Developing Model of Games to Improve Students' Fundamental Movement Skills

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ABSTRACT
This study aimed at recognizing the effectiveness of game model development in improving students' fundamental movement skills. This study utilized the research and development with ADDIE (Analyze Design Develop Implementation and Evaluation) model. The games ware designed through several stages; those are identification, participant, learning outcomes, play-time, goals, game variations, and stage of game completion. The 84 students of 4th grader of elementary school students at Kabupaten Bandung were involved in this research as respondent. The researcher was used the Test of Gross Motor Development to measure the students' fundamental movement skills including locomotors test and object skill. The results revealed that the game models development effect significantly on the students' fundamental movement skills improvement.

Keywords**:** *Model of Games, Fundamental Movement Skill, Physical Education*

1. INTRODUCTION

Fundamental movement skills is beneficial for health. However, the fundamental movement skills level on the children and adult is still lowly from the average. [1] Fundamental movement skills will be regarded as the basic skills for the students in practicing any kinds of sports. [2] acknowledge that the children, who are physically active at developing their fundamental movement skills, will contribute the positive impacts on their competencies. The fundamental movement skills provides the healthier body maintenances. It is regarded as the basis movements. Those basis movements will be applied in games as well. Whether while doing exercises or any other physical activities [3].

The research studied [4] on the students' physical activities and nutrition, highlighted that "the children at the age 9-10 should cope with the important fundamental movement skills before they transit into the more advance skills which concern to the specific sports. However, the rapid modernization decreases the children movement span. In Indonesia, the number of obesity on the 5-12 age's children is 18,8%; including 10,8% are fat and 8,8% are obese [5].

Another studies also revealed that the girls with the low fundamental movement skills have body mass index and body fatness percentage higher than whom have better fundamental movement skills. But, that argument did not applicable to the boys [6]. [7] Recommend to expand the interventions for long-term participation in physical activities. Because of the different fundamental movement skills and self-confidence of some students might need different treatment and focus based on their needs [8].

Physical activities designed however will support the students' fundamental movement skills. One of the activity that favored by the students is playing games. The games should indicate the skills that can be taught and applied in the game contextually. Another experts and studies also emphasize that the teacher must comprehend its pedagogical concept of inserting games into the teaching process. Thus the games application and teaching learning will be balance[9]. In addition, [10] acknowledge that many programs that intervening the children showed that when the children were given time to play freely, their fundamental movement skills did not improve significantly better than when they play through given-instructions. [11] Agreed that someone could achieve fundamental movement skills through exploring their surrounds, having the opportunity to perform, engaging themselves in and being well-facilitated also surrounding by positive atmospheres that give them space to do some exercises. Therefore, it is important to develop the model of games to facilitate the students in improving their fundamental movement skills.

2. MATERIALS AND METHOD

This study applied the research and development method of research following the ADDIE model; those are analysis – design – develop – implement – evaluate [12] to get the instructional method aims at improving the students' fundamental movement skills. The games

was developed called as an initiative games. In which the study administered some following steps: (1) Analyzing students' needs based on the theoretical framework, observation, and preliminary research. (2) Designing games, setting the performance goals and expert validations. (3) Making the content of the games, developing supporting media and designing the guidelines for the students and teachers, and doing a trial. (4) Applying several games model designed to the students for 16 meetings. (5) Evaluating the model.

Meanwhile, as the research participant, this study employed 84 students of the elementary. As for the instrumentation, the researcher administered Test of Gross Motor Development 2 (TGMD2) [13]. The data gathered then analyzed by using SPSS 20.

3. RESULTS AND DISCUSSIONS

The study was administered as it is scheduled. The data analyzed and data processed showed as follow:

Table 4. Paired Samples Test

		Paired Differences							
					95% Confidence Interval of the Difference				
		Mean	S td. Deviation	Std. Error Mean	Lower	Upper	T	df	Sig. (2-tailed)
Pair 1	Model Bermain	4.401	3.022	.701	2.931	5.201	8.859	5	.000

The above table showed that the significance 0,000 < 0,05, this means that there was a significant effect of the games model toward the students' fundamental movement skills development. This might be happened because playing games is the best way to support the children in enjoying the exercises. The games could encourage the students to interact and collaborate with their peers. In addition, it could create the pleasure and enjoyment to the students learning process as well as varied the warming-up and cooling-down activities [14]. Through this games, the students could be trained to improve their fundamental movement skills in fun way.

This model of games are potential at: (1) facilitating the students' fundamental movement skills development and their tactical knowledge; (2) empowering the students' to learn on their own and be responsible on what they did; (3) rating the students' fundamental movement skills throughout the games; and (4) expanding the fun learning during the games been played [15]. This approach loads with the students' tasks which might stimulate them to think and find out the reasons underlying their performance at performing the fundamental movement by their own inquiry. Moreover, this approach could provide the students some understandings of its benefits. Thus, they are given the opportunities to assess themselves and their skills during the learning process [16]. The games give them opportunity to acquire knowledge, practice their imaginations, interact with their surroundings, and express themselves that socially acceptable [17]. Through the variety of games, the students' fundamental movement skills might be also improved as well.

The children, in their development, need to evolve their fundamental movement skills, for instance; brevity skill, stability skill, coordination skill, and velocity skill, that could be treated in a fun way. Some sports like gymnastics, diving, and skating need the special skills at young age period. But, some other sports that might be done in a lifetime, like football, basketball, and volleyball, the special skills should not be possessed under the age 12 to 15. However, most of sports could provide the precious and useful experience in its activity [18]. By having good fundamental movement skills, it is much easier for the people to adapt with any kind of sports. The rapid adaptation ideally could facilitate someone in doing many kinds of physical activities.

4. CONCLUSION

This study was administered correspondingly to its research plan that refers to the ADDIE model. From the result, it revealed that that the game models development effect significantly on the students' fundamental movement skills movement.

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