

# Development of Physical Education Training Model for Upper Grade Student in Elementary School

Aflaharani Uhacham<sup>1</sup>, Panggung Sutapa<sup>1</sup>

<sup>1</sup>Graduate School of Sport Sciences, Universitas Negeri Yogyakarta, Sleman, Yogyakarta, Indonesia

**Keywords:** Training Model, Circuit Training, Upper Grade Student of Elementary School.

**Abstract:** This study aims to produce physical fitness training model for upper- grade students in elementary school. Development research was carried out with following steps: (1) data collection in the field, (2) data analysis, (3) initial product development, (4) expert validation and revision, (5) small-scale trial, (6) revision, (7) large-scale field trial, (8) final revision, and (9) final product development. Small-scale trial was performed to 24 students. The large-scale trial was conducted in three schools. Research instruments included (1) interview guideline, (2) questionnaire, (3) observation guideline, (4) effectiveness test questionnaire, and (5) student questionnaire. The data were analyzed by descriptive quantitative and qualitative. The result of this study is physical fitness training model for upper grade elementary school students use circuit training method. Assessment of material experts and students show that the model developed is considered good and effective, and students give positive response, so that the learning model developed is feasible to use.

## 1 INTRODUCTION

Along with the rapid development of Science and Technology (IPTEK), children's activities are easier, more enjoyable, faster and smoother. In other words, children are truly spoiled by development of science and technology. This is worsened by reduced spaces for children to play in the form of field as an area to exercise, especially in urban areas. As a result, children's habits are changed; they are usually active, but now they tend to be passive or lazy. Elementary school children spend more hours sitting in front of television, video games, or other electronic games than playing outside requiring moves or basic motion. Direct impact felt by such lifestyle affects the children ability to move.

The purpose of teaching physical fitness to children is not result-oriented but it prioritizes the process. Children experience in teaching activities is about the use of useful energy, responsible learning, and healthy lifestyle. Lessons learned from everyday life to get good physical fitness are doing physical activity or training 2-5 times a week for 30-45 minutes and joining Physical Education (PE) at school.

Based on the observation in several elementary schools in Special Region of Yogyakarta (DIY), the

researcher found various problems related to physical fitness of elementary students. One of them was the low quality of students' fitness in performing sport practices conducted by teachers in their schools. It was proved by the phenomena that the students often felt lazy, experienced fatigue and injury while practicing sports. Sport teachers actually have performed the procedure at the beginning of the class by giving warm-up and stretching before doing core training. In addition, there is still a lack of pleasant training variations to increase motivation in doing sports at school.

The researcher found several problems faced by the teachers at schools, including A lack of teacher knowledge in applying appropriate training model in the learning process to improve children's physical fitness. It results in the lack of teacher creativity in preparing varied and interesting physical learning model to avoid boredom. A lack of facilities and infrastructure can also play a role in students' low motivation in sports. Facilities can support the PE and its learning process. A lack of sport facilities and infrastructure might cause teachers to use only available practice tools, while the other practice material was not even given because the required tools are not damaged.

There are still limited references or reading resources about how the educator teaches the

appropriate physical learning model to support the achievement of desired learning. This makes the teacher still confused to give physical learning model which is particularly design for upper grade students in elementary schools especially with prolonged learning hours, which is 4 x 35 minutes.

The fact shows that almost 50% of students feel tired when doing these sport activities for such a long period because children rarely got these practices in previous learning experience. Thus, the children physical fitness abilities have not been maximized. Children are less enthusiastic and tend to be lazy to exercise actively, because learning is less interesting. Children are more interested in doing online games, gadgets and other electronic games. Children feel very comfortable to do the game without feeling bored with a long period of time. On the other hand, the children state that they only felt tired and bored with what is taught by the teacher and do not like running and jumping activities. Games played for a long time ( $\geq 2$  hours) without being balanced with good physical activity will have negative impact on the children's physical and psychological health. Griffiths (2010) states, Boys and girls who used screen-entertainment for any duration, and participated in sport, had fewer emotional and behavioural problems, and more pro-social behaviours, than children who used screen-entertainment for  $\geq 2$  hours per day and did not participate in sport.

Students can be observed on how good their physical fitness is with the assumptions that elementary school students already have the ability to adjust easily with their daily activities, especially those involving moves. Therefore, PE, sport, and health program is expected to contribute to children's growth process and development. Success of physical education programs at school is strongly influenced by many factors such as teacher, student, facilities and infrastructure factors. To develop elementary school students's motor skills, it demands the model that is suitable with the characteristics of children who like to play.

Based on the statement of Metzler & Michael (in Nasution & Suharjana, 2015), "someone demonstrates the way others should act or think to be a model by example". Physical fitness training for elementary school students have the characteristics and intensities adjusted to students' age and stages of development. The intensities and principles of training that need to be considered are the right frequency, intensity, type and duration for elementary students, for example the frequency of good physical training for children constitutes 3 times per week. The

main goal of physical training is to maintain or improve physical fitness. Statement above is reinforced by Lumintuarso (2013) who states that the frequency of training for multilateral athletes ranges only 3 times a week. Therefore, it can be concluded that physical fitness training for elementary students is sufficiently carried out in 3 times per week.

Based on the information above, the researcher attempts to develop an attractive physical fitness training model that suits the needs of elementary school students. The new model is created with circuit system from step 1 to the next step. PEteachers need to do it as a variety and solution to sport materials in physical fitness development so that students do not experience boredom in doing sports and can do it independently in their home.

The training consists of sport activities related to health such as muscle strength, muscle endurance, heart-lungs endurance, flexibility, and body composition. The research participants include students and teachers from Muhammadiyah Sapen Elementary School, Muhammadiyah Gendeng Elementary School, and Muhammadiyah Purwodiningratan 2 Elementary School in the Yogyakarta. The reason why the researcher selected sports related to health was because these health factors are initial foundation in physical fitness.

## 2 METHODS

The type of this study was research and development which aims to develop certain products and test the effectiveness of those products (Sugiyono, 2014).

### 2.1 Development Procedure

This study uses simplified steps of Gall, Gall, & Borg (2007). Gall's et al. development model was later modified more simply into nine steps including (1) data collection in the research site, (2) data analysis(3) initial product development, (4) expert validation and revision, (5) small-scale field trial, (6) revision, (7) large-scale field trial, (8) final revision, and (9) final products development.

### 2.2 Research Participants

Research participants in this study were students of upper grade elementary schools. Small-scale trial was conducted at Muhammadiyah Sapen Elementary School to 24 students. Large-scale research was conducted in three schoolsinvolving 26 students of grade IV at Muhammadiyah Sapen elementary

school, 22 students of grade IV at Muhammadiyah Gendeng elementary school, and 24 students of grade V at Muhammadiyah Purwodiningratan Elementary School 2.

### 2.3 Research Instrument and Data Collection Technique

The instruments used were interviews, observation sheets, and a set of questionnaires for material experts and media experts, questionnaire for participants in the field trial, and instruments for observing model effectiveness.

### 2.4 Data Analysis Technique

This study employs qualitative and quantitative data. Effectiveness test was performed by quasi-experimental method by comparing the results of the pre-test with the post-test results. The data were analysed using statistical tests called T-test.

## 3 RESULTS

Based on results of field studies and literature reviews related to the needs of upper grade students in elementary school to improve physical fitness, the initial product design should consist of six post circuits; (1) running, throwing, and ball catching post, (2) deer jumping post, (3) sit up and back up post, (4) stretching with ball posts, (5) aerobic gymnastics post, and (6) hunter and predator post. The initial product design which had been arranged was then validated by experts to determine product feasibility before being tested in the field. Physical fitness training program model for Upper Grade elementary school students is as follows:

### 3.1 Post of Running, Throwing, and Chest Pass Catching Ball



Figure 1: Post of Running, Throwing, and Chest Pass Catching Ball.

#### How to Play:

- The student should work in pairs, starting from initial marker, moving to the last marker and then finishing simultaneously in the initial marker.
- First student throws and the second student catches the ball, then both students run sideways together. After arriving at the marker, the second student throws the ball back and the first student receives the ball.
- The moves are performed alternately until the two students arrive at the final marker.
- Direct moves continued from the final marker back to the initial marker without break.
- The session finishes after 25 seconds, when the teacher makes a stop signal by blowing the whistle and the student immediately moves to the next post.

### 3.2 Post of Leg Raise



Figure 2: Post of Leg Raise

**How to Play:**

- Each student lifts the leg with the starting position of the horizontal body with shoulder-width- feet.
- The student lifts one right leg up straight until it forms 90 degree angle, then changes to lower the right leg until it touches the mat.
- In the second move, the student alternates lifting the left leg until it is straight up and forms 90 degree angle, then changes to lower the left leg until it touches the mat.
- The moves are carried out repeatedly until the specified time limit.
- After 25 seconds, the teacher will blow the whistle as session for each post finishes and moves to the next post.

**3.3 Post of Plank**



Figure 3: Post of Plank

**How to Play:**

- The student does plank position by holding the weight on the arm with bent position, and the knee should be in parallel position with the back.
- The student starts moving from the middle position, then the first student shifts to right and vice versa. The second student shifts to the left by passing the predetermined marker.
- Both students return to the centre; the first child shifts to the left and the second child shifts to the right.
- For girls, it is possible to do plank position with both knees touching the floor.
- The session is completed after 25 seconds when the teacher makes a stop signal by blowing the whistle and the child moves to the next activity post.

**3.4 Post of Super Kids**



Figure 4: Post of Super Kids

**How to Play:**

- This activity is performed in pairs and groups.
- The student moves with prone position then raises hands and feet together, then does push-ups.
- For girls, it is allowed for both knees to touch the floor when doing push ups.
- After 25 seconds following the training session, the teacher blows the whistle as the post finishes and the student moves to the next post.

**3.5 Post of Balancing**



Figure 5: Post of Balancing

**How to Play:**

- This activity is carried out in groups and in pairs.
- The moves are performed with the body standing on the right leg first, and the left leg is pulled back with the lower back down parallel to the left leg. Hands are down by holding the ball.
- The student changes the leg, and practice the same moves as the previous one.
- Post activity session finishes when the teacher blows the whistle after the time limit (25 seconds) and the students move to the next post.

### 3.6 Post of Jumping Jacks



Figure 6: Post of Jumping Jacks

#### How to Play:

- This post is carried out in pairs and in groups.
- Student moves jumping jacks by jumping and raising both hands until they clap on top of the head simultaneously then the feet land and both hands are back down to the side of the body.
- Students jump dynamically and without interruption.
- After predetermined time limit (25 seconds), the teacher blows the whistle as a signal that one training session for each post is complete and the students move to the next post.

### 3.7 Post of Squat with the Ball



Figure 7: Post of Squat with the Ball

#### How to Play:

- This post is performed together with their partners/pairs.
- Student performs squat with initial position holding the ball in front, then lifts the ball straight

up and back position. This is performed by pressing forward and both knees slightly bend while squatting down.

- The moves are practised dynamically.
- After predetermined time limit (25 seconds), the teacher blows the whistle as a signal that one training session for each post is complete and the students move to the next post.

### 3.8 Post of Squat Thrush



Figure 8: Post of Squat Thrush

#### How to Play:

- This post is performed together and in pairs.
- Students perform the activity with initial standing position, and then the hip is pulled back with a slightly lowered back position while facing forward. Hands are straight forward and the body jumps up straight up.
- This is practised several times up to the specified time limit.
- This activity session finishes when the teacher blows the whistle as a stop signal.

## 4 DISCUSSION

The final goal of this development research is to develop a product of physical fitness training model for upper grade elementary school students. This model is packaged into a VCD equipped with a guidebook. The guidebook is intended to explain more specifically about the model, so that the teacher as a field practitioner and the readers will understand the purpose, the tools needed, the tool preparation, and how to do physical fitness training model for upper elementary school student.

The final product consists of 8 posts, which are: (1) running, throwing, and catching ball (chest pass), (2) leg raise, (3) plank, (4) super kids, (5) balancing, (6) jumping jacks, (7) squats with ball, and (8) squat thrush. Development of physical fitness training model for upper grade elementary school starts from

stage (1) data collection, (2) data analysis, (3) initial product development, (4) expert validation and revision, (5) small-scale field trial, (6) revision, (7) large-scale field trial, (8) final revision, and (9) final product development. The product of this development research is a training model guidebook entitled "Physical Fitness Training Model for Upper Grade Student in Elementary School".

The model is appropriate for students of upper grade elementary school. This research model has been tested in a small-scale and in large-scale area. Evaluation from experts and teachers show that this training is suitable as one of the physical activities to improve the elementary school students' physical fitness. The physical fitness training model for upper grade elementary school students is developed in accordance with children's characteristics of. Observed from the learning process, children get bored quickly, so the developed game model consists of playing activity. Games provide many benefits for children, such as (1) get joy and entertainment; (2) develop intelligence/intellect; (3) develop fine motor skills; (4) develop rough motor skill; (5) improve the ability to concentrate; (6) improve the ability to solve problems; (7) develop social skills; (8) serve as a medium for expressing thoughts; (9) improves healthiness. In terms of the possible challenges of the training model, it also adapts to the abilities of upper-grade elementary school students and equipment used in the game are safe as it has been modified using soft balls and non-hazardous tools (Achroni, 2012).

## 5 CONCLUSION

From the results of material experts and student questionnaires, it can be concluded that the product is packaged in forms of VCD and guidebook entitled "Physical Fitness Training Model for Upper Grade Elementary School Student". The developed training model is suitable to improve physical fitness of upper grade elementary school students. This training model was designed for upper grade elementary school students consisting eight posts, which are (1) running, throwing, and catching balls (chest pass), (2) leg raise, (3) plank, (4) super kids, (5) balancing, (6) jumping jacks, (7) squats with ball, (8) squat thrush.

The physical fitness training model for upper grade elementary school students was arranged effectively for improving physical fitness. Achievement level values indicate an increase in physical fitness during the effectiveness test.

## REFERENCES

- Achroni, K., 2012. *Mengoptimalkan tumbuh kembang anak melalui permainan tradisional*. Javalitera. Yogyakarta.
- Borg, W.R. & Gall, M.D., 2007. *Educational research. (An introduction), 7th edition*. Longman. New York & London.
- Griffiths, L.J., 2010. Association between sport and screen-entertainment with mental health problems 5-year-old children. *International Journal of Behavioral Nutrition and Activity*. (87): pp. 512-37.
- Lumintuarso, R., 2013. *Pembinaan multilateral bagi atlet pemula pedoman latihan dasar bagi atlet muda berbakat*. UNY Press. Yogyakarta.
- Metzler & Michael, W., 2011. *Instructional models for physical education (3rd ed)*. Holcomb Hathaway, Publishers, Inc. USA.
- Sugiyono., 2014. *Cara mudah menyusun skripsi, tesis, dan disertasi*. Alfabeta. Bandung.