



Educational Word Box Game Tool To Enhance Cognitive Development In Early Childhood

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Abstract

This study aims to investigate the improvement of cognitive abilities in early childhood by utilizing the educational game "Word Box." The research employs a qualitative descriptive approach, with data collection methods including Documentation, Interviews, and Observations. Data analysis follows the Miles and Huberman model. The results indicate that the utilization of the educational game "Word Box" has a positive impact on the cognitive development of children through their interaction with the game. There is a significant improvement in cognitive aspects, such as memory skills, understanding, and language usage in children.

Keywords: Educational Game, Word Box, Cognitive Abilities, Early Childhood

Abstrak

Penelitian ini bertujuan untuk menginvestigasi peningkatan kemampuan kognitif anak usia dini dengan menggunakan alat permainan edukatif Kotak Kata. Penelitian ini menggunakan deskriptif kualitatif. Pengumpulan data menggunakan Dokumentasi, Wawancara dan Observasi. Analisis data menggunakan miles and huberman. Hasil penelitian menunjukkan bahwa pemanfaatan alat permainan edukatif "Kotak Kata" berdampak positif pada perkembangan kemampuan kognitif anak-anak melalui interaksi dengan permainan tersebut. Terdapat peningkatan signifikan dalam aspek-aspek kognitif, seperti kemampuan memori, pemahaman, dan penggunaan bahasa pada anak-anak.

Kata Kunci: Permainan Edukatif, Kotak Kata, Kognitif, Anak Usia Dini

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INTRODUCTION

Early childhood is a phase during which children are not fully aware of and exploring their potential. In this context, the roles of parents, teachers, and the community are crucial in guiding children in the process of developing their talents. While many parents rely on schools as the main center to optimize their children's potential, emphasizes that early childhood education involves all efforts and actions taken by educators and parents to create an environment that facilitates children's experiential exploration (Khadijah & Amelia, 2020). This provides an opportunity for children to become excellent imitators by observing and trying various activities that utilize their full potential and intelligence. Therefore, the importance of early childhood education, in formal, informal, and non-formal forms, must be acknowledged and

implemented. The goal is to direct the growth and development of children towards a better future, forming a strong foundation for their future.

Early Childhood Education (ECE) plays a vital role in the developmental stages of a child. In the context of early childhood learning, the methods and approaches used need to be tailored to their characteristics and special needs, a method is interpreted as a tool used to achieve goals with systematic steps (Yulistari et al., 2018). One highly recommended method in the context of early childhood education is the play-based learning method. Various forms of emotional dysregulation in children are influenced by various causes. For example, the early experiences of a child with their mother can lead to differences in a child's emotional regulation (Warmansyah et al., 2023). Children at this stage effectively learn through play, making this method essential in their learning process. Play is considered a highly enjoyable activity, especially for early childhood who view their world as a playground.

Through play activities, children can develop various skills, including social, motor, cognitive, and language skills. They can learn problem-solving, communication, collaboration, and imaginative skills (Jannah et al., 2023). The play-based learning approach also helps children understand abstract concepts in a concrete and enjoyable way. In the context of early childhood education, it is essential for educators and parents to create an environment that supports play-based learning activities (Vidal Carulla et al., 2021). This includes providing various types of games suitable for the child's developmental level, offering opportunities to interact with peers, and providing appropriate guidance during the play process. By applying the play-based learning method, children can learn more effectively and enjoyably (Khalil et al., 2022). This approach allows them to develop their potential and skills holistically, preparing them to face various challenges in the future.

Child development involves crucial cognitive aspects, covering various stages of a child's abilities. The term "cognitive" itself originates from the term "cognition," meaning knowing (Nolan & Molla, 2018). In a general context, cognitive can be explained as the ability to learn, think, and acquire new knowledge. This includes a child's skills in mastering new concepts and ideas, understanding their surroundings, and using memory to solve simple problems (Lee, 2019). Cognitive development processes involve various psychological exercises consisting of responsive cycles, thinking processes, and a child's ability to gather information and face problem-solving challenges. Therefore, cognitive development can be interpreted as a process in which children progress and grow in increasingly complex thinking abilities over time.

Cognitive development in early childhood involves the process where children develop their cognitive abilities, such as understanding, thinking, and processing information (Yang, 2018). At this age, children begin to develop the ability to pay attention and recognize objects around them, remember information, solve simple problems, and understand cause-and-effect relationships. They also start to develop other cognitive abilities, such as expressing words and understanding simple

instructions (Shin et al., 2019). Human cognition involves more than individual intelligence but is also influenced by contributions from the social environment. Wong also agrees that in the cognitive development of early childhood, interaction plays a crucial role. Interaction and communication can be carried out through play or by interacting with objects around them.

Educational games have become an integral part of children's learning processes, and one of the most interesting games is the "word box." The tool is designed to help children expand their vocabulary and improve their language skills (Nicolaou et al., 2020). Although it may seem simple, the impact of the "word box" is significant in children's learning. However, to understand the extent to which the "word box" influences the learning process of children, in-depth research is needed. Therefore, this study will apply qualitative methods to investigate children's experiences during the "word box" and how the game affects their learning process. The qualitative approach allows for a deeper understanding of social and cultural phenomena, such as the learning process of children (Agustina Nua et al., 2023). By using this method, observations, interviews, and subjective understanding of children while playing the "word box" can be conducted. Thus, more accurate and comprehensive conclusions can be drawn about the effectiveness of the "word box" as an educational play tool.

Cognitive development in early childhood has a significant impact on their learning and future growth. One strategy to stimulate cognitive development is through the use of educational games (Tortella et al., 2020). For example, the "word box" is a game specifically designed to help children develop vocabulary and enhance language skills, thus stimulating their cognitive development. However, to gain a deep understanding of the scope of the "word box" in strengthening a child's cognitive abilities from an early age, careful research is needed (De Souza Morais et al., 2021). Therefore, the goal of this research is to examine how the "word box" can function as a tool to enhance a child's cognitive abilities in early childhood. By applying qualitative research methods, we can obtain a more comprehensive insight into how children interact with the "word box" and the impact of the game on their cognitive development. Thus, we can achieve more accurate and in-depth conclusions about the effectiveness of the "word box" as a tool to train children's cognitive skills from an early age in life.

METHODS

In this research, the researcher chose to use a qualitative method. Qualitative method is a research approach aimed at understanding the phenomenon under investigation in greater depth (Fadare & Witry, 2023). In the context of this research, data were collected through observation, interviews, and document analysis to gain a deeper understanding of how the "word box" game can play a role in the cognitive development of children (Biela & Martynowska, 2022). Through the application of qualitative methods, the researcher can analyze the obtained data to identify patterns,

themes, and relationships among factors influencing cognitive development in the context of the "word box" game.

The way to play the educational game tool "word box" is as follows: (1) The teacher displays the letters in the alphabet box. (2) The teacher provides examples first. (3) Take a sticky picture on the cardboard, then take the letters from the alphabet box according to their sounds. (4) Children practice on their own according to the desired picture or the letter they want to arrange. This study uses data collection techniques and literature studies, where the researcher searches for data related to the research topic based on the predetermined title. Thus, the researcher can obtain relevant and in-depth information about the "word box" game.

RESULTS AND DISCUSSION

Educational games have become an integral component in the learning process for children. One intriguing educational game is the "Word Box." The design of the "Word Box" is specifically crafted to help children expand their vocabulary and improve their language skills. Although this game may seem simple, its impact on children's learning processes can be highly significant. However, to comprehend the extent to which the "Word Box" influences children's learning processes, in-depth research is required. Therefore, this study will utilize a qualitative approach to investigate children's experiences while playing the "Word Box" and the impact of this game on their learning processes. The qualitative research method allows for a better understanding of social and cultural phenomena, including the learning processes of children. By using this approach, we can observe, interview, and understand the subjective experiences of children while playing the "Word Box." Thus, we can draw more accurate and profound conclusions about the effectiveness of the "Word Box" as an educational game tool.

In the early childhood phase, children undergo a crucial stage of cognitive development. They acquire much of their learning through play, and educational games such as the "Word Box" can be a highly beneficial tool. In "Word Box," children search for words in a grid of random letters. This game helps them develop various skills.

Firstly, the game plays a role in assisting children in understanding basic concepts such as direction and sequence. They learn to search for words from left to right, from top to bottom, and sometimes diagonally, providing an understanding of directional and sequential concepts.

Secondly, the game also contributes to the development of language skills. Children learn to recognize letters and their sounds while expanding their vocabulary.

Thirdly, the game participates in the development of cognitive skills such as memory and concentration. Children are tasked with remembering the locations of found words and staying focused on the next word search. However, it is essential to ensure that the game is age-appropriate and aligns with the children's abilities. A game that is too challenging may lead to frustration, while one that is too easy might not provide enough cognitive challenges.



Fig 1. Educational Game Tool: Word Box

In Figure 1, the educational game tool "Word Box" used in this research is displayed. The "Word Box" is an educational game designed to aid in the development of language and cognitive skills. The game involves the use of word cards placed in a box, where participants are expected to draw a card and use the word in a sentence.



Fig 2. Implementation of Educational Game Tool: Word Box

In Figure 2, the implementation of the educational game tool "Word Box" is depicted. Before starting the game, the researcher shows the letters inside the alphabet box and provides examples of their use. Then, the researcher takes pictures and attaches them to the cardboard. The children then select letters that correspond to their sounds and practice arranging them to form the desired picture or word. Through the "Word Box" game, children can learn letters in a fun and interactive way. They can assemble these letters into meaningful words, expanding their understanding of the alphabet. By playing the Word Box, children can also broaden their vocabulary, learn new words, and understand their meanings in the context of the game. Additionally, through the Word Box, children can practice reading and spelling skills. They learn to recognize the arrangement of letters in words and connect them to the correct sounds. In assembling words in the Word Box, children also need to use logical thinking and problem-solving skills. They must think about the correct sequence of letters to form the intended word. Playing the Word Box also involves good concentration and requires strong memory skills.



Fig 3. Documentation Results with Children

In Figure 3, the documented results taken with children are shown. This research was conducted in Pandeglang on November 26, 2023. It can be observed that this study involved three children, two boys and one girl, who participated in the research process. The children's ages ranged from 4 to 6 years old. This research used data collection methods through observation. During the research process, the researcher observed and documented the interactions of children while playing the "Word Box." This observation provided a deeper understanding of the children's experiences and how this game influenced their cognitive development.

Table 1. Assessment of Cognitive Development Skills through the "Word Box" Game

No.	Indicator	Skill	Assessment			
			1	2	3	4
1.	Thinking Skills	1.1 The child is capable of arranging the alphabet to form desired words.			✓	
		1.2 The child can dictate words according to provided images.				✓
		1.3 The child can imitate the way to play based on given examples.				✓
2.	Collaborative Skills	2.1 The child is capable of combining each letter and forming a word.			✓	
		2.2 The child can attach bottle caps to the designated space to create a word.				✓
		2.3 The child can combine letters according to the given example.				✓
3.	Communication Skills	3.1 The child can mention each letter and spell a word.			✓	
		3.2 The child can read the words they have formed.			✓	
		3.3 The child can memorize each word they have formed.		✓		
4.	Creative Skills	4.1 The child can arrange each letter according to the specified word.	✓			
		4.2 The child can implement spelling in daily life.			✓	
		4.3 The child can design APE (Educational Game Tool) well and according to the provided rules.				✓

Based on the table above, it can be observed that children have developed their cognitive abilities effectively. At this age, they begin to pay attention to and recognize objects around them, remember information, solve simple problems, and develop an understanding of cause and effect. They also start developing cognitive abilities, such as pronouncing words and understanding simple instructions.

The "Word Box" educational game is a valuable tool in promoting cognitive development in early childhood. The game not only aids in the expansion of vocabulary and language skills but also contributes to the development of thinking, collaborative, communicative, and creative skills. Through interactive and enjoyable play, children can enhance their cognitive abilities and build a solid foundation for future learning.

CONCLUSION

The use of the educational game tool "word box" aims to explore how this game can be employed as a tool to enhance the cognitive abilities of early childhood. From this research, it can be concluded that the educational "word box" is an effective game tool in improving the cognitive skills of young children. The use of this game can assist children in developing vocabulary, reading, critical thinking, and problem-solving skills. Therefore, it is recommended for parents and educators to utilize the educational "word box" as one of the game tools to facilitate the cognitive development of early childhood.

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