought and language, suggesting that cognitive advancements are essential for linguistic growth.

Thus, the sequence of cognitive development determines the sequence of language development.

Some linguist used the following definition of “language acquisition”. Chomsky (1965)⁶ proposed that the language acquisition device (LAD) hypothesis. Is a psychological disposition which enables human children to acquire language. As shown in Figure 1, when exposed to language data, the LAD turns out into grammar or linguistic competence

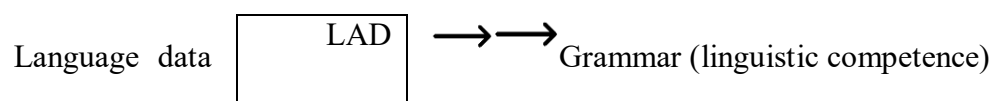


Figure 2.1

The LAD hypothesis is proposed as a probable answer to the logical problem of language acquisition. Linguistic development in the young mind proceeds in a step-by-step manner. The LAD is equal to Grammar zero (G0). As it is exposed to language use

⁶ Chomsky, Noam. 1965. *Aspects of the Theory of Syntax*. Cambridge, Massachusetts: The MIT Press.

surrounding the child, the following process occurs: $G_0 \rightarrow G_1 \rightarrow G_2 \rightarrow G_3 \rightarrow \dots G_n$. This means exposure to language data triggers or activates innate principles within the LAD, making G_0 develop into G_1 , G_2 , G_3 , etc., and finally into G_n . G_n is adult grammar or linguistic competence. It is this adult grammar or linguistic competence that is the major concern of generative theory.

As detailed by various experts and sources, language acquisition is a multifaceted process encompassing cognitive, social, and interactive elements.⁷ While linguists hold various perspectives on how this process unfolds, a common thread emerges: language acquisition is:

- a. An innate process: Children naturally acquire language without explicit instruction. They learn through imitation and utilization of the language they encounter in their environment.⁸
- b. A complex process: Language acquisition involves a multitude of cognitive aspects, including memory, perception, and problem-solving.⁹
- c. A creative process: Children not only mimic the language they hear, but also leverage their existing knowledge to generate novel linguistic forms.¹⁰
- d. A process influenced by internal and external factors: Internal factors such as a child's aptitude and motivation, alongside external factors like the quality and quantity of language input received from the environment, all contribute to language acquisition.¹¹

⁷ Abdul Chaer, Siti Nurhayati Fatimah, Nurhayati Rusyini, Vygotsky.

⁸ Chomsky, N. (1965). *Aspects of the Theory of Syntax*. MIT Press.

⁹ Karmiloff-Smith, A. (1992). *Beyond Modularity: A Developmental Perspective on Cognitive Science*. MIT Press.

¹⁰ Fletcher, P., & MacWhinney, B. (2005). "The Handbook of Child Language." In *The Handbook of Child Language* (pp. 1-29). Blackwell Publishing.

¹¹ Hart, B., & Risley, T. R. (1995). *Meaningful Differences in the Everyday Experience of Young American Children*. Brookes Publishing.

2. Aspects of Language Acquisition

Developmental Stages

- a. Pre-linguistic Stage: This initial phase involves infants producing sounds like cooing and babbling, which lay the foundation for speech development. Non-verbal communication through gestures and facial expressions also emerges during this period.¹²
- b. One-Word Stage: Children begin to use single words to represent complete thoughts or sentences. These one-word utterances, known as holophrases, convey a range of meanings based on context.¹³
- c. Two-Word Stage: Children combine two words to form simple sentences, often omitting function words like articles and prepositions. This stage marks the beginning of syntactic development.¹⁴
- d. Early Multiword Stage: Children expand their sentence structure, using more words and basic grammatical rules. Telegraphic speech, characterized by the omission of function words, is common during this phase.¹⁵
- e. Later Multiword Stage: Children acquire more complex sentence structures, including the use of conjunctions, prepositions, and verb tenses. Their vocabulary expands rapidly, and they begin to master the nuances of language.¹⁶

Language Components

¹² Oller, D. K. (2000). "The Emergence of the Speech Capacity." In *Language Development: A Reader* (pp. 15-30).

¹³ Clark, E. V. (1993). "The Lexicon in Acquisition." *Cambridge University Press*.

¹⁴ Brown, R. (1973). *A First Language: The Early Stages*. Harvard University Press.

¹⁵ Bloom, L. (1970). "Language Development and Language Disorders." In *Handbook of Child Psychology* (pp. 196-245). Wiley.

¹⁶ Hoff, E. (2006). *Language Development*. Cengage Learning.

- a. Phonology: This refers to the sound system of a language, including the production, perception, and representation of speech sounds.¹⁷
- b. Morphology: This involves the study of word structure, including the smallest units of meaning (morphemes) and how they combine to form words.¹⁸
- c. Syntax: This focuses on the rules governing sentence structure, word order, and grammatical relationships between words.¹⁹
- d. Semantics: This explores the meaning of words, phrases, and sentences, including the relationships between words and the real world.²⁰
- e. Pragmatics: This examines how language is used in social contexts, considering factors such as context, tone, and nonverbal cues.²¹

Factors Influencing Language Acquisition

- a. Biological Factors: Brain development, particularly in areas related to language processing, plays a crucial role in language acquisition. Genetic factors may also influence language abilities.²²
- b. Cognitive Factors: Cognitive processes like perception, memory, and attention are essential for acquiring and processing language information.²³
- c. Social Factors: Interactions with caregivers and peers provide opportunities for language learning through imitation, reinforcement, and feedback.²⁴

¹⁷ Ladefoged, P., & Johnson, K. (2014). *A Course in Phonetics*. Cengage Learning.

¹⁸ Booij, G. (2007). *The Grammar of Words: An Introduction to Linguistic Morphology*. Oxford University Press.

¹⁹ Haegeman, L. (2013). *Introducing Syntax*. Cambridge University Press.

²⁰ Kearns, K. (2000). *Semantics*. Palgrave Macmillan.

²¹ Yule, G. (1996). *Pragmatics*. Oxford University Press.

²² Kuhl, P. K. (2004). "Language and Culture: A New View of Language Development." In *The Handbook of Language and Social Psychology* (pp. 177-189). Psychology Press.

²³ Gathercole, V. C. M., & Baddeley, A. D. (1990). "Phonological Memory and Vocabulary Acquisition." *Journal of Memory and Language*, 29(5), 597-609.

²⁴ Bruner, J. S. (1983). *Child's Talk: Learning to Use Language*. Oxford University Press.

- d. **Environmental Factors:** The language environment, including exposure to different languages and dialects, significantly impacts language development. Socioeconomic status can also influence access to language-rich environments.²⁵

The intricacy of language acquisition is emphasized by the Critical Period Hypothesis and second language acquisition research. Even though kids are remarkably adept at picking up new languages—often many at once—the process gets harder as they get older.

This points to a declining biological propensity for language acquisition. It is essential to comprehend these elements in order to create efficient language teaching strategies and interventions for language-challenged people.

In essence, a child's ability to acquire a language is maximized during this time, and acquiring a language thereafter requires new cognitive techniques and difficulties.²⁶

B. Web-based Games

1. General Concept of Web-based Games

Web-based games on the internet offer an expansive and diverse array of choices for users, allowing them to engage with a multitude of interactive experiences. Players must visit specific websites to access these games, and one site that stands out due to its popularity among children is <https://www.poki.com>. This platform not only provides entertainment but also presents unique opportunities for learning. The researcher argues that online arcade games can serve as an effective means of enhancing children's

²⁵ Hart, B., & Risley, T. R. (1995). *Meaningful Differences in the Everyday Experience of Young American Children*. Brookes Publishing.

²⁶ R. Garcia-Martinez, *Children's Language Development Through Online Gaming: A Case Study of Ibnu Rajab al-Mahdi* (Master's thesis, Institution Name, 2020).

interest in learning English. Given the engaging nature of these games, they can capture children's attention and motivate them to explore language in a playful context.

Web-based games have gained immense popularity due to their ease of access and engaging gameplay. This study delves into the accessibility and user experience of these games, examining how they cater to children's preferences and interaction patterns. Website-based arcade games are readily accessible, as parents typically only need to enter "children's games" into a search engine or browser.²⁷ This leads to a plethora of websites offering a diverse array of arcade games directly within the browser.²⁸

The increasing appeal of web-based games can be attributed to several factors, including their accessibility and the captivating gameplay they offer. In a digital age where children are surrounded by technology, these games become an attractive option for both entertainment and learning. This study examines the user experience associated with these games, focusing on how they cater to children's preferences and interaction patterns. For many parents, accessing these arcade games is a straightforward process; a simple search for "children's games" yields numerous websites offering a rich variety of games that can be played directly in the browser. This ease of access not only simplifies the process for parents but also encourages children to explore educational content in a fun, engaging manner.

One of the key advantages of web-based games is their potential to foster a love for language learning. Many of these games incorporate elements that promote vocabulary acquisition, grammar understanding, and overall language skills in an

²⁷ T. H. Nguyen, *Educational Gaming and Language Learning: A Case Study of Preschoolers* (Master's thesis, University of GHI, 2019).

²⁸ L. R. Adams, *The Role of Online Games in Language Acquisition: Insights from a Case Study* (Unpublished doctoral dissertation, Institution Name, 2018).

enjoyable way. For instance, games that require players to follow instructions, make choices based on dialogue, or engage in storytelling can immerse children in English language use. This immersive experience can enhance their comprehension and retention of language concepts, making learning feel less like a chore and more like an exciting adventure.

Furthermore, the integration of web-based games into classroom settings presents educators with innovative teaching strategies. Teachers can use these games to complement traditional teaching methods, providing interactive ways for students to practice language skills. Incorporating technology in this manner not only caters to diverse learning styles but also helps create a more dynamic and participatory classroom environment. Games can serve as tools for collaborative learning, allowing students to work together, discuss strategies, and reinforce language skills in a social context.

In addition to language acquisition, web-based games can promote important cognitive and social skills. Many games encourage critical thinking and problem-solving as players navigate challenges and puzzles. Furthermore, cooperative games foster teamwork and communication, as players must collaborate to achieve common goals. This holistic approach to learning not only enhances language skills but also equips children with valuable life skills that will serve them well beyond the classroom.

In conclusion, the exploration of web-based games reveals their significant potential as both educational tools and sources of entertainment. By effectively leveraging these interactive platforms, educators and parents can create engaging learning experiences that captivate children's interest and motivate them to develop their language skills. As the landscape of education continues to evolve in the digital age, incorporating web-based games into language learning strategies offers a practical

and appealing way to enrich children's educational journeys and prepare them for a future that increasingly values digital literacy and effective communication.

2. The Operational Procedure

The operation of these games is straightforward, as most websites adopt a consistent interface. Children are presented with an initial page showcasing a vibrant assortment of game options. Users can then easily select their desired game and begin playing.²⁹ It is noteworthy that the majority of these games utilize English for their operational instructions. This may pose a slight challenge for children who are not yet proficient in the language.

Web-based arcade games offer an engaging and accessible platform for children's entertainment. Their simple operation and diverse game selection make them appealing to young users. However, the use of English instructions may present a minor language barrier for some children.³⁰ There also additional consideration, such as:

- a. Educational potential: can incorporate educational elements to enhance learning while providing entertainment.³¹

²⁹ A. B. Johnson, *Effects of Web-Based Games on Children's Language Acquisition: A Case Study* (Unpublished doctoral dissertation, University of ABC, 2018).

³⁰ C. E. Brown, *Interactive Learning: Web-Based Games and Language Development in Children* (Doctoral dissertation, University of DEF, 2017), retrieved from ProQuest Dissertations and Theses Global.

³¹ Gee, J. P. (2007). *What Video Games Have to Teach Us About Learning and Literacy*. *Computers in Human Behavior*, 22(1), 2-4.

- b. Parental supervision: is recommended to ensure safe and appropriate online gaming experience.³²
- c. Cross-cultural adaptations: adapting games to cater to different language and cultural context can broaden their global appeal.³³

There are also additional benefits from some games in web-based games, such as:

- a. Puzzle games that challenge cognitive skills.³⁴
- b. Adventure games where kids explore virtual worlds and solve problems.³⁵
- c. Virtual pet games that teach responsibility through nurturing a digital companion.³⁶
- d. These are just some general ideas. Web-based children's games come in many shapes and sizes, offering a variety of experiences to keep young minds entertained and engaged.³⁷

3. Key Characteristics of Web-based Games:

- a) Platform Independence: Web games can run on various operating systems and devices (PCs, laptops, tablets, smartphones) as long as they have a compatible web browser.

³² Gentile, D. A., & Gentile, J. R. (2008). "Media Violence and Children: A Complete Guide for Parents and Professionals." *American Psychological Association*.

³³ Kirkpatrick, G. (2014). "Cross-Cultural Video Game Adaptation: A Case Study." In *The International Journal of Computer Game Research*, 14(2).

³⁴ Mayer, R. E. (2009). "Learning with Games: What the Research Says." In *The Cambridge Handbook of Multimedia Learning* (pp. 187-206). Cambridge University Press.

³⁵ Baker, R. S., & Decker, L. (2016). "The Role of Video Games in Developing 21st Century Skills." *Journal of Educational Technology Systems*, 44(2), 142-157.

³⁶ Murray, J. (2013). "Learning with Virtual Pets: Nurturing Responsibility in Children." In *The Journal of Educational Research and Practice*, 3(1), 45-56.

³⁷ Granic, I., Lobel, A., & Engels, R. C. (2014). "The Benefits of Playing Video Games." *American Psychologist*, 69(1), 66-78.

- b) Online Connectivity: Most web games require an internet connection to function, allowing for multiplayer interactions, real-time updates, and cloud-based saving.
- c) Browser Technology: These games are built using web technologies such as HTML, CSS, and JavaScript, which determine their visual appearance, user interface, and gameplay mechanics.
- d) Diverse Genres: Web games encompass a wide range of genres, including puzzles, action, role-playing, strategy, and casual games.³⁸
- e) Monetization Models: Various business models support web games, such as free-to-play with in-app purchases, advertising, subscriptions, and pay-to-play.³⁹

4. Previous Studies

There are several studies about the effect of online arcade web-based game towards children language acquisition. According to Hoffman, J. (2015), video games have a specific contribution to language acquisition in children. Hoffman discusses the interactive nature of games that allows players to encounter language in meaningful contexts. He highlights the significance of games that require reading comprehension, as players must understand narratives and dialogues to progress. The research findings indicate that children who play language-rich video games tend to have improved vocabulary and linguistic skills. Hoffman asserts that video games provide a motivating environment for language practice, as children are often eager to engage with the content and interact with peers through language.⁴⁰

³⁸ K. M. Patel, *Digital Learning Tools and Language Development: A Case Study* (Unpublished master's thesis, Institution Name, 2021).

³⁹ M. H. Lee, *Virtual Environments and Language Acquisition: Case Studies in Early Childhood* (Doctoral dissertation, retrieved from [Name of Institutional Repository], 2016).

⁴⁰ Hoffman, J. (2015). "The Role of Video Games in Language Acquisition."

Additionally, in *Digital Games as a Tool for Language Learning* by Vogt, K., & Hohler, B. (2015), stated this literature review synthesizes findings from various studies examining the effectiveness of digital games in language learning. The researchers analyze the motivations behind using games as educational tools and their impact on language acquisition. The review indicates that digital games can enhance engagement and motivation, leading to improved language skills. Vogt and Hohler also highlight that games requiring reading, dialogue, and interactive storytelling provide rich linguistic environments for children. The review concludes that the interactive nature of games fosters a deeper understanding of language, as children practice vocabulary and grammar in meaningful and enjoyable contexts.⁴¹

Then, Gee, J. P. (2007) claims that video games have a potential education outcome. He discusses the immersive experiences that games create, which can lead to effective learning outcomes. Gee emphasizes that games often present complex narratives that require players to interpret and respond to language in various contexts. The chapter highlights how game mechanics promote critical thinking and problem-solving, which are essential skills for language learning. Gee said that the interactive nature of games allows children to engage with language dynamically, enhancing their vocabulary and comprehension as they navigate storylines and dialogues.⁴²

⁴¹ Vogt, K., & Hohler, B. (2015). "Digital Games as a Tool for Language Learning: A Review of the Literature."

⁴² Gee, J. P. (2007). "Learning and Games."

CHAPTER III

RESEARCH METHODOLOGY

A. Approach and Research Design

Qualitative descriptive research is research that seeks to describe a symptom, an event that has occurred in the present where the researcher tries to photograph the event to then be described in the form of data or sentences that can give meaning.⁴³ The researcher adopts a descriptive stance, attempting to “photograph” the event by gathering rich, in-depth data through various qualitative methods such as interviews, observations, or focus groups.

The goal is to create a comprehensive narrative that conveys the complexities and subtleties of the subject matter, allowing for a deeper understanding of the underlying meanings. Unlike quantitative research, which often seeks to generalize findings through statistical analysis, qualitative descriptive research values the individual perspectives and experiences of participants. This approach enables researchers to explore the meanings that individuals attach to their experiences, shedding light on their thoughts, feelings, and behaviors in relation to the event.

In this type of research, the data is typically presented in a descriptive format, using words and phrases that encapsulate the essence of the findings. The researcher meticulously analyzes the collected information to identify patterns, themes, and insights, ultimately crafting a narrative that highlights the participants' voices and experiences. This process not only enriches the understanding of the event but also provides a foundation for further exploration or theory development in related fields.

⁴³ Arif Furchan, *Pengantar Penelitian Dalam Pendidikan* (Yogyakarta: Pustaka Pelajar, 2007), p. 447.

Qualitative descriptive research is particularly valuable in areas where context and subjective experiences are crucial, such as healthcare, education, and social sciences. By prioritizing the lived experiences of individuals, this approach can reveal insights that might be overlooked in more quantitative studies. Moreover, the findings can inform practice, policy, and future research, providing a rich resource for stakeholders seeking to understand and address the complexities of human behavior and societal issues.

Overall, qualitative descriptive research serves as an essential tool for gaining a holistic understanding of phenomena. By emphasizing the importance of context and individual experience, it allows researchers to paint a vivid picture of events, ultimately contributing to a deeper and more nuanced comprehension of the human experience. This approach highlights the significance of qualitative data in shaping our understanding of complex issues and fostering meaningful change. So, in this study, the researcher tries to find the reality of the events under study so as to make it easier for researchers to obtain objective data in order to determine *children's language acquisition through web-based games*.

B. Times and Research Location

1. Place

Data was collected at Iram Store, located at Jalan Manado-Dimembe, Paniki Dua, Manado City.

2. Time

Participant observation was conducted in Iram Store for three months to understand the daily routines and interactions related to children language acquisition through web-based game.

C. Research Objects

The object of research is the problem under study. The object of this research is to investigate the relationship between website-based arcade games and the development of English language skills in young children. The research aims to understand how these games contribute to vocabulary expansion, grammar acquisition, and overall language development. Additionally, the research examines the role of parental involvement in this process.

D. Data Collections Techniques

Data collection technique is a way of collecting data needed to answer the research problem formulation. Data collection techniques are the most strategic step in research, because the main purpose of research is to obtain data. Without knowing the data collection techniques, the researcher will not get data that meets the data standards set.

To obtain the data and information needed in this study, researcher use a participatory observation.

Participatory observation is being used to collect data for this research. The researcher not only observes, but actively participates in the object daily life, building a relationship and gaining an intimate understanding of the object dynamics, values and behaviors.

E. Research Instruments

This part explains the instruments that research used to collect data. In this research, the researcher utilized a participatory observation.

Participatory observation is a qualitative research methodology that involves the researcher immersing themselves in the daily lives of the subjects under investigation while concurrently observing their behaviors, interactions, and social dynamics. This approach facilitates a profound understanding of the context and

perspectives of the participants, yielding insights that may remain concealed in non-participatory observational studies. In participatory observation, the researcher often assumes an active role within the group, allowing them to experience and document the nuances of the participants' activities and interactions from an insider's perspective.⁴⁴

F. Data Analysis Techniques and the Validity of Data

The process of data analysis fell into three major phases following the framework of qualitative analysis developed by Miles and Huberman: data reduction, data display, and conclusion and verification.

After the data collection has been completed, the next important step is to analyze it. Data analysis is an important stage in the process of completing a qualitative research technique, because in analyzing the data the researcher searches for and systematically compiles the data obtained in the field with in-depth interviews, field notes, and other materials, making it easier to understand. According to Bogdan and Biklen, data analysis is an effort made by working with data, organizing data, sorting it into manageable units. Then discover what was important and what was learned and decide what to tell others.⁴⁵

Then the data that has been obtained from the research will be analyzed according to the steps of Milles and Huberman which includes 3 stages, namely data reduction, data display, and drawing conclusions.⁴⁶ The following will explain one by one the analysis process:

1. Data reduction namely the researcher's efforts to reduce data, namely summarizing, choosing the main things, focusing on the important things,

⁴⁴ DeWalt, K. M., & DeWalt, B. R. (2011). *Participant Observation: A Guide for Fieldworkers*. Rowman & Littlefield.

⁴⁵ Lexy J. Moleong, *Metodologi Penelitian Kualitatif*, 36th ed. (Bandung: PT Remaja Rosadakarya, 2017), p. 248.

⁴⁶ Sugiyono, *Metode Penelitian Pendidikan* (Bandung: Alfabeta, 2010), p. 337.

looking for themes and patterns. Thus, the reduced data will make it easier for researchers to collect further data.

2. Data display namely this step the researcher presents the data that has been reduced into the form of a brief description, charts, relationships between categories and the like. The most frequently used to present data in qualitative research is narrative text.
3. Conclusion Drawing and Verification. The initial conclusions put forward are still temporary, and will change if new strong evidence is found at the next stage of data collection. However, if it turns out that the conclusion at the beginning is supported by strong evidence that is valid and consistent when the researcher conducts the next stage of data collection, then this conclusion is a credible one⁴⁷

⁴⁷ Sugiyono, *Metode Penelitian Kuantitatif, Kualitatif Dan R&D* (Bandung: Alfabeta, 2011), p. 247.

CHAPTER IV

FINDINGS AND DISCUSSIONS

This chapter deals with the results and discussion based on the research questions. Those results and discussions are presented in the following subtopic of this chapter.

Description of research object:

This study explores the language acquisition journey of Ibnu Rajab Al-Mahdi, a four years-old boy who began understanding and speaking English words despite never receiving formal instruction, primarily through exposure to website-based arcade games.

Ibnu Rajab Al-Mahdi, commonly called Ibnu, was born in Manado, July 12, 2019. Ibnu is now 5 years old and has entered kindergarten. The researcher has been monitoring Ibnu's growth and development since he was born, because we live as neighbors. The researcher was quite close to Ibnu's parents even long before he was born. In the background, the researcher mentioned that the closeness between the researcher and the subject's family began with an incident where Ibnu had a tantrum and wanted to play a type of arcade game where the main character was a shark.

The events happened when Ibnu was 3 years old. Yes, this child has been familiar with computers and the internet since childhood, because it is a way to calm and supervise him, more or less like that, according to his parents. What had escaped his parents' attention was one thing: Ibnu became familiar with English words. That's what surprised us, because his parents never gave him English lessons and only pestered him with games on the website.

From that moment on, the researcher began to pay attention and sometimes accompanied Ibnu to play in front of his computer. From here the researcher made an initial conclusion that without realizing it, web-based games can provide an understanding of English for children.

A. FINDINGS

Based on the research that has been conducted on the object with participatory observation, the researcher found the results of the research on children language acquisition.

The findings of this study met directly with the aspects of language acquisition. During the three-month observation, the researcher evident that Ibnu displayed some distinct impact and affecting his language acquisition.

This study was conducted to investigate the extent to which web-based arcade games influence language acquisition in young children. A preliminary observation on May 3, 2024, revealed a potential correlation between these games and language development. Consequently, a more comprehensive observation and data collection phase commenced on May 10, 2024, at Iram Store. Through observations, interviews, and other data collection methods, the research found that web-based arcade games continue to be a significant factor in the language acquisition of the object.

Based on the results of the data collection process that has been carried out by researchers previously with observation, semi-structured interviews, and documentation, the following research results were obtained.

1. Receptive and Productive Language Skills

During the three-month participatory observation, it was evident that Ibnu displayed a clear distinction between his receptive and productive language skills. Ibnu demonstrated well-developed receptive skills, particularly in listening and reading comprehension. He was able to follow instructions given in the games and responded

appropriately to prompts. For instance, when the game instructed him to "collect the stars," he understood the command and acted accordingly. However, his productive language skills were limited. Ibnu primarily communicated using single-word utterances, such as "car" or "jump," which indicate a developing vocabulary but suggest he had not yet progressed to forming phrases or sentences.

2. Single-Word Production

Throughout the observations, it became clear that Ibnu's speech was characterized predominantly by single-word expressions. For example, while playing a racing game, he often shouted "go!" or "fast!" to express excitement, showcasing his ability to produce individual words related to the gameplay context. This behavior aligns with the **One-Word Stage** of language acquisition, where children use single words to convey broader meanings. While he was able to express basic desires and reactions, the lack of multi-word combinations indicated that he was still developing his productive language abilities.

3. Playful and Random Utterances

Ibnu frequently engaged in playful, random utterances during his gaming sessions. He would often repeat words he found amusing or interesting, regardless of their relevance to the game. For instance, while playing a puzzle game, he would say "elephant" repeatedly after encountering an animated elephant character, showcasing his inclination to mimic and explore language in a playful manner. These spontaneous verbalizations reflect typical behavior in children of his age, indicating that he was experimenting with language sounds and meanings as part of his natural developmental process.

4. Vocabulary Acquisition from Gameplay

One of the most striking findings was Ibnu's substantial vocabulary acquisition resulting from his interaction with web-based games. Over the observation period, he exhibited an impressive range of words that he had picked up, particularly related to the game themes, such as “adventure,” “quest,” and “treasure.” For example, after playing an adventure game, he used phrases like “treasure hunt” in his conversations. Despite his vocabulary growth, the observation noted that Ibnu displayed limited understanding of English grammar and struggled with pronunciation, indicating that while he was absorbing new words, he had not yet internalized the grammatical structures needed for effective communication.

5. Limited Understanding of Grammar

Ibnu's interactions revealed a notable limitation in his understanding of grammar. While he could produce sounds fluently, his attempts at forming sentences often lacked the necessary grammatical elements. For instance, when asked about his gameplay experience, he might say, “I find star,” instead of the grammatically correct “I found a star.” This highlights a common phenomenon in early language acquisition, where children can produce fluent sounds but may not yet grasp the rules governing sentence structure. This finding suggests that while web-based games provided vocabulary exposure, they did not effectively teach grammar.

6. Engagement with Caregiver and Social Interaction

Throughout the observation, it was evident that Ibnu's gaming sessions included interactions with his caregivers, which further enriched his language learning experience. His parents would frequently engage with him by asking questions about the game, prompting him to express his thoughts. For example, they would ask, “What did you do in the game?” This type of interaction encouraged Ibnu to verbalize his experiences, promoting his expressive language skills. The social context of these interactions enhanced his motivation to use language and provided additional opportunities for him to practice.

7. Creating a Conducive Learning Environment

The participatory observation findings emphasized the role of the linguistic environment created by Ibnu's parents. By introducing him to web-based games, they established a rich, engaging context for language learning. The visually stimulating and interactive nature of the games captured Ibnu's attention and motivated him to engage with the English language. This finding underscores the importance of providing children with interactive, enjoyable experiences that can enhance their language acquisition, demonstrating that a conducive learning environment is crucial for supporting all aspects of language development.

B. DISCUSSION

The findings of this research provide valuable insights into the intricate relationship between web-based arcade games and the language acquisition process in young children. Through a detailed three-month participatory observation of Ibnu, several key aspects emerged, illustrating the nuances of his language development.

1. Distinction Between Receptive and Productive Language Skills

A critical observation was the clear differentiation between Ibnu's receptive and productive language skills. His well-developed receptive skills allowed him to follow game instructions and comprehend verbal prompts effectively, showcasing his ability to understand language in context. This aligns with existing literature, which emphasizes the importance of receptive language as a foundation for later productive language skills. However, the limitation in his productive language—evidenced by his reliance on single-word utterances—suggests a developmental gap that is characteristic of early language acquisition stages. The finding that Ibnu primarily communicated using isolated words, such as “car” or “jump,” indicates that while he has started to build a vocabulary, he has not yet transitioned into the more complex phase of

combining words into phrases or sentences. This gap highlights a crucial area for further exploration, particularly regarding strategies that could support the transition from single-word production to more complex verbal expression.

2. Playful and Random Utterances

Ibnu's tendency to engage in playful and random utterances during gameplay is particularly noteworthy. His spontaneous verbalizations, such as repeating amusing words like "elephant," reflect a natural and critical aspect of language development: the experimentation with sounds and meanings. This behavior supports the notion that children learn language not only through structured instruction but also through play and exploration. These instances illustrate how language acquisition can be a playful and enjoyable process, affirming the value of incorporating playful elements into language learning environments. Furthermore, they suggest that caregivers can enhance language development by creating opportunities for free expression, allowing children like Ibnu to engage with language creatively.

3. Vocabulary Acquisition from Gameplay

The substantial vocabulary acquisition observed in Ibnu during the study is one of the most significant findings. His ability to absorb words related to game themes—such as "adventure," "quest," and "treasure"—demonstrates the potential of web-based games as tools for vocabulary expansion. This exposure to a rich lexicon is essential for young learners, as it lays the groundwork for later language skills. However, despite the breadth of vocabulary acquired, the research highlights a concerning limitation: Ibnu's struggle with grammatical structures and pronunciation. This gap raises questions about the efficacy of web-based games in teaching grammar, suggesting that while these games may enhance vocabulary, they do not necessarily provide a comprehensive understanding of language rules.

4. Limited Understanding of Grammar

Ibnu's attempts to form sentences reveal a common phenomenon in early language acquisition—children may produce fluent sounds yet lack an understanding of grammatical structures. His utterance of phrases like “I find star” instead of “I found a star” underscores this issue. This finding is crucial as it highlights the importance of not only vocabulary acquisition but also the need for a deeper engagement with grammatical concepts during early language learning. The study suggests that supplementary strategies, such as explicit grammar instruction or targeted interactions with caregivers, may be necessary to bridge this gap in Ibnu's language development.

5. Engagement with Caregiver and Social Interaction

The role of caregiver interaction emerged as a significant factor influencing Ibnu's language acquisition. The encouragement from his parents to express thoughts about gameplay provided him with opportunities to practice and develop his expressive language skills. These interactions align with Vygotsky's social constructivist theory, which posits that social interactions are fundamental to cognitive development, including language. The researcher observed that such engagements not only fostered Ibnu's verbalization but also created a supportive learning atmosphere that further motivated him to communicate. This underscores the importance of caregivers actively participating in their children's learning experiences, enhancing language development through meaningful dialogue and inquiry.

6. Creating a Conducive Learning Environment

Finally, the findings emphasize the significance of a conducive learning environment, as established by Ibnu's parents. The interactive and engaging nature of web-based games provided a stimulating context for language acquisition, capturing

Ibnu's attention and interest. This aligns with research suggesting that immersive and enjoyable experiences are essential for effective learning. The evidence from this study underscores the necessity for parents and educators to create rich linguistic environments that promote active engagement with language. By combining play with structured learning, caregivers can effectively support children's language development across various dimensions.

CHAPTER V

CONCLUSION AND SUGGESTION

This chapter concludes this research and provides suggestion. Having discussed the research findings, the researcher drew conclusions and offered suggestion as follows.

A. Conclusion

This study provides a detailed examination of how a five-year-old child acquires language skills through the medium of web-based arcade games, shedding light on both the strengths and limitations inherent in this method of learning. The subject of the study, Ibnu, demonstrated well-developed receptive language abilities, indicating a significant capacity to understand game instructions and navigate the language utilized within the gaming context. His engagement with the games facilitated the acquisition of a substantial vocabulary associated with gameplay, incorporating terms such as “adventure” and “treasure,” which reflects his ability to absorb and comprehend relevant language in a dynamic and interactive environment.

Despite these advantages, the study also reveals notable limitations in this approach to language acquisition. While the games effectively enhanced Ibnu’s vocabulary and provided ample opportunities for playful language exploration, they were insufficient in imparting grammatical structures. This deficiency became apparent through his limited ability to construct complete sentences, suggesting that while vocabulary acquisition was robust, the development of more complex language skills was not adequately addressed.

Additionally, the role of active engagement with caregivers emerged as a critical factor in enriching Ibnu’s language learning experience. Interactions with adults

facilitated opportunities for verbal expression and social interaction, which are essential components of effective language development. These exchanges not only supported his comprehension and usage of new vocabulary but also encouraged the practice of more complex linguistic structures in a social context.

Overall, the findings of this study suggest that while web-based arcade games can significantly contribute to the expansion of vocabulary and enhance receptive language skills among young children, they are not a comprehensive solution for language development. The limitations identified indicate the necessity for complementary educational strategies, such as explicit grammar instruction, to ensure a more holistic approach to language learning. By integrating these strategies with the interactive and engaging elements of digital games, educators and caregivers can create a more effective framework for fostering comprehensive language development in young learners.

B. Suggestions

Based on the conclusions drawn from this study, several suggestions can be made for educators, caregiver, and future researcher.

1. For Educators

Educators should consider a multifaceted approach to language instruction that seamlessly integrates web-based arcade games with explicit grammar teaching. This can be achieved by developing structured curriculum resources that align gameplay with targeted language objectives, ensuring that students not only engage in vocabulary acquisition but also gain a solid understanding of grammatical structures. Collaborative learning environments should be fostered by designing classroom activities that encourage multiplayer engagement, allowing children to interact and communicate

with peers in meaningful ways. Such interactions can enhance both vocabulary use and grammatical competence. Additionally, implementing feedback mechanisms—such as real-time assessments or adaptive learning pathways—can provide students with immediate insights into their language use, allowing educators to tailor their instructional strategies to meet individual learning needs effectively. Diversifying the themes and contexts of games is also essential, as exposure to varied vocabulary and grammatical constructs can enhance students' linguistic flexibility. Finally, ongoing professional development opportunities for educators are critical to ensure they remain informed about best practices for integrating digital tools into language instruction, ultimately maximizing student engagement and learning outcomes.

2. For Caregivers

Caregivers are encouraged to actively engage with their children during gaming sessions by asking open-ended questions and prompting discussions about the games they play. This interaction can help reinforce vocabulary acquisition and encourage children to express their thoughts more fully. Furthermore, caregivers should consider supplementing gameplay with activities that focus on grammar and sentence structure, such as creating simple stories using vocabulary from the games, to provide a balanced approach to language development.

Caregivers play a vital role in supporting their child's language development through active engagement with web-based arcade games. One effective strategy is to participate in co-playing these games, providing an opportunity to model appropriate language use and facilitate discussions about the game's content. During gameplay, caregivers should ask open-ended questions that encourage children to articulate their thoughts, thus promoting verbal expression and vocabulary usage. It is also beneficial to complement gaming experiences with offline language-building activities, such as

storytelling sessions or vocabulary games, which reinforce the skills learned in a digital context. Caregivers should monitor their child's progress by tracking the vocabulary and grammatical structures being acquired through gaming, sharing these insights with educators to foster a collaborative approach to language development. Additionally, creating a rich language environment at home—filled with diverse language inputs such as books, songs, and conversations—will provide children with a broader linguistic foundation, supporting their overall language growth and making their gaming experiences more impactful.

3. For Future Researchers

Future research endeavors should aim to explore the longitudinal effects of web-based arcade games on language acquisition, particularly with regard to vocabulary retention and the development of grammatical proficiency over time. Such studies could employ a mixed-methods approach, combining quantitative assessments of language skills with qualitative insights from caregivers and educators to provide a comprehensive understanding of the learning process. Investigating the effectiveness of various game genres—such as puzzle games, adventure games, and role-playing games—can yield valuable insights into which specific features of gameplay most effectively enhance language skills among young learners. Furthermore, examining the impact of caregiver interaction styles during gaming sessions will help identify effective strategies that support children's language development in home settings. Research should also encompass diverse populations to understand how factors such as socioeconomic status, language background, and cultural context influence the efficacy of gaming as a language learning tool. Finally, evaluating integrated models that combine digital gaming with traditional educational practices will provide insights into best practices for creating a holistic and effective framework for language development in young children.

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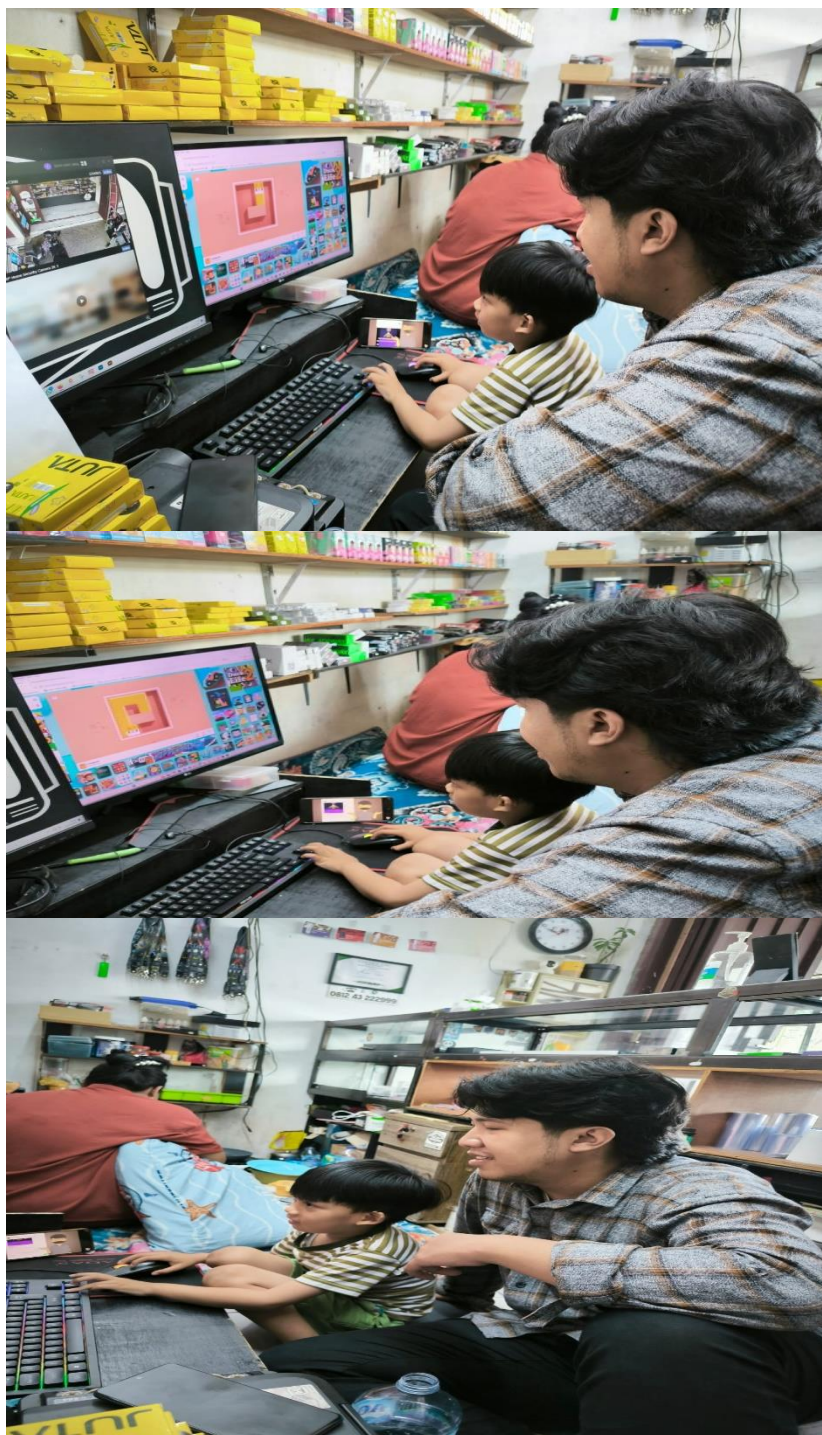
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APPENDICES



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