



Manipulative basic Movement Learning Model in Class 6 Primary School Students

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Abstract

The aim of the research is to produce a basic manipulative movement learning model for grade 6 elementary school students. This research was carried out using a Research and Development (R&D) approach. Researchers conducted research referring to the ADDIE development model which consists of five stages, namely analysis, design, development, implementation and evaluation). The research sampling technique used in this research was 1 research subject for 30 students. Data analysis used analysis of the effectiveness test of the basic manipulative movement learning model for 6th grade elementary school students using SPSS. The research results are in the form of basic manipulative movement learning models for 6th grade elementary school students. Which presents 25 basic manipulative movement learning models for 6th grade elementary school students. (3) Product Evaluation: That the improvement in the ability of the basic manipulative movement learning model for grade 6 elementary school students was developed based on the results of effectiveness tests using SPSS. The mean difference test obtained with SPSS was obtained mean = -2.235 showing the difference between the pre-test and post-test, the t-count = -7.201, df = 33 and p-value = 0.000 < 0.05 which means there is a difference significant difference between before and after being given the learning treatment model, which means there is a significant difference between before and after being given that there is an increase in the ability of the basic manipulative movement learning model in 6th grade elementary school students.



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INTRODUCTION

Elementary School Education is the basic level for students in taking education. Education in elementary schools has a contribution in building the basis of student knowledge to be used in further education, therefore the implementation of learning in elementary schools must run optimally.

Education is the reconstruction of various experiences of events experienced by individuals so that everything new becomes more directed and meaningful (Abou Elmagd et al., 2018; Elmagd et al., 2015) The main goal of education is the development of the individual as a whole, from a human being who is still innocent can develop himself thoroughly both physical, mental, social, and spiritual aspects.

In general, young children's learning for aspects of physical/motor development is more focused on fine motor development, while gross motor development is less concerned. Though early childhood gross motor development also requires guidance from educators. Gross motor development for early childhood is focused on manipulative movement skills of the eyes, hands and feet. Manipulative movement skills are increased and accompanied by greater leverage of feet, legs and hands, making children more able to use their strength in physical activity. Based on the few reviews above, it can be concluded that manipulative movement skills are needed both in sports and in daily activities, so this thesis will discuss the basic manipulative movements of games and activities in school-age children.(Jumesam & Hariadi, 2020)(Liu, 2019)(Kurdi & Qomarrullah, 2020)

According to Bompa (Bompa & Buzzichelli, 2019)Coordination is a complex motor skill necessary for high performance. Manipulative motion skills

are complex motor skills required for high appearance. Manipulative motion skills are the ability to perform movements of various difficulty levels quickly, efficiently, and with precision.(Britton, 2020; Junior, 2015; Norris et al., 2015; Vetter, 2020; Visser, 2020) According to manipulative motion skills are a combination of behavior from two or more joints, where one with the other is interrelated in producing a movement skill. From the various opinions above, it can be concluded that manipulative movement skills are an ability possessed by an individual / child in combining a variety of different movements, with different difficulties, but done quickly and precisely.(Liu, 2019)

Basic motion is one of the goals to be achieved in physical education learning as well as in physical education regarding coordination indicators, stating that the main indicators of manipulative movement skills are accuracy and economical motion.(Caldwell, 2020; Giakoni, 2021; Kalajas-Tilga et al., 2019; To, 2020) Thus, manipulative motion skills are the result of a combination of performance from the quality of muscles, bones, and joints in producing effective and efficient motion. Where the motion component consisting of energy, muscle contraction, nerves, bones and joints is a neuromuscular manipulative motion skill. According to (Nalepka, 2017)(Stone et al., 2013)basic manipulative neuromuscular motion skills are every motion that occurs in the right sequence and time and the movement contains energy.

The characteristic of elementary school-age students is movement, each child uses his time to move, which is a rough movement that uses most of his body, such as running, jumping, and throwing. In addition, at this time children will be more happy to play football, basketball and so on. According to him, the age level of early childhood education is 0-

6 years old and elementary school is divided into three, namely: the first education age group between 6 to 8 years, the second education age group between 8 to 10 years, and the third education age group between 10 to 12 years. According to (Amung Ma'mun, 2010) Basic movement skills are abilities that children usually do to improve their quality of life. The forms of manipulative movement skills chosen for children should be basic movements that lead to play, lead to child growth and development, and indirectly lead to improvement of basic movement skills. The form of learning manipulative movement skills given to elementary school-age children is based on the basic pleasurable movement stage, these movements include jumping variations, jumping variations, and footstep variations combined with eye gaze and arm swings.(Stone et al., 2013)

Basic motion ability is divided into three categories, namely: locomotor, non-locomotor and manipulative. Locomotor abilities are used to move the body from one place to another or lift the body up such as: walking, running, jumping, jumping. Non-locomotor capabilities are carried out on the spot, without adequate space for movement, consisting of: bending and stretching, pushing and pulling, lifting and lowering, folding and turning. Manipulative abilities are developed when the middle child masters various objects, throwing, kicking, dribbling, catching movements.(Rahmah et al., 2019)

These movements are called basic movements. From this opinion, it can be concluded that at an early age and elementary school can be given coordination learning, because at these ages children have a supportive physical tendency towards improving the quality of their movements. The advantage for elementary school-age children who have good manipulative movement skills will be

able to display skills perfectly and can quickly overcome motion problems during learning and matches. Therefore, without having good manipulative motion skills, students will have difficulty in performing complex technical movements.(Balan et al., 2012; DinanThompson & Penney, 2015; Evans & Penney, 2008; Petrie & lisahunter, 2011) Therefore, researchers took and were interested in the title Model of Learning Manipulative Motion in Elementary School Students grade 6. Because learning manipulative movement skills is also very good considering the age of 10-12 years is a phase of "development of skills". Good manipulative motion skills will result in excellent execution techniques in any difficult position.

METHODS

This research was carried out using a Research and Development (R&D) approach. Researchers conducted research referring to the ADDIE development model which consists of five stages, namely analysis, design, development, implementation, and evaluation. (Sinta et al., 2021).

Design or Data Analysis

Therefore, researchers will explain the results of model development in accordance with the five stages of ADDIE.

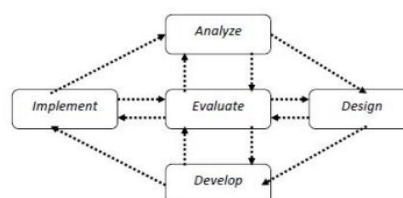


Figure 1. Stages in ADDIE

The ADDIE model is often chosen as a learning development model. This was stated by Molenda "I am satisfied at this point to conclude that the ADDIE

model is merely a colloquial term used to describe a systematic approach to instructional development, almost synonymous with instructional systems development (ISD)". (Puspasari, 2019a) Approach This system divides the learning design process into several sequential stages, then uses the output as input for the next step. The approach used in this research is a qualitative and quantitative approach. This means that the approach has the aim of finding answers to problems. The final result of research and development is a new product design, Manipulative basic movement learning model in class 6 primary school students. For this step, starting from a needs analysis to obtain data by making initial observations. This initial observation method is by interviewing the Physical Education Teacher. The results of the interview obtained were that there was a problem of lack of variation in the manipulative basic movement learning model in class 6 primary school students, so that the learning method was carried out only in that way and was monotonous. That is what makes children's interest in learning decrease in the Manipulative basic movement learning model in class 6 primary school students for upper classes in elementary school to make it easier to design learning models.

Participants

The research sampling technique used in this research was 1 study group of 30 upper class students. Data analysis uses analysis of the effectiveness test of the Manipulative basic movement learning model in class 6 primary school students. The research was conducted at elementary schools in DKI Jakarta. This research will be carried out over a period of 6 months, namely from April to September 2023. The stages start from creating a draft learning model, small

group trials, large group trials and effectiveness tests

RESULT

1. Model Development Planning

This stage is the stage of collecting information that becomes a reference chart in making a learning model. The collection of this information is in the form of: (a). Needs analysis the aim is to identify Learning models designed according to the objectives. (b) Analysis of Learning material which includes the determination of Learning from Light Learning to Heavy Learning.

2. Design Phase

At this stage we create an effective and efficient learning design model. This design or design is made based on the analysis in the previous stage. The design of this program must be in accordance with the characteristics and competencies possessed. Elements that need to be considered in designing this learning design include: Description of the learning design. Elements in the design of the learning system must be interconnected and have an attachment between each element in order to apply a learning model effectively and efficiently.

3. Development Phase

After conducting the data collection stage and drafting the Manipulative Learning model, the next step is to conduct an expert test with the aim of obtaining feasibility or validation of the model made with direct assessment from experts. The study presented 3 experts in assessing the feasibility of the Learning model made. 1 expert works as an athletic lecturer, 1 expert works as an athletic trainer and 1 person works as an athletic trainer. The conclusions of the expert tests carried out are summarized in the following table.

4. Tahap Implementation

The next step is implementation, at this stage the researcher implements 2 groups, namely small groups and large groups. This is done as a product implementation test and effectiveness test to test the effectiveness of the model.

- 1) If the study is descriptive, then the minimum sample is 10%.
- 2) If the study is correlation, then the minimum sample is 34 subjects
- 3) When causal research compares, the sample is 34 subjects.
- 4) If it is an experimental study, the minimum sample is 15 subjects per group.

The samples in this study were for a small group test of Gudang Ilmu Elementary School in DKI Jakarta as many as 15 students of Grade 6 Elementary School, and large group of Elementary School as many as 40 students of Grade 6 Elementary School and effectiveness test of 34 students of Grade 6 Elementary School.

The first 3rd implementation test on a small group, this small group consisting of 15 students of Grade 6 Elementary School Gudang Ilmu Kendari further carried out the following items

No	Sub Model	Information
1	Models learn to jump rope alone by 2 feet:	Done
2	Models learn to jump rope alone with 1 foot alternate.	Done
3	The model learns to jump by passing through circles	Done
4	Model Learns to Jump with Two Feet While Throwing the Catch the Ball	Done
5	Model Learns to Jump on Two Legs in Different Directions	Done
6	Model of Learning to Run with a Low Altitude Goal	Done
7	Model Learn to run with a Varied Height Wicket	Done
8	Model learns to throw and catch with one hand	Done
9	Model learns to throw and catch with two tangas	Done

10	Model Learn to throw catch by walking	Done
11	Model Learn to throw catch by walking with the sound of a whistle	Done
12	Model Learn to throw catch by walking backwards	Done
13	Model Learn to throw catch in pairs	Done
14	Model Learn to throw catch by singing	Done
15	Model Learn to Throw One Ball with Right and Left Hands with 2 Balls	Done
16	Model of Learning to Throw One Ball with Different Hands	Done
17	Models learn to hit hanging balls	Done
18	Kicking with Running Backwards	Done
19	Kicking with a Punching Bag	Done
20	Kicking to the Wall	Done
21	Kicking with Paired Friends	Done
22	Hit	Done
23	Hitting Distinguishing Colors	Done
24	Kicking a Hanging Ball in the Hand Using the Instep of the Right Foot	Done
25	Kicking a Hanging Ball in the Hand Using the Inner Foot of the Right Foot	Done
26	Kicking a Hanging Ball Using the Instep of the Right and Left Foot	Done
27	Kicking a Hanging Ball Using the Right and Left Inner Legs	Done
28	Heading balloons	Done
28	Balance and Beat Balloon	Done
30	Catch With Cone	Done
31	Hit the ball with an elbow	Done
32	Throw Catch As Instructed	Done
33	Hit each other's balloons	Done
34	Throw Catch and Collect Balls	Done
35	Hand Catch Foot Throw	Done
36	Dribble Suit	Done
37	Seize the Ball	Done
38	Build and Break	Done

Based on the results of the implementation test of the Manipulative Learning model items for Grade 6 elementary school students in large groups, all 20 model items can be carried out. And based on the findings in the field during the implementation that all Grade 6 Elementary School students seemed enthusiastic in participating in the learning process.

1). Model Effectiveness

Based on the table above that has been calculated using SPSS, normality data is obtained at pre-test 0.075 and post-test 0.066 which both data are greater than a 0.05. Thus it can be concluded that both data come from normally distributed populations.

Table 1. of Paired Sample Statistics

	Mea n	N	Std. Deviation	Std. Error Deviation
Pre-test	6.41	34	1.258	0.216
Post-test	8.65	34	1.276	0.219

The average score of the Pretest was 6.41 and the average score of the post-test after the distribution of the table tennis forehand drive movement learning model was 8.56 which means that there was an increase resulting from the pre-test against the post-test.

Table 2. Uji Paired Samples Test

	Mean	Std. Devia tion	Std. Error Mean	t	df	Sig. (2- tailed)
pretest - postte st	-2.235	1.810	0.310	-7.201	33	0.000

Basis of decision-making Sig > 0.05 = no influence Sig < 0.05 = no influence. In the average difference test with SPSS obtained mean = -2.235 shows the difference between pre-test and post-test, t-count results = -7.201, df = 33 and p-value = 0.000 < 0.05 which means there is a significant difference between before and after the physical fitness learning model treatment. Based on these results, it can be concluded that through the table tennis forehand drive learning model developed by researchers can improve the ability to move table tennis forehand

drive-in grade iv elementary school students, meaning that the learning model developed has significant effectiveness.

Product Effectiveness Test Graphic Image

The graph above produces record data before and after the treatment of the table tennis forehand drive motion learning model for grade iv elementary school students. With the results obtained, namely pre-test 6.41 and post-test 8.65. From the graph above, it can be concluded that there are changes from pre-test and post after treatment so that it can be said that there are effective and significant changes.

DISCUSSION

Based on the results obtained from the research, it can be concluded that the Manipulative Learning model for Grade 6 Elementary School students that was developed has a significant level of effectiveness. The results of the product that the researcher has created are the physical fitness learning model for Grade 6 elementary school students. From the advantages and disadvantages of the product produced, there are several inputs that the researcher will explain in order to achieve perfection of the product produced. The input in question is as follows: (1). Hopefully the physical learning process by applying the Manipulative Learning Model will be more effective. (2). In Learning, it is hoped that the atmosphere of Grade 6 Elementary School students will be more enthusiastic and challenged in the learning process. This discussion of the Manipulative Learning Model product was created so that it can be used as a reference in the physical learning process and can help trainers in the field. This Manipulative Learning Model was prepared based on an analysis of existing needs in the field.(Chacón-Borrego,

2020; Gu et al., 2016; Kwon, 2020) The product has been evaluated with several existing weaknesses and the product has been revised to make it a better final product, it can be stated that several advantages of this product are as follows: (1) This product provides various variations of physical fitness learning (2) This model is designed based on levels, from easy to difficult. (3) Can provide references for physical trainers as training material

CONCLUSION

Based on the numbers in the table above, it can be concluded that the fitness learning model for Grade 6 elementary school students can and is suitable for use in physical fitness learning. There is a comparison of the numbers which shows that the results of the initial test and final test of the experimental group with the fitness training model treatment experienced a significant increase. So it can be concluded that the Manipulative Learning model for Grade 6 Elementary School students is effective for use in fitness learning.

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