

Improving Students' Movement Activeness through Game Modification in Junior High School Badminton Training

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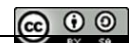
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Abstrak

Badminton extracurriculars always provide opportunities for students to be directly involved in various learning experiences through activities and games that are carried out in a systematic, planned and directed manner. When there is an improvement in fitness and skills in each school as a continuation of the badminton training subjects, students become good, in this case the teacher when providing material provides creativity and innovation so that it is easier to be accepted, understood and practiced by every student. Determining modifications or choosing strategies for learning activity needs to consider, tools, and time based on student characteristics. Badminton extracurricular training requires modifications because an extracurricular coach explains several aspects related to modifications so that the training can run actively, efficiently and effectively. The purpose of this study is to determine the effect of game modification on student activity in badminton training at SMP 4 Madiun City. In this study, the researcher used the following research methods with the type of pseudo-experiment through a quantitative approach, as well as the design used by One Group pre-test-post-test, the number of samples used was 22 students. Data was collected using the Focus Proportion Analysis (APF) instrument. In the calculation value of Pre-Test ATA is 62.5% and SDE is 45% while for the calculation value of Post-test ATA is 67.5% and SDE is 50.7% which means that there is a difference in the calculation value of ATA 5% and SDE 5.7% and the percentage increase in pre-test and post-test is 11.8%. Meanwhile, from the analysis of the T test, namely Tcount or sig (0.00) < Ttable (0.05) which means that there is an effect of game modification on student activity in badminton training at SMP 4 Madiun City. So it was concluded that there was a significant influence on the activeness of students' movements before and after the application of game modification. It can be said that by providing game modifications, it can have a significant influence on student activeness in badminton training at SMP 4 Madiun City.

Keywords: Modifications; Activeness; Badminton training

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INTRODUCTION

Badminton training is also part of the integral part of a comprehensive education system that aims to educate the nation through physical activities, (Mustafa & Dwiyoogo, 2020). Badminton training is the most important part of the overall process in the form of a pattern of achievement using physical activities that are to be achieved including goals in terms of cognitive, effective, and psychomotor. With the subject of badminton training, students can be directly involved with independent experiences through sports activities and physical activities.

According to Raden & Lampung (2015) states that character is a concept that is composed of characteristics formed through sports activities, in shaping the quality of

education must be carried out comprehensively by including several human development based on knowledge, skills, sports and behavior. It can be said that physical education, sports and health are a medium in encouraging development related to physical abilities and helping students in gaining knowledge and understanding related to a healthy lifestyle, (Showab & Djawa, 2019).

Teachers in modifying must reflect a learning related to DAP (Developmentally Appropriate Practice) so that the teaching assignments given need to be taken into account the change in children's abilities and can help encourage these changes, (Bahagia and Suherman, 2000). Determining modifications or choosing strategies for learning activity needs to consider, tools, and time based on student characteristics. Learning modifications can be attributed to the conditions of the learning environment. So teachers must have an understanding of knowledge and skills to improve student learning, in badminton training modification is important at the junior high school (SMP) level education level because a teacher must explain several aspects related to modification so that learning can run actively, efficiently and effectively.

Based on the interview, the teacher had used several forms of approach methods with modification of learning media, but in the delivery of learning at the school, the teacher only divided the students in the form of groups and there was no element of game modification, so that the students still could not be fully enthusiastic in the learning so that the students were less active in badminton training, therefore they were given a related game activity with badminton training. Based on these problems, the researcher is interested in finding a way out so that students who were initially passive become active in learning badminton training with enthusiasm, the researcher wants to conduct research related to the effect of game modification on student activity in badminton training at SMPN 4 Madiun.

Badminton training requires interaction so that active and fun learning is created and contains elements of character. This is inseparable from the existence of influencing factors, whether it is external or internal factors. One of them is the application of fun forms of learning, which contain the character values of each student. The application or provision of character games is a movement activity that is carried out consciously in the form of fun games where in every implementation process it is carried out by applying positive character values, namely honesty, confidence, responsibility, cooperation, enthusiasm, never giving up and mutual respect, but the author sees a situation that is considered less innovative and fun in the learning process at SMPN 4 Madiun City which results in less active student movement. From the description of the background explanation above, it is clearly directly related to the level of

movement activity of the students that arises during the process of learning activities of badminton training. Therefore, the researcher submitted with the title "Improving Students' Movement Activeness through Game Modification in Junior High School Badminton".

METHODS

In the study, using an experimental type of research, with a quantitative descriptive approach without using a control group, this is in accordance with what was stated by (Maksum 2012). Experimental research is a study that is conducted to find out the cause and effect of research variables strictly. The research design used in this study is *One Group Pretest-Posttest Design*. It can already measure the influence of the treatment given.

Population is a unit of individuals or subjects in a region and time with certain qualities that will be observed/researched According to the opinion of Martono (2011), the population in this study is extra students of SMPN 4 Madiun City. According to Maksum (2012) "A sample is a small part of an individual or object that is used as a representative in the research, the sampling technique using the total sampling technique is the collection of members of the entire population.

One way to know the quality of research results can be seen from research instruments that will later be used in measuring the values of variables to be studied. The instrument that will be used in this study is the Focus Proportion Analysis (APF) instrument. In addition to the Focus Proportion Analysis (APF) instrument, the supporting instrument that will be used in this study is documentation in the form of videos and photos of the learning process activities to be carried out. This documentation will be useful as material to determine the validation of the results of the observations to be carried out. In addition, the results of the photo and video documentation that have been obtained can also be used as material to conduct research assessments of coaches in the process of badminton training activities

RESULTS

1. Descriptive data

Table 1. ATA dan SDE

Distribusi Data		students	ATA	SDE
Pre-Test	and Pre-Test	22	62,5%	45%
Post -Test	Post-Test	22	67,5%	50,7%
	difference	0	5%	5,7%

So the results of the Focus Proportion Analysis of the Pre-Test before the treatment and the post-Test after the treatment is given, namely by providing game modifications in learning. For *active time allotment* (ATA) Pre-Test and Post Test, there is a difference of 5% while *Students direct engagement* (SDE) has a difference of 5.7% and for the percentage increase in pre-test and post test is 21.8%. This shows that most students are less active in moving during learning, as seen in pre-test activities involving paired and group play tests, such as black green and fishing games.

From the descriptive data calculating starting from the average, minimum, maximum and standard deviation.

Table 2. Descriptive data

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest Keaktifan siswa	22	8	15	11.19	1.693
Posttest Keaktifan Siswa	22	10	16	13.22	1.913
Valid N (listwise)	22				

Based on the results of the tests carried out, based on the results of the descriptive test above, it can be described that the distribution of data obtained by the researcher is:

1. Pre-test student activeness, from the data it can be described that the minimum score is 8 while the maximum score is 15, the average score is 11.19 and the standard deviation of the pretest data is 1.693.
2. Post-test student activity, from the data it can be described that the minimum score is 10 while the maximum score is 16, the average score is 13.22 and the standard deviation of posttest data is 1.913.

Table 3. Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
	Statistic	df	Sig.	Statistic	df	Sig.
Pre Test	.170	22	.019	.945	22	.103
Post Test	.135	22	.145	.956	22	.214

a. Lilliefors Significance Correction

From the data, it shows that the sig. value of Kolmogorov-Smirnov pre test sig. 0.019 and post test 0.145 while Shapiro-wilk shows a pre test value of 0.103 and post test 0.214. Thus, the significance of the data is more than 0.05. This shows that both the Kolmogorov-smirnov and Shapiro-wilk tests were declared to be normally distributed because *the p-value* was greater than 0.05.

1. Uji T

Tests of Normality

	Kolmogorov-Smirnov ^a			Shapiro-Wilk		
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Post Test	.135	22	.145	.956	22	.214

a. Lilliefors Significance Correction

Based on the output of SPSS, it can be seen that the sig value is 0.00 while the T value of the table can be seen as 0.005 that. In other words, there is an effect of game modification on student activity in badminton training at SMP 4 Madiun.

From the results of the pre-test, it is known that there are many students who are less active in moving which is an obstacle in the learning process. Descriptive post-test data results using the Focus Proportion Analysis instrument showed significant progress. There was an increase in post-test scores, with the percentage of ATA of 67.5% and SDE of 50.7%. Meanwhile, the results of the percentage increase data showed an increase of 11.8%, This indicates an improvement in the activeness of students' movements during badminton training after being given various game modification treatments in the learning.

DISCUSSION

The results of the study show that the application of game modification has a positive influence on student activity in badminton training at SMPN 4 Madiun City. This can be seen from the increase in pre-test results to post-tests, both based on Focus Proportion Analysis (APF) data and student activity scores. Before being given treatment, the students' activeness was still not optimal. This condition can be seen from the low involvement of students in movement activities, lack of enthusiasm in participating in training activities, and uneven student participation during the learning process. After being given treatment in the form of game modification, there was an increase in student activeness which showed that learning became more interesting, fun, and able to encourage students to move more actively. These

findings are in line with the view that physical education and sports are an integral part of the education system that aims to develop students as a whole through physical activities, both from cognitive, affective, and psychomotor aspects (Mustafa & Dwiyogo, 2020).

Based on the results of the Focus Proportion Analysis, the value of Active Time Allotment (ATA) at the pre-test was 62.5%, then increased to 67.5% in the post-test. This means that there is a 5% increase in the allocation of students' active time during learning. In addition, the Student Direct Engagement (SDE) score also increased from 45% in the pre-test to 50.7% in the post-test, with a difference of 5.7%. This improvement shows that after being given game modifications, students not only gain more opportunities to move, but also become more directly involved in badminton training activities. Thus, game modification is able to create a more active, participatory, and learning environment that is in accordance with the learning characteristics of physical education that emphasizes the experience of direct movement (Showab & Djawa, 2019).

The increase in student activity is also supported by descriptive statistical results. The average score of the pre-test of student activity was 11.19, while the average score of the post-test increased to 13.22. The average increase of 2.03 points indicates a positive change after students participated in badminton training with a game modification approach. The minimum score also increased from 8 in the pre-test to 10 in the post-test, while the maximum score increased from 15 to 16. This shows that in general students experience development in the aspect of activeness. The improvement indicates that the treatment provided is able to help students who were previously less active become more involved in the training process.

Pedagogically, these results show that game modification can be an effective strategy in badminton learning or training, especially at the junior high school level. Junior high school students are at a developmental stage that still requires activity-based, game-based, and hands-on experience-based learning. Therefore, learning that is too monotonous, instructive, or only emphasizes on basic techniques on a repetitive basis can cause students to get bored quickly and be less active. Through game modification, badminton materials can be presented in the form of simpler, fun, and more enjoyable activities. This is in line with the concept of learning modification which emphasizes the importance of adjusting tools, rules, time, environment, and forms of activities based on the characteristics of students (Bahagia & Suherman, 2000).

Game modification is also in accordance with the principles of Developmentally Appropriate Practice (DAP), which is learning that is tailored to the developmental stage, abilities, needs, and characteristics of students. In the context of badminton training, modifications can be made through adjustments to the rules of the game, the size of the court,

the number of players, the tools used, and the form of movement activities. These adjustments make students not feel burdened by technical demands that are too difficult. Instead, students can learn through more meaningful play experiences. When students feel that the activities given are in accordance with their abilities, then their confidence, courage to move, and participation in learning tend to increase. Thus, teachers need to have understanding and skills in choosing appropriate learning strategies so that the learning process takes place actively, effectively, and efficiently (Bahagia & Suherman, 2000).

The results of this study also reinforce the view that physical education, sports, and health learning not only aims to improve physical abilities, but also develops students' cognitive, affective, and psychomotor aspects. In badminton training, students not only learn to perform basic punches or movements, but also learn to work together, obey the rules, be responsible, confident, and respect their friends. This is relevant to the opinion that sports activities can be a medium for character formation because in it there are values such as cooperation, honesty, responsibility, enthusiasm, and mutual respect (Raden & Lampung, 2015). Therefore, modified games not only have an impact on increasing the activeness of students' movements, but also have the potential to form positive character values.

Based on the results of the normality test, the Shapiro-Wilk value for the pre-test was 0.103 and the post-test was 0.214. Because the research sample was 22 students, the Shapiro-Wilk test was more appropriate to be used as a basis for normality decision-making. The significance value of the two data is greater than 0.05, so the data can be declared to be normally distributed. With the assumption of normality fulfilled, the analysis can be continued using a parametric test, namely the t-test to determine the effect of treatment on student activity. The use of experimental design with the One Group Pretest-Posttest Design model is in accordance with the purpose of the study, which is to determine the changes in the condition of the subjects before and after being given treatment (Maksum, 2012).

The results of the t-test showed that there was an effect of game modification on students' activeness in badminton training. This is indicated by a significance value smaller than 0.05, so an alternative hypothesis is accepted. Thus, it can be stated that game modification has a significant influence on increasing student activity in badminton training at SMPN 4 Madiun City. These findings show that the use of modified games is able to change learning conditions from previously passive to more active, dynamic, and fun.

The increase in student activity after being given treatment can be explained through several factors. First, game modifications make students more interested in participating in learning because the activities given are not monotonous. Second, modified games give

students the opportunity to move around more often and engage in activities. Third, game activities are able to reduce students' fear or hesitation in performing badminton movements. Fourth, a fun learning atmosphere makes students more motivated to participate. This supports the view that physical education should be able to create an active, enjoyable learning experience and help students understand a healthy lifestyle through physical activity (Showab & Djawa, 2019).

In addition, the use of game modifications can also help teachers or coaches in managing learning. The teacher not only acts as an instructional giver, but also as a facilitator who organizes the learning situation so that students are active, engaged, and gain meaningful movement experiences. In learning badminton, teachers can use simple forms of games such as pairs, group games, target games, or team games that are tailored to students' abilities. These forms of play can increase student engagement because they feel they are playing, but still gain experience learning basic badminton techniques. This is in line with the concept that learning modification needs to consider tools, time, environment, and student characteristics so that learning can take place optimally (Bahagia & Suherman, 2000, Endrawan et al., 2024).

Although the results of the study show an increase in student activity, this study still has limitations. The research design used was One Group Pretest-Posttest Design without a control group, so the improvement that occurred could not be compared with other groups that did not receive treatment. In addition, the number of research samples was only 22 students, so the generalization of research results was still limited to the context of extracurricular students or badminton training at SMPN 4 Madiun City. Therefore, further research can use experimental designs with control groups and larger sample numbers to make the results stronger. In quantitative research, the use of representative samples is important so that the results of the study can describe the condition of the population more broadly (Martono, 2011; I Putu Astrawan et al., 2025)).

Based on the overall results of the research, it can be concluded that game modification has a positive effect on students' activeness in badminton training. The application of game modification is able to increase the allocation of student active time, direct student involvement, and general student activity scores. Thus, game modification can be used as one of the effective learning or training strategies to create an active, fun, and learning atmosphere in accordance with the characteristics of junior high school students.

CONCLUSION

Based on the results of the research and the overall discussion on the effect of game modification on student activity in badminton training, it can be concluded that by providing learning in the form of modified games can increase the activeness of students' movements in badminton training learning. In this study, the researcher used a research method with a pseudo-experiment type through a quantitative approach, as well as the design used by One Group pre-test-post-test, The results of this study were obtained in the Pretest and post-test using a student activity instrument, namely the Focus Proportion Analysis (APF) instrument consisting of 32 students. The results obtained in pre-test and post-test activities involving pairs and group play tests, such as black and green games. And for the theater by providing a game that has been modified in the form of passing shuttlecock around the squad, passing the with shadow (shadow footsteps).

In the calculation value of Pre-Test ATA is 62.5% and SDE is 45% while for the calculation value of Post-test ATA is 67.5% and SDE is 50.7% which means that there is a difference in the calculation value of ATA 5% and SDE 5.7% and the percentage increase in pre-test and post-test is 21.8%. Meanwhile, from the analysis of the T test, namely T Count (0.00) < T table (0.05) which means that there is an effect of game modification on student activity in badminton training at SMP 4 Madiun City. So it was concluded that there was a significant influence on the activeness of students' movements before and after the application of game modification. It can be said that by providing game modifications, it can have a significant influence on student activeness in badminton training at SMP 4 Madiun.

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