

Optimization of Early Childhood Motor Development (AUD) through Interactive Games at PAUD and Bethel Kindergarten Sentani

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Abstract

Community service activities conducted by the Department of Early Childhood Christian Education (PKAUD) at STAKPN Sentani aim to enhance early childhood motor skills at PAUD and TK Bethel Sentani through interactive games. These activities include coconut shell stilts (egrang batok kelapa), role-playing with the theme of "buyers and sellers," and alphabet arranging with the theme of "arranging one's own name." The implementation of these games is expected to improve both gross and fine motor skills in children, as well as their cognitive and social abilities. Observations indicate that coconut shell stilts help with body balance and coordination, while role-playing and alphabet arranging enhance creativity, communication, and early literacy skills. This program not only provides practical benefits to PAUD and TK Bethel Sentani but also enriches academic insights in early childhood education literature.

Keywords: Optimization Development, Motors, Interactive Games, PAUD Bethel Sentani.

INTRODUCTION

The development of motor skills in early childhood is an important part of the overall growth and learning process. It allows children to gain learning experiences that can be applied in later life. The development of motor skills in early childhood (AUD) is divided into two main categories: gross motor skills and fine motor skills. Gross motor skills involve large body movements such as walking, jumping, and running, while fine motor skills focus on the coordination of small muscles, such as writing, cutting, and threading. During early childhood, children have an astonishing capacity for learning. They possess a strong curiosity to learn by engaging all their senses to explore and understand what they are studying, and they quickly move on to other things that capture their interest [1].

Research by Abusleme has shown that interventions targeting fundamental movement skills (FMS) in young children can significantly impact their physical activity trajectory and overall health outcomes, emphasizing the importance of early skill mastery. Conversely, Hua highlights the importance of early [2] motor development, noting that delays in crawling and walking during infancy can lead to significant motor impairments in children [3].

This means that motor development in

children is crucial, and appropriate stimulation in training gross and fine motor skills in early childhood can directly contribute to children's cognitive, emotional, and social abilities. Therefore, schools play an important role in providing activities that optimally stimulate children's motor skills. Teachers need to create play media as a means to achieve the desired goals, namely enhancing children's gross and fine motor skills [4].

One effective method to achieve this goal is through the use of interactive games specifically designed to stimulate various aspects of children's motor skills. Clegg defines interactive games as a type of play that involves significant participation from the players in the process. Through active interaction, these games effectively support children's growth and development, sharpening their motor skills and practicing various other abilities [5]. Therefore, through interactive games, children not only experience enjoyment but also receive motor and social stimulation thanks to the interaction between players and the game or with other [6]

Examples of interactive games that can be applied include coconut shell stilts, role-playing as sellers and buyers, and arranging the alphabet. Coconut shell stilts train balance and gross motor coordination,

role-playing develops children's social skills and creativity, while arranging the alphabet enhances fine motor skills and letter recognition. By implementing classroom learning using educational games such as coconut shell stilts, role-playing with the sub-theme "sellers and buyers," and arranging the alphabet with the sub-theme "making your own name," according to [7], can effectively train children's gross motor skills.

By integrating interactive games into the early childhood education curriculum, significant positive impacts on children's motor development can be achieved. However, not all PAUD and kindergarten institutions fully utilize this potential. PAUD and Bethel Sentani Kindergarten, as one of the early childhood education institutions, face challenges in optimizing children's motor development through effective and enjoyable methods. Initial observations indicate that the use of interactive games at PAUD and Bethel Sentani Kindergarten is not fully integrated into daily activities. The limited implementation of these interactive games can hinder children's motor development, ultimately affecting their cognitive and social abilities. Given this background, it is crucial to implement structured and measurable programs of interactive games to enhance children's motor skills in these institutions. Implementing these games in a structured manner, it is expected that children will experience significant improvements in both their gross and fine motor skills. Additionally, this research aims to measure the impact of interactive games on children's cognitive and social development, as well as provide an intervention model that can be replicated in similar educational institutions.

Furthermore, this community service activity also aims to fill gaps in existing literature regarding the use of interactive games in the motor development of early childhood, particularly in the context of PAUD and kindergartens in the Sentani region. While many studies have discussed the general benefits of interactive games, there are few that specifically evaluate the implementation of traditional games like

coconut shell stilts in formal educational settings. Thus, this community service initiative not only provides practical contributions to PAUD and Bethel Sentani Kindergarten but also offers academic insights that enrich the literature on early childhood education and effective motor development methods.

METHOD

Community service activities were conducted for 4 days, starting from June 4-7, 2024, by a team and second-semester students of the 2023/2024 academic year from the Early Childhood Christian Education Department (PKAUD) at STAKPN-Sentani. The stages of these activities were carried out using a three-step approach: (1) Observation and coordination activities with the relevant schools to assess the necessary needs for implementing the activities; (2) Implementation of educational activities using interactive game methods; and (3) Monitoring and evaluation activities with student groups through interactive game methods. Some detailed explanation of the methods used during the implementation follows;

1. Observation and Coordination

In this stage, observation and coordination activities are the initial steps taken. Field observation involves observing the school environment, classroom learning processes, and student conditions. Coordination is carried out with the school principal to determine the schedule of activities and the location or venue for the activities. These activities are conducted to ensure the readiness of necessary equipment and materials for carrying out the main activities [8]. This stage of activities was conducted on June 4, 2024.

2. Implementation of Educational Activities Through Interactive Game Methods

The implementation phase of this activity takes place over 3 days. In the execution of educational activities through interactive game methods, it is divided into 3 groups:

- 1) Coconut shell stilts game group
- 2) Role-playing group with the sub-theme "sellers and buyers"
- 3) Alphabet arrangement group with the sub-theme "making your own name".

During this phase, each learning group is guided and instructed on interactive games. This is done to observe how children's motor development can optimally progress and form.

3. Monitoring and Evaluation of Activities

Monitoring activities in this community service project involve observing the learning process using educational games

such as coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name" in each classroom group. Evaluation or assessment is conducted by observing students' responses during the learning sessions in PAUD and Bethel Sentani Kindergarten, Jayapura District, using educational games like coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name" in each classroom group.

FINDING AND DISCUSSION

The elaboration of the results from each stage conducted at PAUD and Bethel Sentani Kindergarten, Jayapura District such follows

1. Observation and Coordination

Community service activities conducted at PAUD and Bethel Sentani Kindergarten began with observation followed by coordination. The observation mechanism aimed to gather information regarding the location, timing of the activities, and the students' engagement in the learning process. Meanwhile, coordination was carried out with the school authorities. The outcome of this coordination was the school's willingness to accept and support

the community service activities, as well as to prepare the schedule for conducting the learning activities. These group learning activities were conducted face-to-face using educational games such as coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name." The initial observation and coordination stages with the school proceeded smoothly and effectively.



Pic.1. observation and coordination activities

2. Implementation of Educational Activities Through Interactive Game Methods

The stages of community service activities conducted at PAUD and TK Bethel Sentani with the theme of educational games; coconut shell stilts,

role-playing with the sub-theme "sellers and buyers," and alphabet arrangement with the sub-theme "making your own name." It begins with the preparation stage and is followed by the implementation stage. In this stage, the was carried out well as expected, and this stage can be seen in the following picture;

community service team prepares materials and all necessary items suitable for the types of games that have been prepared in developing the learning materials. The preparation stage



Pic 2 . Preparation for the coconut shell stilts game group.



Pic 3. Preparation for the role-playing group with the sub-theme "sellers and buyers".

The next stage is the implementation stage, which can be explained such follows: The implementation of educational games; coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name" took place on Friday as scheduled. The activities proceeded smoothly and successfully.

a. The implementation of educational games; coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name" was conducted in the Senior Kindergarten class, which consisted of 9 students aged 5-6 years old. The students were very happy and enthusiastic about participating in these activities. They felt joyful and delighted to play together with their friends and the community service team.

b. The community service team provided technical guidance related to educational games; coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name" before the learning activities commenced. The technical guidance started with introducing the educational games, explaining the steps or how to play the coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name". They explained the objectives of the games, divided the game groups, and simulated each game for the students at PAUD and TK Bethel Sentani. These stages can be observed in the images below.



Pic 4. Educative Activities

c. The process of delivering learning materials through educational games; coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name" went well, encouraging students to feel challenged to try. Although some students initially found it difficult, they persevered until they succeeded. When students have a strong curiosity and willingness to try repeatedly, it has a significant positive impact on the development of both gross and fine motor skills. During the coconut shell stilts game,

3. Monitoring and Evaluation Activities for Study Groups

Based on the material taught, it is evident that students at PAUD and TK Bethel Sentani actively participate in learning activities using educational games. Some of these activities include coconut shell stilts, role-playing with the theme "sellers and buyers," and alphabet arrangement with the theme "making your own name." These learning tools have a positive impact in supporting the development of both gross and fine motor skills among students.

The results from monitoring and evaluation of the educational games at PAUD and TK Bethel Sentani indicate that the coconut shell stilts game helps students develop gross motor skills. Students are

the children were very enthusiastic. After receiving instructions from the community service team, they immediately tried and succeeded. The coconut shell stilts game helps in developing children's gross motor skills because it requires them to balance their bodies and walk using the stilts. This game enhances children's gross motor skills by training their ability to balance and walk with stilts. Additionally, playing with coconut shell stilts can strengthen the muscles of the legs, arms, and hands, thereby improving body balance and flexibility

able to maintain balance and body coordination effectively while playing with coconut shell stilts. This demonstrates that learning methods incorporating physical activities can effectively enhance children's gross motor skills. Furthermore, role-playing with the theme "sellers and buyers" and alphabet arrangement with the theme "making your own name" successfully hone students' fine motor skills. In role-playing activities, students demonstrate creativity and effective communication skills. Meanwhile, in alphabet arrangement activities, students are able to recognize and arrange letters accurately, indicating a strong initial understanding of literacy.

Research conducted by [9] highlights that the use of educational games has the

potential to improve both gross and fine motor skills in early childhood. Additionally, the development of early childhood motor skills can be trained and enhanced through various learning activities, including the use of educational games (Mujriah et al., 2022). Overall, these activities not only strengthen fine motor skills but also foster cognitive and socio-emotional aspects among students.

CONLUSSION

The development of motor skills in early childhood is considered a key element in shaping their future skills. Therefore, various types of educational games that can train and develop children's motor skills, both gross motor and fine motor, are needed. The implementation of educational games in learning is a highly beneficial method for children's development. From the community service activities at PAUD and TK Bethel Sentani using the educational game method of "coconut shell stilts," children not only enjoy fun but also enhance essential physical skills. Role-playing games such as "seller and buyer" introduce them to real-life situations, thus boosting their confidence and socialization skills. The activity of arranging alphabets with the sub-theme of "arranging own name" provides a strong foundation for early literacy skills, preparing children for academic challenges in the future.

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