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Utilization of Used Cardboard Waste As a Learning Resource to Improve Early Childhood Fine Motor Development

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Abstract

In the process of early childhood, fine motor development involves a variety of ways, including utilizing media for learning. We can get this media in the surrounding environment, such as used cardboard media, which can be utilized in the learning process for early childhood by making various patterns. The purpose of the research in this study was to determine how using cardboard media for children's fine motor development. This research uses a quantitative methodology, with the research sample conducted on RA teachers. This research shows an increase in fine motor development in early childhood after using learning resources through cardboard waste.

Keywords: Cardboard Waste Media, Fine Motor Development, Early Childhood

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INTRODUCTION

A child is a unique person, and each child has innate interests, capabilities, and life backgrounds that are different from one another. The evaluation of education reflects the child's life which includes 3 domains, namely the cognitive domain, the affective domain and the pilomotor domain. So with this comes the theory of education which says that education is the process of changing the attitudes and behavior of a person or group of people to mature humans through teaching and training efforts (Depdiknas, 2003). Early childhood as social beings and rich with potential has its world and characteristics that are much different from adults. They are active, dynamic, enthusiastic, and almost always curious about what they see and hear, and never seem to stop learning (Maftutah, Jannah, & Utama, 2021).

Education is a planned, conscious effort to create a learning atmosphere and learning process so that students actively develop their potential to have religious and spiritual strength, self-control, personality, intelligence, noble character, and skills needed by themselves, society, and the State (Jaenullah, Ferdian Utama, 2022). Meanwhile, early childhood education is a coaching effort aimed at children from birth to 6 years of age (Ministry of Education, 2003). This learning is done by providing educational stimuli to help physical and spiritual growth and development so that children are ready to enter

further education. Article 28, paragraph 3 of the 2003 National Education System states that formal education is in the form of kindergarten, Raudhatul Athfal (RA) or other equivalent forms.

Philosophically, education is an effort to help humanize humans, meaning that through the educational process it is hoped that better humans will be born, in a concrete sense children must be better than their parents. On this basis, it is concluded that education must be done early to create a smart and quality generation (Hastuti & Utomo, 2022). And the only way to start is by organizing early childhood education institutions. Early childhood education (PAUD) is organized before the basic education level. PAUD can be organized through 3 channels: Formal pathway: Kindergarten (TK), Raudhatul Athfal (RA), or other equivalent forms. Non-formal pathway: Playgroups (KB), daycare centers (TPA), or other equivalent forms. Informal pathways: family education or education organized by the environment.

Early childhood education is a coaching effort shown to children from birth to six years of age which is carried out through providing educational stimuli to help physical and spiritual growth and development so that children have readiness to enter further education organized in formal, non-formal and informal channels. Early childhood education focuses on laying the foundation towards physical growth and development, emotional intelligence, spiritual intelligence, social-emotional language and communication following the unique stages of development passed by early childhood (Utama & Tanfidiyah, 2019). Early childhood education is an effort to stimulate, guide, nurture and provide learning activities that will produce children's abilities and skills (Kartikawati, Roni, Purwanti, & State Islam Raden Intan Bandar Lampung, 2022). Early childhood education / kindergarten is essentially education that is organized to facilitate the growth and development of children as a whole or emphasize the development of all aspects of the child's personality both fine motor physical development and gross motor physical development (Suyadi, 2014).

Motor development is a process that is in line with increasing age gradually and continuously, individual movements increase from a simple, unorganized, and unskilled state towards the appearance of complex and well-organized motor skills, which ultimately leads to skill adjustments accompanying the aging process (Riyadi et al., 2023). Motor development in children includes gross and fine motor skills. Gross motor is a body movement that uses large muscles while fine motor is a movement that uses small muscles. Neorulogical maturity is important and greatly influences the ability of children to control their motor movements (Suyadi, 2010). However, the growth of motor skills, both gross motor and fine motor in children will not develop through maturity alone but also with skills that must be learned or trained (Yudha Febrianta, 2017).

In children aged 5 years, the nerves that control motor movements have reached maturity and stimulate various motor activities. The large muscles that control gross motor movements (such as: walking, running, kicking, and so on) develop faster than the fine muscles that control children's fine motor activities (such as: drawing, cutting, matching, sticking, and so on). This is because gross motor which is a body movement that uses large muscles, is influenced by the maturity of the child himself, while fine motor which is a movement that uses fine muscles, is influenced by the opportunity to learn and practice.

Table 1.1
Development of Fine Motor Skills for Early Childhood 5-6 Years Old

Skills Developed Fine Motor	Skills to be Achieved
- Make vertical lines, horizontal, left/right curves, oblique - Tracing shapes - Perform manipulative movements to produce a shape using various media	- Children can cut out cardboard - Children can form what the teacher exemplifies - Children can produce something or work from cardboard waste

Source: Curriculum 2013 Competency Standards for Early Childhood Education in Kindergarten and Roudhotul Athfal (Depdiknas, 2013).

From the table above, the way to improve the physical fine motor of early childhood in RA is through folding simple shapes and playing with plasticine media. Fine motor is the organization of the use of a group of small muscles such as fingers and hands that often require accuracy and coordination with the hand. These skills include the utilization of using tools to work on an object using more fine muscles such as: folding, squeezing, drawing and writing.

Early childhood has potential that still has to be developed and has certain characteristics that are distinctive and not the same as adults, they never seem to stop exploring and learning. Early childhood has an egocentric nature, has a natural curiosity, is a social being, unique, rich with fantasy, has a short attention span, and is the most potential period for learning (Rochanah, Muna, & Ariyanto, 2023). In achieving these educational goals, appropriate learning methods are needed. Learning for early childhood, including in kindergarten, has its own characteristics. Learning activities in kindergarten prioritize playing while learning. Play naturally motivates children to know something more deeply and children spontaneously develop their abilities (Riyadi et al., 2023).

Media as one of the components of teaching that greatly influences the learning process (Virawanti & Sugiarto, 2022). With the media that supports the learning process, it will be able to improve the quality of student learning outcomes. Teaching that uses a lot of verbalism will certainly be fast and very boring and as far as possible should be avoided because it can inhibit the power and critical attitude of students. Therefore, direct experience or concrete experience which then leads to abstract ability is an effective and efficient way of learning (Moh. Uzer Usman, 2002). One of the media that can be used to improve children's fine motor skills is used cardboard media. The material is easy to obtain and inexpensive. Because many teachers do not use learning media especially Ra Jauharotul Mualimi, they consider it expensive. And this waste does not have a negative impact, it has a positive impact (Virawanti & Sugiarto, 2022).

One of the principles of education for early childhood should be based on reality, meaning that children are expected to learn something real. This principle implies the need to use media as a channel for conveying educational messages for early childhood. Thus in education for early childhood must use something that allows children to learn

concretely. A teacher when presenting information to early childhood must use media so that the information can be received or absorbed by children correctly and in the end it is expected that there will be changes in behavior in the form of abilities in terms of knowledge, attitudes, and skills. Learning media is anything that can be used to channel messages from sender to receiver so that it can stimulate students' thoughts, feelings, attention and interests, and attention so that the learning process occurs (Windayana, 2014).

Based on the data found with the following indicators: Making vertical, horizontal, left/right curved, left/right oblique, and circular lines. Of the 9 children observed, the results obtained have not been achieved as many as 5 children, who have started to develop as many as 2 children, and who have developed well as many as 2 children and developed very well 0 children, so it can be seen that fine motor improvement has not developed because half of the number of children observed has not developed. Indicator Tracing the shape. From the number of children 9 children observed, the results obtained were 1 child who had not developed, 6 children who had started to develop, and 2 children who had developed as expected, developing very well 0 children, because the number of children who started to develop was 6 children and 2 children who had not developed, the achievement of development began to develop. Indicator of coordinating the eyes and arms to perform complex movements. From the number of children 9 children who were observed, the results obtained were 6 children who had not developed, 3 children who had started to develop, and 0 children who had developed as expected, developing very well 0 children from the most number of children who had not developed, so it could be stated that they had not developed. Indicators of performing manipulative movements to produce shapes using various media. From the number of children 9 children observed, the results obtained were 6 children who had not developed, 3 children who had started to develop, and 0 children who had developed as expected, developing very well 0 children from the largest number were not developing, so it could be stated that they had not developed. Indicators of expressing themselves by creating art using media. From the number of children 9 children who were observed, the results obtained were 6 children who had not developed, 3 children who had started to develop, and 0 children who had developed as expected, developing very well 0 children from the largest number were not developing, so it could be stated that they had not developed. Based on the findings of these problems and considering how important it is to develop fine motor skills for the success of children in the future, it is necessary to make efforts to improve fine motor skills early on through cardboard waste as a learning medium.

METHOD

This study uses qualitative research methodology using an explanatory approach, which is research that aims to analyze the relationships between one variable and another or how one affects another variable. The data is obtained through a questionnaire given to early childhood teachers (Mulyadi, 2019). The next step is to analyze the data by testing and knowing whether or not there is an effect of utilizing used cardboard waste as a learning resource to improve fine motor skills in early childhood by using statistical data, namely:

$$P = \frac{F}{N} \times 100\ \%$$

Description
P = percentage
F = frequency
N = Number Of Cace

As for analyzing quantitative data and hypothesis testing, researchers use the product moment correlation technique formula and simple line regression.

RESULT AND DISCUSSION

Cardboard Waste as a Learning Resource

Waste can be defined as objects that cannot be used and are no longer needed. According to the Big Indonesian Dictionary, waste is the rest of the production process. According to Warsidi, waste is waste generated from a production process, both domestic industry (household, better known as garbage) whose presence at a specific time and place is not desired by the environment because it has no economic value (Warsidi, Edi, 2008).

Wrappers/packages can become waste when we throw them into the trash can after using them. Actually, the definition of waste is almost the same as garbage, when objects are no longer wanted by humans. The definition of waste itself is the remaining material from an unwanted process. Waste is classified according to its nature, namely organic waste (waste that can be decomposed again), inorganic waste (waste that cannot be decomposed again) (Latif et al., 2022). Examples of organic waste include leaves, paper, and cardboard, while inorganic waste includes bottles, straws, and plastic. These objects usually consist of several sizes and several colors. Some are small and some are large, some are colored and some are colorless.

Learning resources for children do not have to be expensive objects. Learning resources are actually already in our daily environment. Look at the unused objects in the neighborhood. Often these objects are considered as waste that is only stored in warehouses or even put in trash cans, when the waste can be used for learning resources that can support the learning process. From waste, a recycling process can also be carried out, the results of which can be useful to support early math activities. According to Bean, waste is a creative medium or material that can support children's creativity. Waste processed into children's learning resources, especially kindergarten age, is usually related to children's play activities. Because basically children of kindergarten age are at the stage of play. Therefore, materials that can be used as learning resources for children include: Boxes of various sizes. Bottles of various sizes. Buttons that are no longer used. Used cardboard from milk boxes, food boxes, and beverage boxes. Patchwork pieces of various sizes. Unused calendars. All kinds of paper, newspapers, drawing paper, cardboard, color paper.

Cardboard waste is cardboard or corrugated paper is a basic packaging material that has a very short life cycle and is valuable during the product distribution process from producers to consumers. Cardboard consisting of paper as the main material for its formation is so vulnerable to moisture or water. Basically, this cardboard includes paper, according to the Big Indonesian Dictionary, Paper is a sheet item made from mud pulp, straw, and wood. This cardboard waste is often only for food and beverage wrappers if it is unused, just left alone, thrown away and polluting the surrounding environment, but it turns out that cardboard can be reused for early childhood math learning. Various types of cardboard waste that can be reused such as: milk cardboard, chocolate cardboard, wafer cardboard, detergent cardboard, mosquito repellent cardboard, bread cardboard, and beverage cardboard.

Based on the description above, it can be concluded that waste is everything that comes from the rest of the production that is no longer used in the surrounding environment that can be reused. Cardboard waste is a variety of basic packaging materials that have a very short life cycle and are valuable during the product distribution process from producers to consumers, but after that it is no longer used and can be reused for early childhood learning media and cardboard waste is easy to get and inexpensive.

Cardboard Waste as Learning Media for Early Childhood Fine Motor Development

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CONCLUSION

Used cardboard media is so easy to find to be used as material or learning media that is effective, cheap, and lightweight. The existence of used cardboard has many benefits, of course it is an opportunity for educators. As well as educators at the early childhood level. Early childhood education teachers must be good at utilizing used cardboard media that is easily obtained. Through the above research, the role of early childhood education teachers is able to provide a positive color in the use of used cardboard as a learning medium for early childhood. Evidently, through the patterns produced as educational teaching aids from used cardboard, there is an increase in the development of fine motor skills in early childhood. Of course this research has a very useful contribution and contribution to the scientific treasure of early childhood education, and as a reference for early childhood education teachers to develop more patterns from used cardboard as an effective learning media.

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