

Kinesthetic Learning Development Methods to Train Fine Motors for Early Childhood

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ABSTRACT

Implementing activities in early childhood learning exemplary motor Integrated early childhood education programs is not optimal. The purpose of this study was (1) to describe the methods of learning and fine motor skills as development needs in early childhood education programs, (2) to describe the device design instructional methods kinesthetic to train fine motor early childhood, (3) to describe the valid kinesthetic learning methods, practical and attractive in of early integrated childhood who meet the criteria for a valid, practical, and draw in integrated early childhood. This type of research is the development of research. Developing a learning device used in this study is an ADDIE development model. Learning software development results in this study a program of the semester, Weekly Education Program Plan (RPPM), Daily Lesson Plan Program (RPPH), Lesson Handbook, Child Activity Sheet (LKA), and Learners Observation Assessment Sheet. Learning research data was obtained through the validation sheet, observation sheet, and learning—data analysis techniques with descriptive analysis. The results showed that the development of learning tools was classified as invalid; the effect was seen from the results of children's learning. Results of the study showed that the device could train exemplary motor learning. Response to teacher learning tools is agreed upon. This research concludes that the kinesthetic learning methods train fine motor children.

Keywords: ADDIE Model; Kinesthetic Learning; Motor Learning; Physical kinesthetic

1. INTRODUCTION

One of the early childhood developments in children's physical and motoric development is physical motor development, an aspect of developing children's fundamental abilities that must be developed with cognitive and language development. According to Bredekamp & Copple [1], the new physical development that results from the substantial growth of the child influences each other with other skills that develop from experience and training provided by adults. Intelligence closely related to physical development is that kinesthetic intelligence is a reciprocal relationship. Normal physical development is the main requirement for children's kinesthetic development. Kinesthetic stimulation will increase the child's physical motor development [2].

Educators must be able and willing to provide various stimuli according to the child's intelligence potential, stimuli based on the belief that every child has various intelligence whose development requires stimulation or

stimulation following the child's growth and development.

Physical kinesthetic is the intelligence to make body and limb movements, including using body movements to express emotion [3]. This intelligence uses whole-body skills to express ideas and feelings and uses hands to create or change things. This intelligence includes specific physical abilities, such as coordination, balance, skill, strength, flexibility, speed, and the ability to receive stimuli and are also related to touch.

Educational Services for the development of kinesthetic intelligence during the golden age can be provided through various methods adapted to children's development and growth [4]. Children's kinesthetic development is directed at developing gross and fine motor skills by providing games that involve gross and fine motor skills. Game activities that can develop fine motor skills involve fine muscles and eye and hand coordination. According to Musfiroh [2], fine motor activities can be developed with activities such as (a) facing small objects that they have to count or separate,

doing disassembling and stringing beads (b) for clothes such as undressing themselves, opening zippers, unbuttoning clothes and attaching ties can be done by playing with cloth, (c) playing with dolls and jewelry, (d) writing and drawing certain materials, for example, writing their names and drawing children's favorite fruits, (e) playing with scissors, paint, clay, plasticine, as well as opportunities to practice functional skills, such as pouring water, milk, setting the table, eating alone. Gross motor games (with large muscles) through games carried out in open and indoor spaces include running competitions, ball games, swinging, seesaw, slide, climbing, *gobak sodor*, playing bicycles, obstacle course obstacles, climbing poles, and lined up tires.

Kinesthetic development efforts related to children's fine motor skills are instrumental in building other abilities [5]. Children's fine motor skills will make children adapt to the school environment. With regular and trained motor development, it will be easier for children to write, draw, paint, line up and get along with their peers. Meanwhile, children who are not expected in motor development will isolate children because they cannot follow their friends' activities. Delays in physical development will influence children's emotions [2], [6].

Based on initial observations made at early childhood education programs from September 9, 2019, to October 19, 2019, it was seen that the kinesthetic method of learning carried out at the school was less varied and limited to ordinary movements, children's activities were very monotonous and only revolves around coloring activities, even though children, in general, have not been able to hold writing tools flexibly and adequately so that children will become bored and less interested in learning to write and write so that children will tend to disturb friends or stay in place which will ultimately have an impact on low interest and children's ability to draw, and or use other writing tools.

One method that can develop children's fine motor skills is the kinesthetic method. This method provides opportunities for students to make movements and practice directly with learning media that will be used in learning. This method will make children play actively, an approach in early childhood learning. Kinesthetic stimulation occurs when children play, training muscle coordination and movement. Children will carry out matching seeds directly under the teacher's guidance with this kinesthetic method. This activity is expected to be a medium in developing children's fine motor skills. Matching pictures activities will allow children to coordinate hand and eye in the matching tool with the picture [7].

Gross and fine motor skills as skills that can help children in carrying out various daily activities. Hurlock [5] explains the importance of children's motor development because of (1) self-help skills, (2) social assistance skills, (3) play skills, and (4) school skills. Self-help skills or self-help skills are skills related to the skills needed by children to carry out daily activities

(activity daily living), such as: using a spoon and fork to eat, buttoning clothes, and tying shoes. Children use social assistance skills to accept themselves by the family, peers, and society, such as cleaning up work at home and school. Playing skills are a variety of skills that children learn when they join a group of playmates to be accepted and entertain themselves, such as: playing kites, drawing, and using other game tools. School skills are related to skills that must be mastered by children so that they can do several academic tasks, such as writing, cutting, and painting. Good mastery of school skills will significantly assist children in achieving school achievement, both in academic and non-academic achievements.

According to George S. Morrison [8], children test their abilities and skills in carrying out various activities. This is the time to learn what they can do independently and how. Warfare transfers are essential in developing locomotion and skills and include activities such as moving the body through space, walking, running, jumping, rolling, dancing, climbing, and hopping over obstacles. Children use these activities to determine the relationship between themselves, space, and objects in space. Children are also happy to do light movement activities such as drawing, coloring, painting, cutting, and pasting. Because of these activities, children need programs or methods that include movement and play that accommodate the unique physical needs of preschoolers and support their learning programs.

Given the importance of training children's fine motor skills, children's activities need to be accommodated both for parents and teachers in developing learning tools in schools. On this basis, the authors want to examine the problem of developing Kinesthetic Methods in Developing Fine Motor Ability in early childhood education programs.

2. METHOD

The type of research is research and development. This research was conducted based on a needs analysis at the early childhood education programs, which requires learning tools to train children's fine motor skills that are valid, practical, and interesting. The research subjects were 12 students consisting of 4 boys and eight girls. The research subjects came from various educational and occupational backgrounds and social statuses. Data collection techniques are observation, questionnaires, and interviews. The data analysis technique used in product development research (prototype) of kinesthetic intelligence development model learning tools to improve fine motor skills in early childhood education programs was quantitative and qualitative data analysis.

3. RESULT AND DISCUSSION

The implementation of development research is divided into three main stages, namely (a) the results of the needs analysis, namely the initial research collecting data about the existing conditions, b) the trial phase of learning tools, including the drafting of learning tools, validation of learning device drafts carried out by experts, analysis of results validation, revision, testing, and analysis of test results and (c) the implementation phase of learning, at this stage an analysis of the teacher's response to the learning tools that have been made.

The design of learning activities to train children's fine motor skills is made in the form of a guide book that contains the development of kinesthetic methods to train motor skills for early childhood group A. According to the research results obtained, the kinesthetic method learning tools are arranged in such a way that consists of Manuals, programs semester, weekly learning program plan (RPPM), daily learning program plan (RPPH), children's activity sheet (LKA), and student ability observation sheet.

From the validity and reliability of the learning tools consisting of the Semester Program of 3.71, the category is very valid with a reliability of 0.99; the RPPM is 3.67, the category is very valid with a reliability of 1.00. RPPH of 3.54 correct category with a reliability of 0.90. The Guidebook has 3.69 excellent categories with a reliability of 0.96, LKA has 3.44 good categories with a reliability of 0.95, and the Student Ability Observation Sheet has 3.62 good categories with a reliability of 0.90. Based on this analysis, it shows that the kinesthetic method of learning tools to train children's fine motor skills is within the interval limit of $3.60 < V < 4.00$, which means that the whole is in the excellent category with a reliability coefficient of $R > 0.75$, which means it is in the reliable category. Using valid and reliable learning tools will provide optimal learning outcomes; it will be necessary to use the right learning tools to train children's fine motor skills in motor learning.

To determine the success of achieving teaching goals and see the effectiveness of the kinesthetic method developed, it is necessary to evaluate. Evaluation is done by observing all student activities as part of the learning process. In this study, the tasks given to students were in student activity sheets due to development. Children carry out these activities with college activities where each child is monitored individually by using a student ability sheet which contains the level of the child's ability to carry out college activities. Each fine motor skill must be learned individually because each skill has specific differences and characteristics between one child and another [9].

Implementing children's learning activities using the kinesthetic method to train fine motor skills at the early childhood education programs uses learning tools tested for validity and reliability. The learning process refers to the steps of the kinesthetic learning method and learning

in kindergarten, which consists of, a) preliminary activities wherein this activity the teacher motivates students and provides information on the activities to be carried out in the learning process, b) the core activity stage in the learning process. At this stage, the teacher applies the steps of the kinesthetic learning method, which has the characteristics of providing opportunities for children to explore materials and media that will be used in college learning activities, and the teacher recalling the collage learning activities c) closing activities at this stage the teacher reviews the activities that have been carried out and prepare students to close the learning on that day.

After testing the kinesthetic method of learning tools at the Integrated early childhood education programs, data was obtained about children's fine motor skills learning outcomes. The learning outcomes of students' fine motor skills at the Integrated early childhood education programs of 12 students, eight students or 66.66% are in the very high category, four students or 33.33% are in the very high category. This data shows that children's fine motor skills using the kinesthetic method with college activities can train children's fine motor skills to develop optimally.

The activity of the students was observed during 5 (five) meetings by using the observation sheet of the students in the class. Through observations during the learning process in the classroom with the kinesthetic method, data were obtained from the activity of students in learning. The average result of observing student activities carried out by observers during the learning process in the classroom using kinesthetic method learning devices to train fine motor skills was 99.5. Thus, applying kinesthetic learning methods with collage activities to train children's fine motor skills in early childhood education programs can increase the positive activities of students where students focus on the learning activities carried out.

Questionnaire teacher responses to provide opinions on kinesthetic learning methods implemented. This teacher response data was taken from 5 teachers at early childhood education programs. The questionnaire contains statements with a total of 27 statements. The teacher was asked to respond "agree, doubt, disagree." On kinesthetic learning, methods to train students' fine motor skills. The recapitulation results of 27 teacher responses to learning activities using the kinesthetic method to train children's fine motor skills at early childhood education programs obtained 100%. This data shows that the teacher responds positively or agrees that the kinesthetic method can train children's fine motor skills.

Physical exemplary motor learning using the kinesthetic method proved motivation and a unique attraction for children to be very actively involved in the learning process and enthusiastic. In learning, children do not only listen and see the teacher's explanation about how to do activities. With the kinesthetic method, children are directly involved in learning activities.

Hurlock states that only by providing learning opportunities for children to learn motor skills will children understand them. Motor skills require physical involvement with the object of learning [5]. This aligns with Sitti Aisyah et al. states that only providing broad opportunities for children according to their needs can motorically practice directly [10], [11]. If the child is only allowed to practice once, the rest only sees the model, and the child will have low motor skills. Using the kinesthetic method will allow students to do so that teachers and students can correct it incorrectly.

Motor development is very influential on other aspects of development. Children whose physical condition is trained will have more opportunities to explore their environment to understand their environment [3] better. Therefore, to achieve and pass their development optimally, it is necessary to pay attention to children's motor development stages with proper stimulation and activities according to their developmental age.

Which includes the achievement of research objectives, specific findings, and the constraints faced in the research.

3.1. Achievement of Research Objectives

The learning device developed with the ADDIE model consists of the analysis phase, the design phase, the development phase, the implementation phase, and the evaluation phase. The development of the kinesthetic method learning tools at the analysis stage is to conduct a situation analysis of the learning carried out at the Integrated early childhood education programs. This analysis obtained an overview of the learning process, the achievement of the level of fine motor development of students, assessment rules, availability of learning tools, and students' learning habits in daily interactions [12].

At the design stage, the kinesthetic method learning tools are designed regarding the results of the needs analysis for the development of learning tools so that a draft or design of learning tools is produced, which includes Learning Implementation Guidebooks, Semester Programs, Weekly Learning Program Plans (RPPM), Daily Learning Program Plans (RPPH), Children's Activity Sheet (LKA), Student Assessment Sheet. This initial draft is then continued at the development stage for validation.

At the development stage, all learning tools in the initial draft are then assessed (validated) by 2 (two) experts to measure the level of validity as a basis for revision and improvement. From the results of the analysis of the validity of the learning tools, all of the learning tools have met the "valid" and "reliable" criteria. After producing a good and reliable learning device, the practical level of the kinesthetic method learning device was measured by implementing a trial implementation of the learning device at the early childhood education programs.

Theoretically, the results of expert assessments of kinesthetic learning devices to train children's fine motor skills state that the device is suitable for use in the learning process. Empirically the results of the trial implementation of learning activities show that every aspect of learning that has been determined can be implemented. This data shows that the teacher can use the kinesthetic learning method to train children's fine motor skills to meet the "practical" element. Teachers are asked to develop kinesthetic learning tools to train children's fine motor skills to get a broader picture. The teacher responded that the kinesthetic method is exciting and challenges training children's fine motor skills. Activities in learning make it easier for students to train their fine motor skills. Every child gets the opportunity directly to do college activities from various media.

3.2. Special Findings

In implementing the trial of the kinesthetic method of learning tools to train children's fine motor skills at the Integrated early childhood education programs. Several specific findings can be used as input and suggestions to develop early childhood learning outstanding motor development. The specific findings are as follows:

- Learning by using the kinesthetic method because of development through expert validity testing is a concept that can train children's fine motor skills in early childhood education programs. The kinesthetic method with collage activities carried out individually allows children to perform tasks independently and develop other abilities. This is in line with Hurlock [5], self-help skills, or self-help skills, are skills related to the skills children need to carry out daily activities (daily living), such as: using a spoon and fork to eat, buttoning clothes, and wearing shoes. Children's fine motor development must be directed at activities that can be done individually so that children are trained to carry out activities independently so that they can carry out daily activities. Motor development is very influential on other aspects of development. Children whose physical condition is trained will have more opportunities to explore their environment to understand their environment better [13]. This illustrates why physical (motor) development is closely related to children's intellectual mental development. Children's social, emotional development is also strongly influenced by their physical development. Physically weak children will have less self-confidence, especially when they compare themselves with other children their age [14]. Failure to master motor skills will make children less respect themselves. Therefore, to achieve and pass their development optimally, it is necessary to pay attention to children's motor development stages with proper stimulation and according to their developmental age.
- The kinesthetic learning method to train children's fine motor skills with college activities is a learning tool

that makes it easy for teachers in the teaching and learning process where all learning tools are made in the form of activities that are equipped with pictures and a measurable assessment process that is easy to implement. In the learning device, a design of learning objectives has been provided regarding what abilities must be achieved by students, materials, and tools used in learning, steps in carrying out college activities, and student ability assessment sheets. The kinesthetic method provides opportunities for teachers to interact with students [7], [15]. Learning carried out in Kindergarten must prioritize child-centered learning that allows children to move actively in the learning process with the principle of actively moving and playing while learning [16]. Harmonious interaction between educators and students will significantly determine the success of learning.

- The most fundamental specific finding in this study was the production of a kinesthetic method of learning tools in training children's fine motor skills at the early childhood education programs, which became one of the new methods in training children's fine motor skills in addition to the demonstration method, and direct practice and has met the valid, practical, and practical criteria. And interesting. The tools consist of the semester program, the weekly learning program plan (RPPM), the daily learning program plan (RPPH), the learning implementation guidebook, the children's activity sheet (LKA), and the student assessment observation sheet.

4. CONCLUSION

Based on the formulation of the problem, research objectives, and the results obtained as described in the previous chapter, this section presents conclusions as implications of the results obtained. The conclusions are as follows:

- Learning carried out by early childhood education programs is less varied and limited to ordinary movements. Children's activities are very monotonous and only revolve around coloring activities, even though children generally cannot hold writing instruments flexibly and adequately, so children will become bored and less comfortable. Interested. Of the 12 students in early childhood education programs, only three people (25.00%) have fine motor skills in the high category, and the rest are still in the medium category (4 people or 33.34%) and the low category (5 people or 41.44%). This condition, of course, requires effort so that the fine motor skills of students can be improved.
- Learning tools consisting of Semester Programs, Weekly Learning Program Plans (RPPM), Daily Learning Program Plans (RPPH), Learning Implementation Guidebooks, Children's Activity Sheets (LKA), and Student Assessment Observation

Sheets are learning tools developed by kinesthetic method to train fine motoric children early childhood education programs. A learning device is a learning tool that uses the latest C-13 curriculum

- The kinesthetic method learning tools developed have met the criteria of being valid and reliable (based on expert judgment), practical (based on observations of the trial implementation of learning tools), and interesting (based on teacher responses). The learning tools in question consist of the Weekly Learning Program Plan (RPPM), the Daily Learning Program Plan (RPPH), the Learning Implementation Guidebook, the Children's Activity Sheet (LKA), and the Student Assessment Observation Sheet.

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