



Use of Smart Boxes to Increase Learning Interest in Early Childhood

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ABSTRACTS

This study aims to determine the use of smart box educational toys in increasing the learning interest of early childhood at RA Persis 237 An-Nur and also to identify the obstacles and solutions in using smart box educational toys in increasing the learning interest of early childhood. The method used in this study is a qualitative research method with a case study approach. Data collection techniques and instruments used observation, interviews, documentation studies, and triangulation. The results of the study show that: 1) The use of smart boxes can increase children's interest in learning, as seen from increased active participation, feelings of joy, and children's attention or enthusiasm in participating in learning activities. 2) However, there are still obstacles that must be overcome, namely the limitations of smart box toys, the need for more time, the lack of understanding among teachers, and teacher supervision during activities. However, the above obstacles can be overcome with solutions, including a learning environment that supports children's creativity, children's enthusiasm in participating in activities, collaboration between the school and parents, and teachers' creativity and understanding in using smart box toys.

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1. INTRODUCTION

Early childhood education is a process of nurturing the growth and development of children from birth to six years of age in a comprehensive manner, covering physical and non-physical aspects, by providing appropriate and correct stimuli for physical, moral, spiritual, motor, emotional, cognitive, and social development so that children can grow and develop optimally (Yusuf et al., 2023). Thus, early childhood education is a means of exploring and developing children's various potentials so that they can develop optimally (Ajeng et al., 2023).

Based on the National Education System Law No. 20 of 2003, Chapter I, Article 14, states: "Early childhood education is an effort aimed at children from birth to six years of age, carried out through the provision of educational stimuli to assist physical and spiritual growth and development so that children are prepared to enter further education, which is organized through formal, non-formal, and informal channels."

Similarly, one opinion states that education is an important part of life that distinguishes humans from other creatures (Zuhdi et al., 2021). Animals also "learn," but they are more determined by their instincts, whereas human learning is a series of activities leading to maturity in order to achieve a more meaningful life.

Therefore, education is a human endeavor to increase knowledge obtained from both formal and informal institutions in order to assist the transformation process so that the desired quality can be achieved (Irsalulloh & Maunah, 2023). Education is also a planned, purposeful, systematic, structured, and measurable process to assist, encourage, direct, and manage humans towards improvement and enhancement of their humanity (Arka, 2022).

As stated in the Word of Allah in QS. Al-Kahfi: 46, namely:

الْمَالُ وَالْبَنُونَ زِينَةُ الْحَيَاةِ الدُّنْيَا وَالْبَاقِيَاتُ الصَّالِحَاتُ خَيْرٌ عِنْدَ رَبِّكَ ثَوَابًا وَخَيْرٌ أَمَلًا ﴿٤٦﴾

Meaning: Wealth and children are the adornments of this world, but righteous deeds that last forever are better in the sight of your Lord and better in terms of hope (QS. Al-Kahfi: 46).

Thus, we can understand that early childhood is a period that greatly determines a child's character and personality and has potential that still needs to be developed. The development of a child's potential, including their interest in learning, is considered very important in helping to lay the foundation for the formation of quality human resources. (Wasis, 2022).

Based on observations at RA Persis 237 An-Nur, the interest in learning for early childhood has not been fulfilled. The problem is that the children of RA Persis 237 An-Nur have not shown a great interest in learning. This is measured by several indicators of interest in learning, namely the children's lack of attention in learning activities, their lack of active participation in learning, and their lack of enjoyment in learning activities (Mujamil et al., 2024).

The learning that has taken place has not been able to achieve maximum results in line with the expectations of teachers and the objectives of learning at RA Persis 237 An-Nur. There are many factors that cause children's interest in learning to decline, one of which is the limited availability of educational toys (APE) used to increase children's interest in learning (Vajari et al., 2024). Educational toys are play equipment that contain educational values that

can stimulate brain growth and develop all aspects of a child's abilities (potential) (Ashadi, 2022).

Based on the background described above, the researcher wanted to increase the learning interest of children at RA Persis 237 An-Nur. The plan used was through educational toys. This is the chosen method because children's world revolves around play, and more specifically, many toys are available in the home or school environment, both manufactured and repurposed (Maqfiroh, 2020). Improving the learning process is one way to enhance the learning process, which is expected to increase children's interest in learning, thereby improving their learning outcomes.

Based on the above explanation, the researcher needs to conduct further research related to the use of smart box educational tools to increase the learning interest of early childhood at RA Persis 237 An-Nur.

The purpose of this study is to determine the effectiveness of using smart box educational toys to increase early childhood learning interest, identify obstacles that may be encountered, and propose solutions that should be implemented.

2. METHODS

The research approach used in this study is a qualitative approach. Qualitative research is research that aims to understand phenomena as they are experienced by research subjects, such as behavior, perceptions, motivations, actions, and so on, holistically and through description in the form of words and language in a specific natural context and by utilizing various natural methods (Safarudin et al., 2023).

This study uses the case study research method because it focuses intensively on one specific object and studies it as a case study. In this context, the object to be studied is the use of smart box educational toys to increase children's interest in learning at RA Persis 237 An-Nur.

In this study, three data collection techniques were used, namely observation, interviews, and documentation studies. In this observation, the researcher was involved in the daily activities of the people being observed or used as research data sources. In this case, the researcher observed and studied how the use of smart box educational toys increased the interest in learning among early childhood students at RA Persis 237 An-Nur. Interview guidelines were used to remind the interviewer of the aspects that needed to be discussed, as well as to serve as a checklist to ensure that the relevant aspects had been discussed or asked (Subakti et al., 2023). With these guidelines, the interviewer must think about how the questions will be concretely described in the questions, while also adjusting the questions to the actual context during the interview. The targets of the interviews conducted by the researchers were the principal and one teacher at RA Persis 237 An-Nur because they were considered to be the most knowledgeable about children's interest in learning. The data collection method is through documentation in the form of written or printed data about facts that will be used as physical evidence for the research. Documents are records of past events and can be in the form of writing, images, or monumental works by a person (Rosidah & Witasari, 2023). Document study complements the use of observation and interview methods in qualitative research (Septiana et al., 2024).

3. RESULTS AND DISCUSSION

The findings of this study will present research data that is part of the disclosure of research results adjusted to the formulation of problems and relevant data analysis. The researchers used data collection techniques through observation, interviews, and documentation studies as previously explained by the researchers.

The research findings are compiled based on the previously established problem formulation, including:

1) The Use of Smart Box Educational Toys to Increase the Interest in Learning of Early Childhood Children at RA Persis 237 An-Nur

Based on the results of the observation in this study, which was conducted three times in a row during one week at RA Persis 237 An-Nur. The researcher directly observed the activities of teachers and children while conducting learning activities using the smart box educational game.

Based on the results of observations conducted at RA Persis 237 An-Nur, the use of the smart box educational game in the learning process had a positive impact on the learning interest of early childhood. The learning activities were carried out in a gradual and structured manner. The use of smart box educational toys is an effective and interesting learning method that is suitable for the characteristics of early childhood in increasing children's interest in learning. This can be seen from the increased attention of children, their involvement during the activities, and the feeling of joy they experience while learning (Observation, June 2025).

From direct observation in the classroom, it appears that students are very enthusiastic when using the smart box educational game tool. This smart box educational game tool consists of four games in accordance with the six aspects of child development. This activity combines elements of play and learning, thereby increasing student engagement (Srimuliyani, 2023).

Students appear to be more focused and motivated than when using conventional methods such as copying from the blackboard. Teachers also utilize these smart box educational toys for group games, which encourage cooperation and discussion among students. This can be seen from the increased attention of students during the activity. Children show greater interest after using these smart box educational toys several times in the learning process. Most students enjoy learning with these smart box educational toys.

Based on some information from the interview results, there were complementary and reinforcing opinions regarding the use of smart box educational games to increase children's interest in learning. It can be concluded that the use of smart box educational games is quite successful in increasing children's interest in learning through several findings generated from the interview technique.

The results of the study show that the use of smart box educational toys to increase the interest in learning of early childhood students at RA Persis 237 An-Nur was carried out in an integrated manner in daily teaching and learning activities in the classroom. Teachers used these toys as a medium to support learning, starting from providing instructions on how to use the toys, dividing students into groups, to the actual use of the toys. This process was not theoretical, but rather practical, adjusting to the developmental aspects or learning achievements of early childhood and direct experiences in order to attract children's attention and increase their interest in learning. The use of smart box educational toys in real

learning at RA Persis 237 An-Nur was the final stage of a development process aimed at testing the effectiveness and usefulness of the toys in increasing the interest of early childhood learning.

After seeing satisfactory results based on the findings, it turns out that there are still obstacles faced when using the smart box educational game tool.

2) Challenges and Solutions in Using Smart Box Educational Toys to Increase Interest Among Early Childhood Students at RA Persis 237 An-Nur

The challenges in using educational toys to increase the interest of early childhood learning at RA Persis 237 An-Nur are as follows:

- a. Limited availability of smart box educational toys.
- b. Children are not conducive when playing with smart boxes.
- c. It takes a longer time.

Despite these challenges, there are certainly solutions to address the challenges in using educational toys to increase the learning interest of early childhood at RA Persis 237 An-Nur, including:

- a. Support from the principal and teachers.
- b. Availability of tools and materials.
- c. A learning environment that supports children's creativity.

Children's enthusiasm in activities Educational smart box toys that have been designed taking into account the characteristics of early childhood, learning objectives, as well as developmental aspects or learning outcomes and in accordance with the learning topic/theme, are used directly in classroom learning activities.

This process is carried out through several structured meetings involving teachers and children from RA Persis 237 An-Nur as the main subjects in the study. The implementation of learning using these smart box educational toys is carried out systematically, beginning with an introduction to the toys, how to use them, and the learning objectives for the children.

Teachers guide children to understand the contents of each toy unit, which consists of mini basketball, counting clock, color patterns, and house puzzles. The use of this smart box educational game tool facilitated the active involvement of children to increase the interest in learning of early childhood at RA Persis 237 An-Nur through games that were tailored to learning themes and relevant to the learning outcomes of early childhood education. The toys used in this activity are complete structured smart box educational toys, covering four pre-writing learning components, including mini basketball, counting clock, color patterns, and house puzzle to increase learning interest. Each game is designed not only to increase children's interest in learning but also to stimulate their learning development.

Smart boxes are a type of educational toy packaged in a box containing various game components such as letter cards, number cards, puzzles, mini basketballs, and thematic visual media. This media is designed to provide a variety of activities so that children can choose activities according to their interests and abilities.

A variety of learning media can optimize the learning process for children because it accommodates differences in interests and learning styles (Wulandari & Wardhani, 2024).

Children aged 2-7 years are in the preoperational stage, where they learn through the use of symbols, imaginative play, and manipulation of concrete objects (Rekysika & Haryanto, 2019). Smart boxes provide a means of play that involves concrete activities, making it easier

for children to understand abstract concepts such as numbers, letters, and shapes. Effective learning occurs in the Zone of Proximal Development (ZPD), which is the distance between a child's ability when learning independently and the ability that can be achieved with the help of adults or peers (Sakina et al., 2024). The use of smart boxes allows teachers to provide scaffolding through guidance, questions, and encouragement while children play, thereby encouraging children to reach a higher level of development.

Interest in learning is a strong inclination towards an activity accompanied by a sense of enjoyment without coercion (Fitri et al., 2021). Young children will be more interested in learning if the activities are fun, challenging, and relevant to their world (Rahma & Hidayah, 2022).

The use of smart boxes at RA Persis 237 An-Nur shows several positive effects:

- 1) Greater enjoyment or feelings of pleasure.
- 2) Increased involvement or active participation of children in learning.
- 3) Greater attention to things that interest them.

Children learn more effectively when they are involved in activities that interest them, especially through concrete and interactive media (Asmara et al., 2023). Using educational toys to increase interest in learning can increase interest from 36% to 79% (Rawanti et al., 2023).

Thus, the use of smart box educational toys has become more meaningful and has had a broad impact on the learning interest of early childhood students at RA Persis 237 An-Nur. Overall, the use of smart box educational toys in the context of real learning shows that the toys developed have successfully fulfilled their educational function. The systematic arrangement of games, practical exercises, and a communicative learning approach are factors that support the achievement of optimal learning outcomes and can increase children's interest in learning. This smart box educational game tool can be used as an effective game method for early childhood learning to increase children's interest in learning and stimulate their learning achievements, and has the potential to be replicated or further developed in similar contexts.

In the implementation of learning at RA Persis 237 An-Nur, the use of smart box educational toys has great potential to support an increase in the learning interest of early childhood. However, there are several challenges that need to be considered so that the learning process can take place optimally. One of the challenges that is quite often encountered is the unpredictable mood swings of children. Young children have unstable emotions, so their interest and enthusiasm for learning can change quickly. When children feel bored or unfocused, they tend to find it difficult to interact with learning media, including smart box educational toys (Aisya & Retnoningsih, 2024). This condition requires teachers to be more patient and creative in adjusting their approach so that children remain actively involved in the activities.

Problems arise when there are limitations in the availability of smart box educational toys, so that when using these toys, children have to take turns. Due to the limited number of smart boxes, some children who do not get a turn to play become less enthusiastic. In addition, because children take turns, it takes longer to complete the activity.

Barriers in the learning process can come from two main sources: 1) Internal Barriers: including lack of readiness to learn, differences in learning styles, cognitive abilities that have not developed optimally, and lack of motivation. 2) External Barriers: such as lack of learning

aids, monotonous learning methods, and an unsupportive learning environment (Achmad & Wahyudi, 2021).

In implementing learning using smart box educational toys at RA Persis 237 An-Nur, there were a number of obstacles that arose, both internally and externally. Internal obstacles included the limited time available to educators and the difficulty of guiding children with different levels of understanding. Some children also showed a lack of concentration. Meanwhile, external obstacles came from inadequate facilities and limited media, so that children could not use the smart box educational games optimally. In addition, parental involvement in supporting learning at home was not yet optimal.

To overcome the limitations in the number and condition of media, the school gradually increased the number of Smart Boxes and carried out routine maintenance. Teachers also used simple or recycled materials to make additional components, such as letters from thick cardboard, ice cream sticks for counting, and picture cards according to the theme. Learning media does not have to be expensive, as long as it can provide a meaningful learning experience (Zatalina, 2024).

Teachers modify the content of the games to suit the ability level of each child. Children who understand the games more quickly are given additional challenges, such as arranging letters into longer words, while children who need more guidance are given games with visual instructions and more intensive assistance. This approach reinforces the relevance of Vygotsky's (1978) theory of scaffolding, in which teachers play an active role in providing temporary assistance to help children achieve higher levels of competence.

Time constraints are overcome by dividing children into small groups that take turns using the Smart Box. While waiting for their turn, other children participate in supporting activities such as drawing, singing, or role-playing. This arrangement is in line with Gagne's (1985) theory regarding the importance of effective learning management to maintain continuity in the learning process.

The school conducts internal training to improve teachers' abilities in developing learning media. Teachers are encouraged to change the contents of the Smart Box according to weekly themes, such as animals, plants, or professions, to make the games more varied. Teachers' creativity in modifying media plays an important role in maintaining the learning motivation of early childhood (Mahmud, 2023).

Based on the interpretation of the problem formulation, it can be concluded that the obstacles to using the Smart Box APE include technical limitations (number, media conditions, time) and pedagogical challenges (differences in children's abilities, game variations). The solutions implemented, such as adding media, modifying the level of difficulty, effective time management, and increasing teacher creativity, have proven to be able to maintain and even increase children's interest in learning. With an integrated approach, existing obstacles can be turned into opportunities for more interesting and meaningful learning innovations for early childhood.

4. CONCLUSION

Based on the research findings and discussion outlined in the previous chapter, this section presents conclusions that summarize the main points of the research in a concise, compact, and comprehensive manner.

First, the use of smart box educational toys at RA Persis 237 An-Nur showed high effectiveness in increasing early childhood learning interest through a contextual, communicative, and practice-based approach. The toy, which is designed with four types of games and oriented towards the real needs of students, has succeeded in creating a participatory, reflective, and student-centered learning atmosphere, so that children not only experience an increase in learning interest but also achieve learning development aspects. The results of the study show that the use of smart box educational toys at RA Persis is effective in increasing children's interest in learning. This is evidenced by the observation process in the field, interviews with people at the RA school, namely the deputy principal and two students, as well as the results of a documentation study. This success makes these toys suitable to be used as an effective learning method in RA schools or similar institutions.

Secondly, there are still several obstacles in the use of smart box educational toys at RA Persis 237 An-Nur that can hinder learning activities, including limited toys, children who are not conducive to learning, and the need for a long time. However, there are solutions to these obstacles, namely support from the principal, additional activities to ensure that the children are always in a conducive state, and the preparation of an environment that can enhance children's creativity. These are the obstacles and solutions that can be used as reference material for the research process.

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