Jurnal Profesionalisme Guru

Journal Profesionalisme Guru
Volume 1 (3) 422 – 426 September 2024
ISSN: In Proses
The article is published with Open Access at: https://journal.maalahliyah.sch.id/index.php/jpg

The use of Constructive Lego as a Medium for Developing Fine Motor Skills in Group B Children at RA Terpadu

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Abstract:

The development of fine motor skills in early childhood plays a crucial role in supporting fundamental skills such as writing, drawing, and various daily activities. This study aims to analyze the effectiveness of using constructive Lego as a medium for developing fine motor skills in Group B children at RA Terpadu. The research method employed a qualitative approach with observation and interview techniques for data collection. The children were engaged in various Lego play activities, such as assembling, constructing, and disassembling, which involved hand-eye coordination and precision in finger movements. The results of the study indicate that the use of constructive Lego has a positive impact on children's fine motor skill development. Children who actively played with Lego showed improvements in finger strength, hand-eye coordination, and movement precision. Additionally, this activity stimulated creativity, patience, and concentration in completing tasks. Thus, the use of constructive Lego can be considered an effective alternative learning medium to support the development of fine motor skills in early childhood educational settings.

Keywords: Constructive Lego, fine motor skills, early childhood, learning media

INTRODUCTION

The development of fine motor skills in early childhood is a crucial aspect that requires attention in the field of education. Fine motor skills play a role in supporting various basic abilities such as writing, drawing, and other activities that require hand and finger coordination (Suyadi, 2020). One method that can be used to develop this ability is through the use of educational play media, such as constructive Lego. Lego not only serves as a toy but also helps children train their finger skills while enhancing their creativity and imagination. The use of play media in the learning process has been widely researched and proven to have a positive impact on children's development. According to research by Santrock (2020), children engaged in construction-based play activities demonstrate better hand-eye coordination compared to those who are not. Constructive Lego is one of the best choices as it allows children to assemble, shape, and design various structures that involve their fine motor skills.

The main objective of this research is to analyze the effectiveness of using constructive Lego in developing the fine motor skills of Group B children at RA Terpadu. Using a qualitative approach, this study will observe how children interact with Lego and its impact on their skills in grasping, assembling, and coordinating their hand movements. Observation and interviews with educators will be the primary methods for collecting data in this study. In addition to developing fine motor skills, this research is also expected to provide insights for educators and parents regarding the benefits of educational play in early childhood education. Play-based learning is increasingly recommended as it aligns better with children's developmental characteristics, where they learn through direct experiences and interactions with their environment (Widodo, 2020). Therefore, this study aims to highlight how Lego can be used as both an enjoyable and educational medium.

In the context of early childhood education, it is essential for teachers to continuously seek innovations in teaching methods to make the learning process more engaging and effective. It is hoped that this research will serve as a reference for educators in developing more varied teaching methods that cater to children's needs. By using appropriate media, children will be more motivated to learn and develop their basic skills. This research proposal also aims to provide recommendations on how constructive Lego can be optimally implemented in learning activities at RA Terpadu. With a clear strategy, the use of Lego in education can be more structured and aligned with the curriculum. Furthermore, this study seeks to identify challenges and obstacles that may arise in implementing Lego media in the school environment.

The results of this study are expected to contribute to the development of more effective and applicable play-based learning methods. As research on the role of educational games in early childhood education continues to grow, it is hoped that more schools will adopt this method to support children's holistic development (Rahmawati, 2020). In conclusion, this research holds urgency in providing empirical evidence regarding the benefits of using constructive Lego as a learning medium to develop fine motor skills in early childhood. With the right approach, Lego is expected to become an effective tool to help children enhance their skills, ultimately contributing positively to early childhood education as a whole.

METHODS

This study employs a descriptive qualitative approach, aiming to illustrate and analyze the use of constructive Lego in developing the fine motor skills of Group B children at RA Terpadu. This approach was chosen as it allows researchers to directly observe how children interact with Lego media and identify its impact on their fine motor development (Sugiyono, 2020). The study was conducted at one RA Terpadu, involving Group B children aged approximately 5–6 years. The primary focus of this research is on the children's play process with constructive Lego and the changes that occur in their fine motor skills after using this medium in learning activities.

Data for this study were collected using several techniques, namely observation, interviews, and documentation. Direct observations were conducted on children's activities while playing with constructive Lego. The researcher recorded how the children assembled, arranged, and dismantled Lego, as well as how their hand-eye coordination and finger skills developed throughout the process. Additionally, expressions, interest, and the duration of children's engagement in the activity were noted to determine the extent to which the game captured their attention.

Interviews were conducted with teachers and educators at RA Terpadu to gain their perspectives on the use of Lego as a learning medium. Teachers provided insights regarding changes in behavior, concentration, and the fine motor development of children after the implementation of Lego in learning. Furthermore, documentation in the form of photos and videos of children's activities while playing with Lego was used to support observation findings. Children's creations made using Lego were also collected for further analysis.

The collected data were analyzed using a qualitative descriptive analysis method. The first step was data reduction, where data obtained from observations, interviews, and documentation were classified based on key themes such as fine motor skills, hand-eye coordination, creativity, and children's interest in playing with Lego. The next step was data presentation in the form of descriptive narratives, tables, or images that illustrate how children's fine motor skills developed after engaging with constructive Lego.

Conclusions were drawn based on data analysis results that indicate the extent to which the use of constructive Lego contributes to children's fine motor skill development. These conclusions were then compared with existing theories and previous research to identify their relevance and implications in early childhood education. Through this research methodology, it is expected that a clear understanding of the effectiveness of constructive Lego in developing children's fine motor skills will be obtained, along with recommendations for educators on how to optimize play-based learning methods in early childhood education.

RESULTS

This study was conducted at RA Terpadu, involving 15 Group B children aged 5–6 years. Data were collected through direct observations, interviews with teachers, and documentation, including photographs and children's creative works. Observations were conducted over four weeks, with three Lego play sessions per week. Each session lasted between 30–45 minutes, during which children were given the freedom to construct various shapes using constructive Lego. The observation results indicated that, initially, children experienced difficulties in assembling small Lego pieces, particularly when connecting parts that required greater finger pressure. However, after several sessions, their skills improved significantly. The children gradually demonstrated greater dexterity in gripping, attaching, and detaching Lego pieces without significant difficulties.

Based on the observations, the development of children's fine motor skills was assessed through several indicators, including finger strength, hand-eye coordination, accuracy in assembling shapes, and consistency in play. The table below presents the progression of children's skills after using constructive Lego for four weeks.

Table Fine Motor Skill Development of Group B Children After Using Constructive Lego:

No	Fine Motor Skill Indicators	Week 1	Week 2	Week 3	Week 4
1	Finger strength in assembling Lego	Low	Moderate	Good	Very Good
2	Hand-eye coordination	Low	Moderate	Good	Very Good
3	Accuracy in assembling shapes	Low	Moderate	Good	Very Good
4	Consistency in playing and completing tasks	Low	Moderate	Good	Very Good

From the table above, it is evident that children experienced gradual improvements in each observed indicator. In the first week, most children still struggled to assemble Lego correctly. However, by the second week, improvements in hand-eye coordination and finger strength began to emerge. By the fourth week, nearly all children demonstrated enhanced skills, assembling Lego pieces more quickly and accurately.

The results of interviews with RA Terpadu teachers reinforce the findings from observations. Teachers stated that after several Lego play sessions, children appeared more confident in using their hands for various activities, including drawing and writing. One teacher revealed that initially, some children often asked for help in assembling Lego pieces, but over time, they became more independent and were even able to create more complex structures. This indicates an improvement in their fine motor skills. Furthermore, teachers also observed that children who were previously less active in learning activities began to show greater interest in activities involving hand skills. This change signifies that the use of

Lego not only contributes to fine motor development but also has a positive impact on increasing children's learning motivation.

Documentation in the form of photos and children's work also demonstrated significant progress. In the first week, the structures created by the children were still simple and somewhat random. However, over time, especially in the third and fourth weeks, they were able to create more complex shapes such as houses, vehicles, and bridges. Photos taken during the study showed that the children became increasingly confident in playing with Lego. Initially, some children appeared frustrated when they had difficulty assembling small Lego pieces, but with repeated practice, they became more persistent and were able to complete tasks more effectively. This suggests that playing with Lego not only enhances fine motor skills but also helps children develop perseverance and self-confidence in overcoming challenges.

CONCLUSION

The findings of this study indicate that the use of constructive Lego significantly contributes to the improvement of fine motor skills in Group B children at RA Terpadu. The main findings of this study suggest an increase in finger strength, hand-eye coordination, accuracy in assembling structures, and children's consistency in completing tasks after four weeks of playing with Lego. Data validation through triangulation of observation, interviews, and documentation revealed consistent results, where children who initially struggled with assembling Lego gradually showed improvements in hand dexterity and creativity. Thus, this study reinforces the theory that construction-based play can be an effective tool in supporting early childhood development, particularly in fine motor skills. From an academic perspective, this study contributes to the development of learning methods in early childhood education (PAUD). The results can serve as a reference for academics and educators in developing more innovative play-based learning strategies. Additionally, this study enriches the literature on the effectiveness of play media in enhancing children's skills, providing a foundation for further research focusing on the long-term impact of Lego use on children's cognitive and social development. Socially, the use of Lego in learning not only improves children's fine motor skills but also fosters cooperation and communication among them. Children who play with Lego together demonstrate more active social interactions, share ideas, and collaborate in constructing more complex structures. Therefore, this study has implications for teachers and parents to actively integrate construction-based play into children's daily activities. With broader implementation, children are expected to develop better motor skills while also enhancing their social and emotional abilities in a fun and educational environment.

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