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Improving Physical Motor Skills through Circuit Games at Kartika IV-13 Kindergarten Lawang

Triata Mahendra Pesona Putra, Pramono, Eny Nur Aisyah

Universitas Negeri Malang, Fakultas Ilmu Pendidikan, Jl. Semarang No. 5 Malang, Jawa Timur, Indonesia

*Author of correspondence, Email: triata.mahendra.2401536@students.um.ac.id

Abstract

Early childhood physical motor skills development is an important aspect in supporting holistic growth and development. This study aims to evaluate the effectiveness of the "Junior Conscription" circuit game in stimulating children's gross and fine motor skills at TK Kartika IV-13 Lawang. The activity method used a hands-on approach involving six game stations with a variety of motor activities. Observation results showed an increase in enthusiasm, teamwork, and significant motor development. This activity proves that a circuit game-based approach can be an effective and fun strategy in early childhood physical motor learning.

Keywords: child motor; circuit games; early childhood education; physical activity

1. Introduction

Article 28 of the National Education System Law No. 20/2003, paragraph 1, states that early childhood is children aged 0-6 years (Fadlillah, 2014:18). Children in the early childhood stage are very important to encourage optimal development. At an early age, brain development is very rapid, so this period is called the golden age or golden age. According to research in the field of neurology, 50% of a child's intelligence is formed during the first four years of their life. Brain development reaches 80% after eight years and 100% after 18 years (Selamet Suyanto, 2005:6). Motoric stimulation provided from an early age is crucial considering the importance of this ability for optimizing a child's overall growth and development (Mahmud, 2019).

Providing stimulation is a way to help children develop. Children who are well stimulated can achieve developmental aspects well. Stimulus can be provided through early childhood education, through education children are given learning through play. Early Childhood Education (PAUD) is education provided before children enter elementary school. The potential and intelligence of children will develop through the provision of appropriate stimulation at an early age, so that what is given early will influence the child's development in the next stage. Fadlillah (2014:67) in Law No. 20 of 2003 Article 1 point 14 states that early childhood education is a development effort aimed at children from birth to the age of six years which is carried out through the provision of educational stimulation to help physical and spiritual growth and development so that children are ready to enter further education..

Physical growth and development are related to children's motor development. Through children's unique characteristics of curiosity and a desire to experiment, they can perform

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motor skills exercises through coordinated movements facilitated by a supportive environment that provides stimulation. Heri Rahyubi (2012:228) states that motor development, especially in early childhood, will be more optimal if the environment in which children grow and develop supports free movement. Outdoor activities can be the best choice because they can stimulate muscle development. If children are engaged in activities indoors, maximizing space can be a strategy to provide free space for children to run, jump, and move their entire body in unlimited ways. Early childhood motor development is divided into gross and fine motor skills, both of which are very important to support overall growth. In addition to gross motor skills, fine motor skills also require structured stimulation, for example through arts and crafts activities that train hand-eye coordination (Indraswari, 2012). Games are a very effective medium for stimulating these skills, especially if they are designed systematically and fun. The "Junior Military Service" program presents an innovation in physical motor skills learning, integrating various physical activities in the form of circuit games. The goal is to improve children's endurance, strength, speed, coordination, and social skills in an integrated manner.

2. Method

The activity was carried out on April 17, 2025, at Kartika IV-13 Kindergarten, Lawang, by undergraduate students of the Early Childhood Education (PG-PAUD) program at the State University of Malang. The method used was hands-on practice through a circuit game. The circuit game approach was chosen because it has been proven effective as a model for early childhood motor learning in various previous studies (Riswandi, 2021; Nugraheni & W., 2019), and has been widely implemented in various PAUD institutions with positive results (Firdaus et al., 2022). Six types of games were developed, including: ball relay, jumping on a bridge, rubber relay, body balance, rope crossing, and tug-of-war. Each game was designed to stimulate gross and fine motor skills in a balanced manner. Preparation included coordination with teachers, preparation of tools and materials, and direction to students. Evaluation was carried out through direct observation and reflection from teachers, participants, and implementers.

3. Results and Discussion

3.1 Ball Relay

The ball relay game is a type of group game in which each team member has a role to move the ball from one point to another using a specific method, for example using their hands or feet, and then passing it to the next team member in sequence until they reach the finish line. During the implementation at Kartika IV-13 Kindergarten, Lawang, the atmosphere was generally quite conducive. Most of the children, who had been divided into several groups, were well-directed and conditioned according to the instructions given. However, there were also some children who were difficult to condition optimally due to differences in each child's characteristics, such as concentration levels, ability to follow directions, and varying levels of enthusiasm. Furthermore, the fairly large and divided field area also presented a challenge in supervising and directing all children equally. These findings align with research by Pahenra et al. (2021) which showed that ball-based circuit games are effective in improving gross motor skills in early childhood.

3.2 Jump Over the Bridge

The bridge-jumping game involves children jumping or walking on a bridge (a flat block) placed a few centimeters to several tens of centimeters above the ground, while maintaining balance. Most children can follow directions and are quite well conditioned, demonstrating the ability to cooperate, wait their turn, and carry out instructions enthusiastically. However, not all children can be conditioned easily due to differences in concentration levels, motor skills, and learning styles. The large and divided field conditions make supervision more challenging, as teachers must divide their focus across several points. Some children show quick responses and are able to adapt quickly, while others take longer to understand instructions—a normal part of early childhood activities and require a patient and flexible approach. This is consistent with research by Sihite and Dimyati (2022), who found that post-based circuit games, including jumping and balancing activities, significantly influence the gross motor skills of children aged 5-6 years.

3.3 Rubber Relay

PThe rubber relay game is played in groups, where each team must move the rubber from one place to another using tools such as straws or chopsticks, without touching the rubber directly with their hands, taking turns until the rubber reaches the end point. Some children can be conditioned and directed well, demonstrating the ability to work together, follow directions, and maintain focus on the game. However, there are also children who cannot be conditioned optimally due to differences in concentration levels, enthusiasm, and ability to work together. Despite this, in general, the children show a high spirit of togetherness and are able to actively contribute to the success of their group, both in implementing game strategies and in creating a fun atmosphere. This activity also trains children's fine motor skills through hand-eye coordination when using tools, in line with the importance of structured fine motor stimulation for early childhood (Indraswari, 2012).

3.4 Body Balance

The body balance game is designed to train children's body balance, motor coordination, and body position awareness. It uses visual media in the form of pictures or prints of hands and feet placed on the floor. Children are asked to follow the pattern of the picture by placing their hands and feet in the specified positions, while walking, crawling, or moving from one pattern to another. The children appeared to really enjoy and enthusiastically participate in each stage of the game. However, several obstacles arose related to the tools and materials used, which were felt to be less comfortable for the children and slightly disrupted their concentration. Nevertheless, overall, the children were still able to complete the game well and demonstrated quite good cooperation within their groups. These findings support the research results of Asmuddin et al. (2022) which confirmed that body balance is an important indicator of children's gross motor development in kindergarten.

3.5 Crossing the Rope

This game involves stretching one or more ropes between two points, and asking children to walk or cross the ropes with various challenges, such as walking on a low rope,

crawling under the rope, or jumping over it; the height and position of the ropes are adjusted to the child's age and ability, as well as safety standards. This game is very popular with children because they appear very enthusiastic and enjoy every moment of playing, so that the atmosphere created is fun and full of joy. Although it requires coordination and concentration, children are able to complete it well, demonstrating active involvement and the ability to follow the rules of the game with enthusiasm. These results are consistent with research by Mu'mala and Nadlifah (2019) which shows that rope-based games are effective in optimizing children's gross motor development.

3.6 Tug of war

Tug of war is a traditional game widely known throughout the world, played by two groups pulling a rope with the aim of pulling the opposing group across the center line, marking victory. The children appeared very enthusiastic and enjoyed every moment of the game, demonstrating a strong spirit of cooperation and joy. However, the game was slightly hampered by the inadequate conditions of the playground; the available area was relatively narrow and not large enough to accommodate the free movement of all participants, so the children felt less free, and the less than conducive conditions also made it difficult to organize the course of the game and determine the winner objectively and fairly. This is in line with the findings of Mashuri et al. (2022) that basic movement games through circuit training have a positive effect on the development of gross motor skills as well as children's cooperative skills.

4. Conclusion

Based on the implementation of circuit games at Kartika IV-13 Lawang Kindergarten, it can be concluded that learning approaches through physical games such as ball relay, jumping on a bridge, rubber relay, body balance, rope crossing, and tug of war have proven effective in improving the physical motor skills of early childhood. Children showed significant increases in enthusiasm, cooperation, and gross and fine motor development. Despite obstacles such as differences in child characteristics and limited facilities, the activities continued smoothly and enjoyable.

The results of this activity reinforce previous studies showing that circuit-based game-based learning can improve various aspects of child development, from motor skills to basic concept recognition (Savira et al., 2022; Hidayah & Khan, 2021). As a recommendation, similar activities should be designed with consideration of space capacity, ergonomically designed tools for children, and adequate supervision from educators to optimize stimulation. Furthermore, teachers and parents are expected to continue supporting enjoyable physical activities to encourage children's holistic development from an early age..

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