

Modification Model for the Hand Ball as the Learning Material for Physical Education for Improving Discipline and Cooperative of the Students



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ABSTRACT: This development research aims to develop a modified model of handball games to improve discipline and cooperation of students. With this development research, it is hoped that it can become one of the references for sports physical education and health teachers in providing handball game material in learning at school. This development research uses the ADDIE development model, consisting of the *Analysis* (analysis), *Design* (planning), *Develop* (Development) *Implement* (Implementation), *Evaluate* (evaluation) stages. The subject of this research is a high school in Sleman district. The quality assessment of the Baboi Game Handbook developed was carried out by 1 handball game expert, 1 PJOK learning material expert, 1 media expert, and 1 field practitioner PJOK teacher who is a civil servant and certified educator. Field trials were carried out on a small scale and large scale. Small-scale trials were conducted at SMAN 1 Cangkringan, then large-scale trials were conducted at 3 schools, namely SMAN 1 Sleman, SMAN 2 Sleman and SMAN 2 Ngaglik. The data collection instrument used a questionnaire. Data analysis to determine the effectiveness of the game was carried out by t test, on the results of pretest and posttest. The result of the research is the baboi game guidebook. The baboi guidebook was tested on material experts, handball game experts, media experts and field practitioners. The results of the game expert validation get a percentage of 93%, which means very feasible. Furthermore, validation from media experts gets a percentage of 64% which means feasible and validation of sports physical education and health teacher field practitioners gets a percentage of 83% which means very feasible. Thus the baboi guidebook product that has been prepared is declared feasible for use in physical education learning at school. The results of the effectiveness test carried out obtained a percentage of 33.94% effect on students. The advice given is the addition of strategies to win the game and accompanied by pictures of techniques performed to make it more interesting and facilitate the understanding of readers.

KEYWORDS: Book, Handball, Game Modification, Physical Education

I. INTRODUCTION

Sports physical education and health is one of the elements of subjects that cannot be separated in the overall educational process, which is an effort to develop the ability of students through the provision of learning movement skills to achieve an increase in the quality of knowledge, attitudes, and skills in students. One of the basic competencies in the curriculum is to analyze the motion of one of the big ball games to produce good coordination of motion. This basic competency is the first competency in the 2013 curriculum. Sports physical education and health learning at school in the first basic competency the material that is often taught is the material of soccer, basketball and volleyball games. But from some of these games there is one big ball game that is less popular and rarely delivered in learning PJOK in high school, namely handball game material.

Handball sports in sports physical education and health learning in high schools in Sleman district, some schools have not provided this handball sports material in the basic competencies of big ball games. With this research, hopefully some schools will implement handball material because this sport is no less interesting than futsal, soccer, basketball or volleyball. Budi et al. (2019) explain that ballatangan games include material that must be taught in PE subjects in schools, especially Senior High Schools.

The implementation of learning handball games in high schools found several obstacles, most teachers find obstacles in the facilities and infrastructure supporting the game and many students are still not familiar with the rules of the handball game. Some of the problems or obstacles encountered in the field here researchers want to develop games that can overcome some of

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these obstacles and bring new benefits. The benefits that researchers expect here by making modifications so that they can have a more effective influence on the cooperation and discipline skills of students.

Kurniat's research shows that traditional children's games can stimulate children to develop cooperation, help children adjust, interact positively with each other, can condition children to control themselves, develop empathy for friends, obey the rules, and respect others. Researchers in this study developed a game with a combination of handball and traditional boi boian games.

In essence, physical education is an educational process that utilizes physical activity to produce holistic changes in individual qualities, both in terms of physical, mental, and emotional (Wright & Richards, 2021: 21; Brusseau, et al., 2020: 32). Through well-directed physical education, children will develop skills that are useful for leisure time, engage in activities that are conducive to developing a healthy life, develop socially, and contribute to their physical and mental health (Razouki, et al., 2021: 201).

Through games, students can also develop their social aspects such as cooperation, tolerance, mutual respect, appreciation, obeying rules and others (Utama, 2012: 3). Games are classified into several types according to the Tgfu learning model, namely: *Target games, Net games, Hit-catch-run games, Striking/fielding games, Invasion games.*

Handball according to Mahendra is a team game sport that uses the ball as a tool, which is played using one or both hands. Some basic techniques in handball games are *dribble, chest pass, overhead pass, underhand/bounce pass, javeline/baseball pass, side pass, reverse pass, the standing throw shoot, the jump shoot, the dive shoot, the fall shoot, the reverse shoot.*

Traditional games are activities or activities whose game rules are carried out according to hereditary traditions. This game activity is carried out voluntarily which can cause joy for the perpetrator, (Marzoan, 2017: 46). The age of high school students is generally in the range of 15/16-18/19 years, which is often referred to as adolescence, adolescent, or storm and drunk. High school students who are puberty require more attention so that they can be better controlled, especially in their development.

Learning modifications can be done by changing and adjusting the form of the game to be used in a lesson. This is confirmed by Yoyo Bahagia and Suherman (2000: 31-32) that modification of sports games can be done by reducing the structure of the game. These structures include: field size, shape, size and number of equipment used, type of skill used, rules, number of players, game organization, game objectives.

Cooperation is important in daily human life, both in work and in social life in the community. Cooperation is working together to achieve a common goal in a cooperative situation, individuals seek the desired results that are beneficial to themselves and beneficial to all other group members (Johnson, 2013: 3). In the physical education learning process, cooperation has an important role to achieve the planned learning objectives. The ability to cooperate needs to be developed so that students are accustomed to solving complex problems. Cooperation will encourage students to interact socially with other students during learning.

Cooperation has several indicators that must be considered. Important elements in cooperation are helping friends, wanting all friends to play and succeed, motivating others, working hard to apply skills, respecting others, accepting other people's opinions, and working together to achieve goals.

Simply put, discipline means self-control over unwanted impulses or the process of directing impulses towards a certain ideal or goal to achieve greater impact (Husdarta, 2014: 110). The English term for discipline means regularity, obedience or behavioral control, self-control (Aziz et al., 2022).

Students with good study discipline have the ability to control their learning. This is very important to achieve learning outcomes, because the success or failure of students in their company depends largely on how they use good learning practices. As stated by Slameto (Bile et al., 2021), namely In order for students to progress, students must study with discipline both at school, at home and in the library. Discipline can reduce the likelihood of failure.

The elements of discipline need to be applied in learners, it is hoped that these learners will be able to behave in accordance with predetermined discipline standards. According to Elizabeth (2016: 84) there are four main elements of how to discipline students used, including: rules, punishment, rewards and consistency. The discipline applied has several functions, according to Tu'u (2004: 38) there are several functions of discipline, namely: organizing life together, building personality, training personality, coercion, punishment, creating a conducive environment.

Development in the form of a modified product of handball game material, namely the game "Baboi" which is a combination of handball and boi boian. This game model has differences with the actual form of handball games. This modified regulation aims to make the game interesting, fun, and fun.

Can improve students' cooperation skills and discipline.

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Table 1: Development elements of the cooperation component

No.	Elements of cooperation	Activity element
1	Help each other	Learner activities to care for each other
2	Want everyone to play	Learner activities to provide equal opportunities to other learners
3	Work together to achieve the goal	Learners' activities to help and support each other to achieve a common goal
4	Respect for others	Learner activities to empathize with other learners
5	Support each other	Learner activities to encourage each other and other learners

Table 2: Development elements of the discipline component

No	Elements of discipline	Activity element
1	Regulation	Learner activities that can curb undesirable behavior
2	Punishment	The activity of imposing punishment on students who commit violations.
3	Award	Activities that can educate and motivate learners to repeat behaviors that are accepted by others.
4	Consistency	Stability activities to do things in accordance with applicable regulations.

Learning development is needed as an effort in the learning process to run according to what is expected. Starting from several evaluations and existing problems, of course, there must be a change to change and improve the process in order to achieve learning goals. Modification of handball games in this study is a form of development of learning modifications of handball material with boi boian games.

Table 3: Principles of handball game development

No.	Development Principles	Activity Element
1	Modification of field size and equipment	The size of the field used is smaller than the actual size, and the equipment used is added using wooden blocks.
2	Modify the number of players involved	The number of players involved in this game is larger so that all learners can play.
3	Composition of boys and girls in a team	Players involved in the game for everyone both boys and girls can play together
4	Modification of game rules	Rules are modified to improve students' discipline and cooperation
5	Modify the length of the game	Match length rules are adjusted to the time allocation available at school

Table 4: Components of cooperation and discipline

No.	Cooperation and discipline components	Component scope
1	Help each other	Relationships with others
2	Want everyone to play	Casual play
3	Work together to achieve the goal	Relationships with others
4	Respect for others	Casual play
5	Support each other	Relationships with others
6	Regulation	Organized play
7	Punishment	Accepting authority
8	Award	Receive authority
9	Consistency	Organized play

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II. MATERIAL AND METHOD

This research is a development research using the ADDIE model using 5 development steps namely analysis, design, development, implementation and evaluation. The results of this development are in the form of books and video products that have been validated by material experts, game experts, media experts and PE practitioners in schools. In addition, small-scale trials, large-scale trials and effectiveness tests were also carried out to produce products that can be used in learning at school.

A. Time And Place of Research

This research was conducted from May 2023 to July 2023. The research was conducted at a senior high school in Sleman district.

B. Research Subject

The population in this study were all high schools in Sleman Regency. Then the small scale trial was conducted in 1 school, namely SMAN 1 Cangkringan. The large-scale trial was conducted in 3 schools, namely SMAN 1 Sleman, SMAN 2 Sleman and SMAN 2 Ngaglik

C. Data, Instruments, and Data Collection Techniques

Preliminary study instrument and the instrument used to test the development carried out. The preliminary study instrument contains questions with short answers to find out the implementation of handball game material at school. Then the data collection instrument used in this study is related to the results of the data to be collected at each stage, namely a validation sheet in the form of a questionnaire for the response of PJOK learning practitioners and experts used to collect small-scale and large-scale test data needed for final data processing. There are 4 types of evaluation instruments used and filled in by 3 different experts and PJOK practitioners. The instruments prepared are for material experts, media experts and game experts as well as PJOK practitioners at high school level. Response sheets of PJOK learning practitioners and experts used in research This is a Likert scale, which can be seen in the following table:

Table 5: Likert Scale

Score	Answer
1	Strongly Disagree
2	Disagree
3	Neutral
4	Agree
5	Strongly Agree

Source: Sugiyono (2007: 133)

D. Data Analysis Technique

In this development research, the data obtained in the trial activities were classified into two, namely qualitative data and quantitative data. Thus, the data analysis techniques obtained can be categorized into qualitative descriptive statistical analysis techniques. The results of data analysis will be used as a basis for revising modifications to handball games to improve cooperation and discipline in an effort to achieve educational goals. In this research and development, data on improving students' skills can also be categorized into several categories in the assessment criteria for the products developed. The following is an explanation of the assessment criteria in the research and development carried out.

According to Sugiyono (2007: 39) the formula for finding percentages is to divide the total score by the total score and then multiply by 100%. The finished handball game modification development product is then tested for effectiveness by giving treatment to one class of children for pretest and posttest. Hypothesis testing using the t-test with the help of the SPSS 25 program, namely by comparing the mean between group 1 (pretest) and group 2 (posttest). If the value is rejected, if the calculated value of the table then $H_a >$ from the table then H_a is accepted. According to Sugiono (2007: 122) the one-sample t-test formula is as follows:

$$t = \frac{\bar{X}_1 - \bar{X}_2}{\sqrt{\frac{S_1^2}{n_1} + \frac{S_2^2}{n_2} - r \left(\frac{S_1}{\sqrt{n_1}} \right) \left(\frac{S_2}{\sqrt{n_2}} \right)}}$$

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To find out the percentage of improvement after the treatment is given, the calculation of the percentage of improvement is used with the following formula:

$$\text{Presentase peningkatan} = \frac{\text{Mean Different}}{\text{Mean Pretest}} \times 100\%$$

Mean different: mean posttest-mean pretest

III. RESULT

This study aims to develop a modified model of handball games as learning material for physical education sports and health to improve the cooperation and discipline of students. The sequence of activities that must be carried out so that conclusions can finally be drawn are: (1) a pretest is held with the aim of knowing the level of cooperation and discipline of students before treatment. (2) giving treatment with a modified handball game model (3) then the last is the holding of a posttest which aims to determine whether or not there is an effect of developing modified handball game modifications on the level of cooperation and discipline of students. To find out whether there is a difference or the effect of learning with modified handball games has a significant effect on increasing the cooperation and discipline of students can be proven by the t-test. According to Ghozali quoted by Riana (2019: 37), the t statistical test is a test that shows how far the influence of one independent variable individually in explaining the dependent variable. The t-test will display the t-count value and its significance. Whether there is an increase in cooperation and discipline of students after treatment with modified handball games can be seen from the average value of the pretest and posttest in the t-test.

From the results of the t test it can be seen that the t count is $23.169 > 2.57$ (t-table) and the probability significance value is $0.000 < 0.05$, then H_a is accepted. This means that there is a significant effect of modifying handball games in physical education learning on increasing student cooperation and discipline. When viewed from the Mean Difference number of 14.80. pretest average of 43.60 and posttest average of 58.40. this shows that learning with modified handball games that are carried out is able to provide 33.94% better changes to the level of cooperation and discipline of students compared to before treatment. If the significant value > 0.05 , then the null hypothesis (H_0) is accepted and the alternative hypothesis (H_1) is rejected. This means, partially the independent variable does not have a significant effect on the dependent variable. If the significant value < 0.05 , the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This means that partially the independent variable has a significant influence on the dependent variable, (Riana, 2019: 37).

IV. DISCUSSION

Based on the results of the research above, it shows that providing treatment in the form of modified handball games in physical education learning designed is able to make a significant contribution to increasing student cooperation and discipline. According to Sunarko (2016: 193) game modifications can develop children's abilities without the risk of injury, can accelerate mastery of skills to adapt to adult sports in the future, and are very fun for children. Learning modified ballatangan games in forming cooperation and discipline of students who initially lacked cooperation and discipline to increase their cooperation and discipline. According to Sunarko (2016: 194) the objectives of game modification include being able to; develop correct movement patterns, create fun situations, develop more activities, and increase children's participation in sports.

Cooperation is a form of social relationship between individuals who interact with each other to achieve a common goal. Cooperation is working together to achieve a common goal in a cooperative situation, individuals seek the desired results that are beneficial to themselves and beneficial to all other group members, (Johnson, 2013: 3). Cooperation is one of the main characters that need to be instilled in students because this character is able to train students in understanding, feeling and carrying out cooperative activities to achieve common goals. In simple terms, discipline means self-mastery control over unwanted impulses or the process of directing impulses to a certain ideal or goal to achieve greater impact (Husdarta, 2014: 110). Discipline is compliance to respect and implement a system that requires people to submit to decisions, orders or regulations that apply happily. Without strong discipline, the learning process will only be a worthless activity, without any meaning and target.

Modifying handball games as a form of learning so that students are easier to accept the material presented. According to Sunarno (2016: 193) game modification in physical education learning is important due to differences in student characteristics. Game modification is one of the implementations of the physical education learning model with a tactical approach in learning invasion games so that students are more motivated and active in participating in the learning process so that learning objectives

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can be achieved optimally. In this study, it emphasizes more on improving the social character of students in learning, namely cooperation and discipline.

Learning modified handball games can contribute to improving the character of students to be able to interact with other students and with school residents in general, and become a disciplined person in carrying out activities. Modifying handball games in such a way will be able to contribute to the achievement of the goal of building the character of students. The learning process of the modified handball game provided will make students more enthusiastic and active in participating in learning and can play a role according to the character to be developed in the game. According to Sunarno (2016: 194) the objectives of game modification include being able to; develop correct movement patterns, create fun situations, develop more activities, and increase children's participation in sports.

Handball game is one of the group games played with good cooperation between members in one team, so it can be given the character development of cooperation and discipline between students from before to after learning. Through games, students can also develop social aspects such as cooperation, tolerance, mutual respect, appreciation, obeying rules and others (Utama, 2012: 3). Modified handball games teach about social interaction and even learn to cooperate and discipline in every game. In a group game, it requires communication and cooperation and a good attitude of discipline between members to achieve a common goal. In addition, with the modified handball game, the value of cooperation and discipline can be instilled in every desire that will be achieved in everyday life. In accordance with the results of the study, it shows that the cooperation and discipline of students can increase with the existence of more interesting game modifications that are applied in physical education learning. Because in learning modified handball games students are more active to help each other, cooperate and motivate each other in achieving common goals, and play with discipline to achieve the success of their group

V. CONCLUSIONS

Based on the results of the research and discussion that has been obtained from the data analysis, it can be concluded that the implementation of sports physical education and health learning at the high school level for handball material is still constrained related to facilities and infrastructure so that researchers conduct development to create a modified model of handball games that can be implemented at school. The development of a handball game modification model that is developed based on the needs needed in the field, so that the handball game modification model fits the needs and can be implemented at school. The development of a handball game modification model is designed by incorporating elements of cooperation and discipline so that the game can improve the cooperation and discipline of students. The results of the t test also show that there is a significant effect of handball game modification in sports physical education and health learning on binding the cooperation and discipline of students. Based on the results of the t test, it can be seen that the t count is $23.169 > 2.57$ (t-table) and the probability significance value is $0.000 < 0.05$, then H_a is accepted. This means that there is a significant effect of modifying handball games in physical education learning on increasing student cooperation and discipline. The results of the game expert validation get a percentage of 93%, which means very feasible, the validation of the media expert gets a percentage of 64%, which means feasible and the validation of the sports physical education and health teacher field practitioner expert gets a percentage of 83%, which means very feasible. Thus the baboi guidebook product is declared feasible for use in physical education learning at school. Judging from the Mean Difference number of 14.80. the average pretest was 43.60 and the average posttest was 58.40. this shows that learning with modified handball games that are carried out is able to provide 33.94% better changes to the level of cooperation and discipline of students than before treatment.

With reference to the results of the study, the advice given by the researcher is that for teachers, they must be able to become facilitators for students in order to improve the character of students. The results of the study prove that the application of learning using modified handball games has a significant effect on increasing the cooperation and discipline of students. So that researchers suggest including modified handball game material in physical education learning material for big ball games. For schools, it is expected to be able to provide facilities that support physical education learning activities so that students can improve the abilities and skills and character of students. For future researchers, in order to control the factors that can affect the research process

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