ABSTRACT

MODEL DEVELOPMENT FOR MODIFIED MATERIALS OF A FOOTBALL GAME IN PHYSICAL EDUCATION SPORT AND HEALTH TEACHING AND LEARNING FOR ELEMENTARY SCHOOL STUDENTS AGED 10-12

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Keywords: Model Development, Football Game, Physical Education, Sport, and Health.

This study is meant to develop and produce a product, namely a model of modified materials of a football game in Physical Education, Sport, and Health teaching and learning for Elementary School students aged 10-12.

This is a research and developmental study. The development of a model of modified materials of the football game in Physical Education, Sport, and Health teaching and learning for Elementary School students aged 10-12 was conducted in some stages: designing a first draft product, expert validation, a small-scale trial, first stage revision, a large-scale trial, second stage revision (final revision). The subjects of the study consisted of 116 students of Grade IV and V from State Elementary School 1 of Pakahan, from State Elementary School 1 of Sumberejo, and from State Elementary School IV of Jimbung of Klaten Regency. The validation was conducted by two experts of Physical Education, and three teachers of Physical Education of Elementary School. The small-scale trial was conducted to 16 students and the large-scale trial was conducted to 116 students. The data were collected by the use of questionnaires, observation, and measurement. The data consisted of the assessment of the product quality, suggestions for product improvement, and the results of the students' pulse measurement.

The results of the study showed that the product of a model of modified materials of a football game in Physical Education, Sport, and Health teaching and learning for Elementary School students aged 10-12 was effective to increase the students' pulse. and there was an increase of 49% for the pulse measurement. In addition, the pulse of the students after learning the football game also capable of an increase of 70% of pulse maximum. These results indicate compliance with the intensity of exercise to improve fitness is recommended that 60-90% of the pulse maximum.

INTRODUCTION

Subjects Physical Education, Sports and Health, including one of the efforts to realize human fully in the hold at the school, both from basic education up to secondary. Physical Education, Sports and Health which is taught in schools have very important role, namely to provide the opportunity for students to engage directly in the learning experience through a variety of physical activities, sports and health were selected and carried out systematically. Stock purchasing learning experience is
directed to foster the growth of physical and psychological development of better, as well as establishing a pattern of living healthy and in shape throughout life.

Achieving the goal Physical Education, Sports and Health in Elementary Schools should consider the purpose of learning, students' abilities, methods, materials, facilities and infrastructure, activities and fun learning students. Elements mentioned above must be observed, so that the learning process will be running well and successfully, so that the expected goal will be achieved. Branch sports game is one of the content of the curriculum that is dominated in the subject Physical Education, Sports and Health in fourth to sixth class Elementary School. Sports games are small ball game and big ball game.

Materials football game that the subjects taught in Physical Education, Sports and Health, is the means used in the education process. The material taught football game in elementary school, should be tailored to the growth and development stage of children. Materials soccer games for students Elementary School, should be given in a different form. The form of a given football game for elementary school students, should not be equated with the material form of football games for adults. The main objective of the game in elementary school children is to get the excitement. Form of football games to be made simply as a result of the modification of a game indeed. Modifications can be done with the tools and facilities that use, rules, and the number of players involved. This is done with the expectation that children achieve satisfaction and happiness, Soendoro and Syamsir Azis (2004: 8-10).

In accordance with the basic competence in the material of the ball game, especially football for fourth to sixth class, mentioned that students can practice the basic movement of a simple game with modified rules, and the value of cooperation, sportive, and honesty. The fact that there is in the process of learning the game of football, football game, especially in elementary schools is still far from expected. Researchers observed in the process of learning football from 8-27 October 2007, in three elementary schools located in the Klaten city: state elementary school I of Pakahan, state elementary School 1 of Sumberejo, and state elementary School IV of Jimbung, still far from the expected and not according to the growth and development stage of students and football games that have not been taught modified. In the process found a few things football, including: (1) equipment and facilities that are used not in accordance with the growth and development stage of students. For example: the ball used is a ball the size of the adults, field use is a football field to its normal size, (2) regulation soccer game that is used in accordance with standard football game, (3)
there are some students who complain that pain when kicking ball, (4) there are some students when the football learning just sit down and do not follow the active learning, and (5) game of football given by the teacher still has not packed in the form of modifications, so found that students do not feel happy, bored, and lazy to move.

One of indicator to know participation of active student follows learning is with measure the student pulse. Results average increase in student pulse fourth and sixth class when learning the game football, is still far from spread the recommended exercise intensity, which is less than 60-90% of the pulse maximum. Therefore can be concluded that learning of the football game given by the teachers is less effectively and less the students to be active for move.

Based on the description above, it is evident that the effort required to make student learning in the football game, especially in elementary schools in order to feel happy, not bored, make a move on and can support the increased skills and physical fitness students. Therefore, the necessary modifications to the development of model materials in the football game for students learning Physical Education, Sports and Health Elementary School aged 10-12.

REFERENCE STUDY
ESSENCE, PURPOSE AND SCOPE PHYSICAL EDUCATION SPORT AND HEALTH AT ELEMENTARY SCHOOL

Physical Education, Sports and Health is one of the subjects was conducted on the level of basic education, secondary and even higher education. According BSNP (2006: 702) Physical Education, Sports and Health is an integral part of education as a whole, which aims to develop the aspects of physical fitness, movement skills, critical thinking skills, social skills, reasoning, emotional stability, moral action, the pattern of life healthy and clean environment through the introduction of physical activity, sport and health, selected systematically planned in order to achieve the goal of national education.

The scope of subjects Physical Education, Sports and Health in Elementary School, according to BSNP (2006: 704) includes aspects as follows: (1) games and sports, (2) development activities, (3) activity exercises, (4) ritmic activities include: free movement, morning exercises, SKJ and aerobic exercises and other activities, (5) water activity, (6) education outside the classroom, and (7) health.

FOOTBALL GAME AS A GAME LARGE BALL IN PHYSICAL EDUCATION, SPORT AND HEALTH IN ELEMENTARY SCHOOL
Football game is one of the big ball game, the learning taught in Physical Education, Sports and Health in Elementary Schools. Football games are taught from fourth to sixth class in elementary schools. In accordance with the basic competence in the material of the ball game, especially football for class fourth to sixth class, mentioned that students can practice the basic movement of a simple game with modified rules, and the value of cooperation, sportive, and honesty. The material taught football game in elementary school, should be tailored to growth and development stage of children.

Materials soccer games for students Elementary School, should be given in a different form. The form of a given football game for elementary school students, should not be equated with the material form of football games for adults. The main objective of the game in elementary school children is to get the excitement. Form of football games to be made simply as a result of the modification of a game indeed. Modifications can be done with the tools and facilities that use, rules, and the number of players involved. This is done with the expectation that children achieve satisfaction and happiness, Soendoro and Syamsir Azis (2004: 8-10).

**PRINCIPLES MODIFY FOOTBALL GAMES**

Football game is basically included in the type of game invansion games and the team, because in this game each team tries to do an attack that aims to achieve a goal to print the opposite wicket. In the curriculum in Physical Education, Sports and Health in the Elementary School level, this game is one of the branches of sports are taught from fourth to sixth class. Students who sit in fourth to sixth class Elementary School, in general including in the 10-12 year age range.

Learning football game in elementary school, should be tailored to growth and development stage of students. Students should not be taught, such as football games adults. Football game is provided for elementary school-aged children, should be modified according to growth and development stage of children. To create a modified soccer game, need to pay attention to the consideration. Modifying a game should not change the challenges in the game. Modify the game should also provide opportunities to players to do the training techniques and tactics. Modify the game also includes changes related to the size, weight of equipment used, play area, duration of the game, rules that are used, the number of players in a team, the size of goalpost, a high net, the position of the movement, or how to print the score / number , (Siedentop: 2004: 59).
Auusie Sport (1993) cited by Gusril (2004; 45-46) express that there are four elements that need to be modified in the sport in learning physical education, namely: (1) modify the size of the field, (2) modification of equipment, (3) modification duration of the game, and (4) modifications the rules. According to Yoyo Bahagia (2000: 31-32) states that the modification can be done with the sport to a reduction of the structure of the game. Structures are: (1) size field, (2) shape, size and number of equipment used, (4) the type of skill that is used, (5) rules, (6) the number of players, (7) organization and the game (8) the purpose of the game.

From the description of some of the principles above modifications games sports. To create the form of modification, especially in the football game, the principles can be modified in four ways: (1) principles of size field and modification of equipment, (2) modify the number of players involved, (3) modifications and the regulation game (4) game modifications ever.

METHOD DEVELOPMENT

This research is the development of research that aims to produce a model of learning material modification football game suitable for elementary school students 10-12 years age. Research and development is a process used to develop or validate products that are used in education and learning, Borg and Gall (1983: 772).

Procedures or steps that are used in this research using the five steps, or the main procedure, namely: (1) analyzing the product to be developed, (2) develop the initial product, (3) validation of experts, (4) field trials, and (5) product revision. To validate that the product will be produced, the researchers involved two (2) those that come from expert lecturers and three (3) teachers physical education Elementary School. The subject of this research is the students' fourth and fifth class of elementary school I Pakahan Klaten, student fourth and fifth class of elementary school I Sumberejo Klaten, and student fourth and fifth class Elementary School Jimbung Klaten. Number of Subjects research is 116 students.

DEVELOPMENT RESULTS

Based on the steps of the research to produce products that include: (1) analyzing the product to be developed, (2) develop the initial product, (3) validation of experts, (4) field trials, and (5) product revision. Before the models tested performed validation experts. Validation is done by two physical education experts and three physical education teachers. Validation is done in a way to provide a draft model with the initial
evaluation to the experts and physical education teachers. The following are the results of the evaluation of experts and physical education teacher:

### Table 1. Results of the evaluation by experts and physical education teachers

<table>
<thead>
<tr>
<th>No.</th>
<th>Aspect assessed</th>
<th>Assessment Score from Expert and Teacher</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>A 1</td>
</tr>
<tr>
<td>1.</td>
<td>Conformity with the basic competencies.</td>
<td>3</td>
</tr>
<tr>
<td>2.</td>
<td>Clarity game instructions.</td>
<td>2</td>
</tr>
<tr>
<td>3.</td>
<td>The accuracy of the game selecting models for students.</td>
<td>4</td>
</tr>
<tr>
<td>4.</td>
<td>Appropriateness equipment and facilities used.</td>
<td>4</td>
</tr>
<tr>
<td>5.</td>
<td>A game model ease played for students.</td>
<td>4</td>
</tr>
<tr>
<td>6.</td>
<td>Game model in accordance with the characteristics of students</td>
<td>3</td>
</tr>
<tr>
<td>7.</td>
<td>Encourage the development physical aspects of the students.</td>
<td>4</td>
</tr>
<tr>
<td>8.</td>
<td>Encourage the development cognitive aspects of the students.</td>
<td>2</td>
</tr>
<tr>
<td>9.</td>
<td>Encourage the development psychomotor aspects of the students.</td>
<td>4</td>
</tr>
<tr>
<td>10.</td>
<td>Encourage the development affective aspects of the students.</td>
<td>3</td>
</tr>
<tr>
<td>11.</td>
<td>Game model can played skilled or not skilled student</td>
<td>3</td>
</tr>
<tr>
<td>12.</td>
<td>Game model can played the son and daughter students.</td>
<td>3</td>
</tr>
<tr>
<td>13.</td>
<td>Encourage students to move on.</td>
<td>4</td>
</tr>
<tr>
<td>14.</td>
<td>Increase interest and motivation of students to participate in football.</td>
<td>3</td>
</tr>
<tr>
<td>15.</td>
<td>Safe to apply learning in the football game.</td>
<td>3</td>
</tr>
</tbody>
</table>

| Numbers of scores | 49 | 50 | 48 | 51 | 52 |
| Average           | 3.26 | 3.33 | 3.2 | 3.4 | 3.46 |

Description:

A 1: Expert of physical education
A 2: Expert physical education
G 1: Teacher of physical education
G 2: Teacher of physical education
G 3: Teacher of physical education

Scale 1: not very good / very poor right / very unclear
Scale 2: not good / not appropriate / not clear
Scale 3: good / right / clear
Scale 4: very good / perfect / very clear
Based on the results of the evaluation made by each expert and physical education teachers gained an average of more than three (3) or entry in the assessment good or right or clear, so the model can be used for small scale testing. Product development need some stage and revision to be passed, before finally getting the product. Stages of the revision are in the process of the model include: preparation of a draft model of the early games, the revision phase I and phase II revised (final). Here is part of the revised products in the development of model modifications football games:

Table 2. Product Process Model Revisions Moving Goal football Games from First Draft to End Product.

<table>
<thead>
<tr>
<th>Product First Draft</th>
<th>Revised Phase I</th>
<th>Revised Phase II (End Product)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Field size &quot;Moving goal football&quot; is 50-60 m of length and 30-40 m wide.</td>
<td>Field size &quot;Moving goal football&quot; is 40 m length and 20 m wide.</td>
<td>Field size &quot;Moving goal football&quot; is 28-40 m length and 15-20 m wide.</td>
</tr>
<tr>
<td>Time for the &quot;Moving goal football&quot; game is 2 x 15 minute and 5 minutes for rest.</td>
<td>Time for the &quot;Moving goal football&quot; game is 25 minutes.</td>
<td>Time for the &quot;Moving goal football&quot; game is 25 minutes.</td>
</tr>
<tr>
<td>Number of students in each team in the &quot;Moving goal football&quot; is 10-15 students.</td>
<td>Number of students in each team in the &quot;Moving goal football&quot; is the 8 students</td>
<td>Number of students in each team in the &quot;Moving goal football&quot; is the 8 students in each team for field size 28 x 18 m and 10 students in each team for field size 40 x 20 m.</td>
</tr>
<tr>
<td>For prepare the implementation of the procedure: Goal height is the limit of grip or spread both hands of two students and the goal width is the distance between the legs of two students that leads by the hand</td>
<td>Changed to: Goal height is wicket spread shoulder-high children that leads by the hand. Goal width is the length of arms spread children that leads by the hand</td>
<td>The same as the revision stage I: Goal height is wicket spread shoulder-high children that leads by the hand. Goal width is the length of arms spread children that leads by the hand</td>
</tr>
</tbody>
</table>
Here is a final product in the form of model material modifications that football game suitable for children aged 10-12 years, called "Moving goal football." For more details of the game "Moving goal football" can be seen as follows:

**Picture. Moving goal football game field**

**Name**: Moving goal football

**Goals**: To practice and improve basic variations of movement, and as well as the values that are in (physical, psychomotor, cognitive and affective).

**Tools and facilities**:
- Field with 28-40 meters long and 15-20 meters wide.
- One kick ball size 4 (four).
- White chalk
- 8 pieces stakes 1.5 meters height
- Flag of 8 pieces

**Number of players**:
- 8 students in each team for field size 28 meters long and 15 meters wide.
- 10 students in each team for field size 40 meters long and 20 meters wide.

**Game time**: 25 minute

**Regulations**:

**Goal**: Six goal that consists of 4 units with the wicket stake, which is located at each corner in the field, with 1 meter height and 1.5 meters wide and two motion goal came from players. Two people or players from each team served as a motion goals.

**Referee**: Teachers or students

**Assistant referee**: None

**Throw in**: No changes. Just like football in fact regulations.

**Goal kick**: No changes. Just like football in fact regulations.

**Corner kick**: None

**Off Side**: None

**Penalty kick**: 6 meters
Implementation of the procedure:

- kick off made such as football game in general. Each team tries to enter the ball to goal opponent.
- In this football game there are 6 pieces of goal, which consists of 4 units the goal from stake that planted and placed on each corner of the field with 1 meter high and 1.5 meters wide and 2 motion goal that comes from two students from the each team and may be moved or shifted along the goal line, with the goal to make it easier to make goal for team.
- Motion goal that comes from two student or players coupled with leads by the hand. Goal height is wicket spread shoulder-high children that leads by the hand. Goal width is the length of arms spread children that leads by the hand.
- Both the students who act as a motion goal, place themselves abreast or along with the goal line or on the goal line, by adjusting the position or place to play from his team. When his team positioned in the south of the two students who act as a goal to place themselves in the north goal line (the goal line of the opposite team), as well as vice versa.
- Each team may select one of the third goal in entering the ball. Teams that enter the ball to not motion goals or goals stake which is located on the corner of the field gets the value 1, whereas when the ball enter to the motion goal gets the value 3.
- Players who do handsball anywhere in the area, the team provided direct penalty kick to the motion goal distance from 6 meters and the goal in the middle of the goal line that has been determined.
- Teams that have a total value of most of the time to enter the ball in 25 minutes as the team that won the match.
- At the time grab the ball, grab the students arranged grab the ball with is not rough way.
- The ball considered moving into the motion goal when the ball entered without feet or hands on the students who are motion goal.

DISCUSSION

Based on the steps of the research to produce products which have been made, the final product obtained in the form of model material modifications that football game suitable for children aged 10-12 years. Use of product model material modification football games for students, has provided the impact or influence on the increase in pulse of 49% students from some 116 students. This is evident from the average pulse before learning the game of football 74 per minutes, increased pulse to 146 per minute after learning the football game. In addition, the pulse of the students after learning the football game also capable of an increase of 70% of pulse maximum. These results indicate compliance with the intensity of exercise to improve fitness is recommended that 60-90% of the pulse maximum with 20-60 minutes time, (Djoko Pekik Irianto, 2004: 23).
CONCLUSION

Final product model material modification football game for children aged 10-12 years, as a whole can provide a means for all aspects and also to increase students' physical fitness. Model material modification football game is a game of football that are tailored to growth and development stage of children through modifications or changes in: size, equipment and facilities, the number of players involved, time, goal number, and regulations.

DAFTAR PUSTAKA


