



The Effect of Game Modification on Relay Running on Student Excitement at SMA Negeri 21 Surabaya

Faris Wahyu Iswanto¹, Anung Priambodo²

^{1,2}Physical, Health and Recreation Education Study Program, Faculty of Sports and Health Sciences, Universitas Negeri Surabaya, Street Raya Kampus Unesa, Lidah Wetan, Jawa Timur 60213, Indonesia

ABSTRACT

In physical education, a pleasant atmosphere is needed. Because physical education is a subject that can help students get rid of boredom from learning subjects that are considered difficult. With a pleasant atmosphere in the learning material, students will feel comfortable and not feel forced when the teacher gives them movement assignments. An example is providing a game modification of one of the materials, which can be considered quite boring because it only focuses on physical activities and technical learning, namely athletic material. One of the numbers in athletics that can be used for game modification is the relay race, which can build a sense of cooperation between students. By providing game modifications to the relay race, students will feel more happy and comfortable when doing physical education learning on athletics material. Not only can the atmosphere make you happy, but it can also increase students' interest in learning physical education because they feel comfortable. To determine the level of student excitement, the tool used is an instrument in the form of a joy questionnaire. With the help of SPSS 26 to process the data after the research is done. The results of the research conducted showed that students who received therapy were more enthusiastic than those who did not. The percentage of students who received therapy was 46.19%, while the number of students who did not receive therapy was 9.5%.

Keywords: *Relay, Game Modification, Enjoyment*

Correspondence author: Faris Wahyu Iswanto, Universitas Negeri Surabaya, Jawa Timur, Indonesia.
Email: faris.19101@mhs.unesa.ac.id



Jurnal Pendidikan Jasmani (JPJ) is licensed under a [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).

INTRODUCTION

Physical Education, Sports, and Health (P.E.) is an integral part of the educational curriculum that aims to improve students' health and fitness (M. E. Winarno, 2018). Jesse Feiring Williams stated that physical education is a collection of various types of physical actions or movements carried out to achieve desired results. The concept of physical education shows how physical education has various relationships with emotional responses. The emotional responses in physical education are group behavior, mental learning, intelligence, and emotion (Abduljabar, 2011). The problem that

often occurs is that physical education learning is considered monotonous and less interesting for students. To overcome this, a modification of the relay race game is proposed as a method for creating a fun learning atmosphere and making students feel happy. One of them is in Athletics material. Eli Yuliawan said in (Musiandi & Taroreh, 2020) that athletics is a competitive sport with various competition categories based on basic human movement skills, including walking, running, jumping and throwing. Bahagia (2012) said that athletic material was considered quite boring and tiring because the learning only focused on students doing physical activities and movement techniques. Learning from modified relay games can be applied to students to increase their sense of joy and help them learn to work well together. According to Dimiyati and Mudjiono, one of the factors that can increase student interest and learning outcomes is the teacher. Therefore, the quality of learning needs to be improved so that the learning atmosphere can be active and enjoyable. One thing that is needed is the teacher's skills in teaching and learning activities, which are related to achieving learning objectives, such as student motivation to learn. These skills can be in the form of the teacher's way of communicating with students (Khalijah et al., 2023).

This research has two objectives, namely, learning to work together with fellow students and also feeling happy when physical education learning takes place. Previous research shows that modifications to the relay game can increase students' enthusiasm for learning P.E. According to Meylani (2020), relay races can also be done using game modifications to make the learning atmosphere fun and can be used to help students learn locomotor movements. Relay is a team sport in athletics. Relay races can be held in groups or sequentially. There are four runners: the first, the second, the third, and the fourth. The relay number is different from other numbers because it features a pipe rod attachment that is passed from one runner to the next throughout the race (Natas Pasaribu & Daulay, 2019). Utami and Purnomo (2019) said that one of the factors that can cause low student interest in P.E learning or athletic material is because teachers do not provide learning methods that contain game modifications. If learning athletics material only focuses on technique, students will easily get bored, and student interest in learning athletics will remain low. However, with modifications to the relay game, students can get two things, namely, learning to work together with fellow friends and also feeling happy when P.E takes place.

In learning material at school, at least the teacher provides time or something that makes students feel happy and not boring. Because basically, P.E is learning that allows students to learn movement activities and gives a pleasant impression when learning takes place, not leading to training on techniques in a sport. For example, in P.E, athletic material must also have aspects that make students feel happy when doing the learning. A sense of enthusiasm in students is very helpful in

achieving a learning goal. Jackson states in Teques et al. (2020) that joy can be described by a reflex with personal opinion, which can, for example, be shown by smiling. Motivation, interest, and excitement will be created in learning if the teacher can create a pleasant atmosphere. Happiness is a subjective thing that can be triggered internally or through individual judgment. With this background, this research will use a pure experimental research design with a quantitative approach. The research design used was a *randomized control group pretest-posttest design*.

METHOD

This study used true experimental design with a quantitative approach. The research design used was *Randomized Control Group Pretest-Posttest Design*. The study population consisted of all class XI at SMA Negeri 21 Surabaya, with a total of 359 students. The sampling technique used is cluster random sampling and the sample is 70 by 2 different class. Maksum (2018) says cluster random sampling is a random sampling technique by selecting groups or areas, not individuals. The research instrument used was an enjoyment questionnaire that used a positive and negative Likert scale. The validity of the instrument is measured using the Safrit criterion, and the reliability of the instrument is measured by the total result of the reliability calculation.

The data collection technique is carried out by giving enjoyment questionnaires to students. The collected data will be analyzed using data analysis techniques that are in accordance with the research objectives. In this study, modifications to the relay running game will be carried out using two types of games, namely XO Relay and InDus Relay. The XO Relay involves participants forming teams of 4-5 people and using cardboard that is converted into the letters X and O. Meanwhile, the InDus Relay involves participants forming teams of 4-5 people and using cardboard that is changed from its original shape to cut form. By using modified relay running games, this research is expected to provide benefits for students in obtaining a pleasant learning experience and for teachers in obtaining new references to learning methods. Thus, this research is expected to contribute in improving student learning experience and provide new references on learning methods for P.E. teachers. The data analysis technique used in this study is quantitative descriptive analysis (mean, standard deviation, normality test), homogeneity test, independent sample t-test, paired sample t-test, and improvement in results.

RESULTS AND DISCUSSION

Results

This study details a pure experimental design with a quantitative approach using Randomized Control Group Pretest-Posttest Design. The population taken was all class XI students at SMA Negeri 21 Surabaya, with a total of 359 students. Sampling is carried out using cluster random sampling technique. The variables of the study consisted of independent variables (modification of relay running games) and bound variables (student excitement). The research instrument used an enjoyment questionnaire with a Likert scale. Data analysis was performed using SPSS 26, including normality test, homogeneity test, and t-test of different and similar samples.

Research on the effect of relay running game modification on student excitement has been carried out and has enough results to be said to have an influence on student excitement. The data that has been obtained is processed using SPSS 26 to calculate the results of data from the study. The number of respondents from the entire sample was 70 students who were divided into a control group with a total of 33 students and in the experimental group had 37 students. In the control group that was not given the treatment had low levels of excitement. The evidence is listed from the comparison of the mean on the *pretest* and *posttest* which is said to be not far apart. *The mean* in the control group was 29.12 with a standard deviation of 1.510 in the *pretest* and a mean of 33.64 and a standard deviation of 2.913 in the *posttest* value. The average of these values is only 4.52 which can be tied not much from *pretest* scores to *posttest* scores. While the experimental class has a mean of 24.22 with a standard deviation of 1.734 in the *pretest* value and 50.30 the mean value with a standard deviation of 3.574 in the *posttest* value which is said to have a fairly high value difference, which has a difference of 26.08 in the *mean* value. Here are the data from the mean, minimum, maximum, and standard deviation values in the control and experiment classes:

Tabel 1. Mean Control Class and Experiment Class

Control				Experiment			
<i>Pre</i>		<i>Post</i>		<i>Pre</i>		<i>Post</i>	
Min.	Max	Min.	Max.	Min.	Max.	Min.	Max.
26	32	33	40	21	29	45	56
<i>Mean</i>							
29,30		33,79		24,22		50,30	
Standard Deviation							
<i>Pre</i>		<i>Post</i>		<i>Pre</i>		<i>Post</i>	
1,510		2,913		1,734		3,574	

From the explanation of the research results that have been listed in the table above, it can be said that each class has a different value result in the *mean* value during the *pretest* and during the *posttest*. The control class had a slight increase in the results because it did not get treatment, while the experimental class had an increase that could be said to be quite high. Because before the treatment was given an average value of 24.22, while after the treatment was over it had an average value increase of 50.30. Here is a comparison of the average scores in each group:

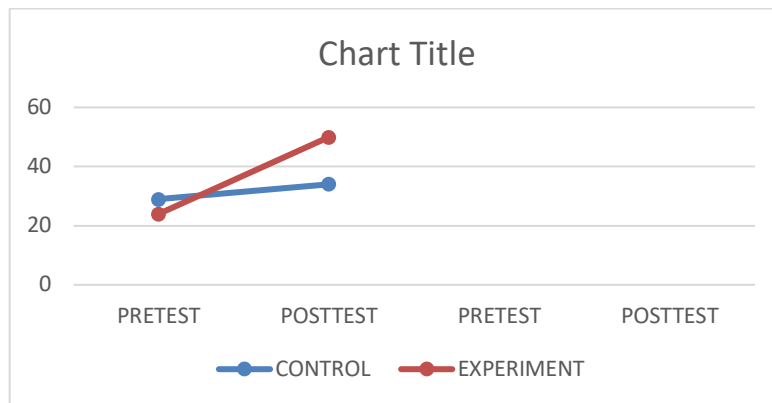


Figure 1. Pretest-Posttest Mean Difference Diagram

In a study, a normality test is needed to find out that the data is normally distributed. Maksum's (2018) says that data can be said to be normal if it is $>0,05$. The results of the normality test have been carried out in the control group and the experimental group which have normally distributed values. The following are the results of the research data that have been obtained:

Tabel 3. Normality Test Data

Group	Data	Result	Information
Control	<i>Pretest</i>	0,150	Normal
	<i>Posttest</i>	0,058	Normal
Experiment	<i>Pretest</i>	0,170	Normal
	<i>Posttest</i>	0,081	Normal

In accordance with the table above, the data in each group are expressed as normally distributed. Because in the normality test, the data can be said to be normal if it has a value of >0.05 . Meanwhile, if the results do not reach or <0.05 then the data is said to be abnormal. The control group had a normality test result on the *pretest* of 0.150 and a *posttest* value of 0.058 which can be declared normally distributed because it has a value that exceeds 0.05. The experimental group also had results that were also said to be normal because they had exceeded the value of 0.05, namely

the *pretest* value of 0.170 and the *posttest* value had a value of 0.081. The percentage results from the control class have very low excitement, namely only having an excitement level of only 9.50%. Meanwhile, it can be said that excitement is high, in the range of 70%. Meanwhile, the experimental class that had been given treatment with a modified form of the relay race game had a moderate level of excitement, namely 46.19%. The difference in the percentage results for the two groups is stated to be very far apart, namely around 36.4%. So, with the results of this percentage, it can be said that the hypothesis is accepted.

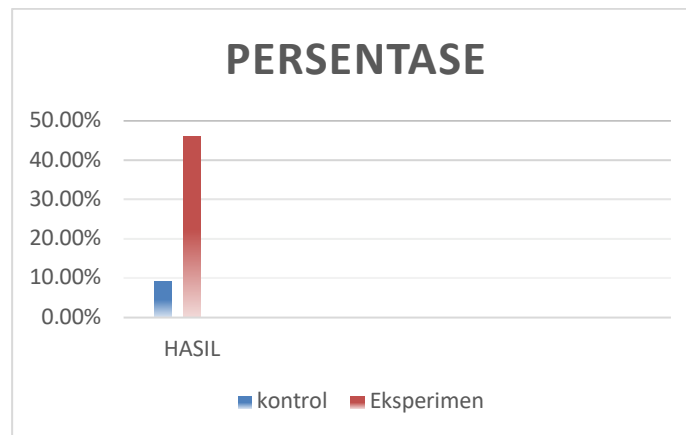


Figure 2. Percentage Difference Diagram Data

Discussion

The result discussion of research using data tested through SPSS 26 show a focus on modifications to relay running games, such as the XO Relay and the Indus Relay, in P.E. The results showed that both games had a moderate effect, increasing the level of excitement among students in the experimental group. Initially, the pretest showed that the students' average scores were quite low, but after treatment, there was a significant increase. The posttest showed an increase in the average score on the questionnaire by a total of 50.20. The conclusion from these results is that modification of the relay game can increase students' excitement about P.E. The group that received the treatment showed an excitement level of 46.19%, while the group without treatment only had an excitement level of 9.50%. This shows that game modification has a positive impact on student enjoyment. This conclusion is in accordance with the goals of physical education, such as sportsmanship, responsibility, and democracy.

This research is relevant to Sani's (2020), who in this research also wanted to know the students' level of excitement if they were given treatment in the form of game modification. Every research project certainly has advantages and disadvantages during the data collection process. The relevant research has a percentage level that can be said to be quite low because it has a result of 7.98%. In this research, the reasons why student excitement is said to be low are explained. The reason why

excitement is low is because the modified sepak takraw game is said to be quite difficult for students to master. In Rini's (2017) previous research, the final percentage results in assessing student skills were in the low category, namely 16.76%. From the research of two previous researchers, it can be concluded that what influences high or low levels of success is the level of difficulty of the material used.

This research provides relevance to other research that also examines students' level of excitement through game modification treatment. Previous research showed quite low results, citing material difficulties. However, this research shows a higher increase, caused by the use of material that is considered easier for students to master. According to Retno's (2020), learning activities using games can significantly improve the development of motor movements in students. By using games, students can engage in various kinds of movements that can make the body fit. Even though this research has a drawback in that the implementation time was less effective with only 2 meetings, the results still provide a positive picture of the effectiveness of the modified relay game in increasing students' excitement in P.E. The implication of this research is that P.E teachers can consider using game modifications to maintain student excitement and prevent boredom in learning.

Thus, it can be concluded that the modification of the relay running game has a significant positive impact in increasing student excitement in learning P.E (Darani, 2021). These findings make an important contribution in the development of more innovative and entertaining learning strategies to enhance students' learning experiences in secondary school.

CONCLUSION

From the results of this study, it can be concluded that the modification of the relay running game has a significant positive impact in increasing the level of student excitement during the P.E. learning process at SMA Negeri 21 Surabaya. The experimental group that underwent game modification showed a meaningful increase in excitement levels, while the control group that did not experience modification showed lower levels of excitement. These findings indicate that modification of relay running games can create a more pleasant learning atmosphere for students, reduce the potential for boredom, and increase excitement, especially in P.E. learning.

P.E. teachers should consider presenting interesting and entertaining games on each topic taught. The use of modified relay running games can be used as an effective strategy in creating a positive and fun learning experience for students. The application of this game variation is expected to maintain the level of student engagement, prevent boredom, and increase motivation in following learning. Therefore, this research makes a significant contribution in guiding a more dynamic and exciting learning approach in the P.E. classroom.

ACKNOWLEDGMENT

I would like to thank you everyone who participate in this research. Thank you to Allah for all the blessings and help. In this temporary life, You allow me to seek and share knowledge. May the knowledge I have gained in this course be beneficial to fellow human beings. I also dedicate this work to the meaningful people in my life.

REFERENCES

- Abduljabar, B. (2011). Pengertian pendidikan jasmani. *Ilmu Pendidikan*, 1991, 36. http://file.upi.edu/Direktori/FPOK/JUR._PEND._OLAHRAGA/196509091991021-BAMBANG_ABDULJABAR/Pengertian_Penjas.pdf
- Bahagia, Y. (2012). *Pembelajaran Atletik*. 2–94.
- Darani, N. L. wisma. (2021). Pengaruh Model Pembelajaran Kooperatif Tipe Student Teams Achievement Division (STAD) Terhadap Hasil Belajar Teknik Dasar Passing Bola Basket. *Jurnal Pendidikan Jasmani, Olahraga Dan Kesehatan Undiksha*, 81. Darani(1), 13–24.
- Eka Putri, M., & Aulia, P. (2020). Efektivitas Permainan Lari Estafet Modifikasi Untuk Meningkatkan Motorik Kasar Pada Anak Ditaman Kanak-Kanak Bahari Pasir Kandang. *Volume VI. Nomor 1. Januari-Juni, VI*, 12–28.
- Khalijah, W. N., Jannah, M., Rehan, H. Z., Yohana, Y., & Yohani, Y. (2023). Peranan Metode Pembelajaran terhadap Minat dan Prestasi Belajar Al-Qur'an Hadis. *Al-Wasathiyah: Journal of Islamic Studies*, 2(2), 267–278. <https://doi.org/10.56672/alwasathiyah.v2i2.97>
- M. E. Winarno. (2018). Membangun Karakter Melalui Pendidikan Jasmani dan Olahraga. *Seminar Nasional Pendidikan Jasmani*, 12(05), 10–20.
- Maksum. (2018). Metodologi Penelitian Dalam Olahraga. *Jawa Barat: CV Jejak*, 298.
- Maksum Ali. (2018). Statistik Dalam Olahraga. *Unesa University Press*.
- Musiandi, T., & Taroreh, B. S. (2020). Pengembangan Pembelajaran Atletik Melalui Pendekatan Permainan Tradisional Sumatera Selatan. *Jurnal Olympia*, 2(1), 29–37. <https://doi.org/10.33557/jurnalolympia.v2i1.885>
- Natas Pasaribu, A. M., & Daulay, D. E. (2019). Pengaruh Permainan Lari Estafet Terhadap Kemampuan Gerak Dasar Motorik Kasar Siswa Kelas 3 Sdn Karet Ii Kabupaten Tangerang. *Jurnal Prestasi*, 2(4), 9. <https://doi.org/10.24114/jp.v2i4.11909>
- Sani, M. A. (2020). *Pengaruh Modifikasi Permainan Sepak Takraw Terhadap Peningkatan Kegembiraan Siswa*.
- Sari, B. R., & Sinaga, S. I. (2020). Pengaruh Bermain Lari Estafet Terhadap Perkembangan Motorik Kasar Anak Kelompok B Usia 5-6 Tahun Tk Yaspa Palembang. *PERNIK : Jurnal Pendidikan Anak Usia Dini*, 3(2), 178–190. <https://doi.org/10.31851/pernik.v3i1.4183>
- Susanti, R., & Sudarso. (2017). Pengaruh Pendekatan Modifikasi Terhadap Hasil Belajar Sepak Sila Sepak Takraw. *Jurnal Pendidikan Olahraga Dan Kesehatan*, 05(02), 272–278. <http://ejournal.unesa.ac.id/index.php/jurnal-pendidikan-jasmani/issue/archive>
- Teques, P., Calmeiro, L., Silva, C., & Borrego, C. (2020). Validation and adaptation of the Physical Activity Enjoyment Scale (PACES) in fitness group exercisers. *Journal of Sport and Health Science*, 9(4), 352–357. <https://doi.org/10.1016/j.jshs.2017.09.010>
- Utami, M. S., & Purnomo, E. (2019). Minat siswa sekolah menengah pertama terhadap pembelajaran atletik. *Jurnal Pendidikan Jasmani Indonesia*, 15(1), 12–21.