Team game tournaments to improve the enjoyment and basic technical of handball student-athletes: A randomized-controlled trial

by Meirizal Usra

Submission date: 05-Aug-2023 10:59AM (UTC+0700)
Submission ID: 2141548203
File name: 5_OK.pdf (573.37K)
Word count: 4999
Character count: 27513

Edu Sportivo
Indonesian Journal of Physical Education
e-ISSN 2745-942X
Journal Homepage: https://journal.uir.ac.id/index.php/SPORTIVO

Team game tournaments to improve the enjoyment and basic technical of handball student-athletes: A randomized-controlled trial

*[1abe]Meirizal Usra, [2abd]Edi Setiawan, [1ad]Kevin Octara, [3cd]Irfan Benizar Lesmana, & [4cd]Vasile Catalin Ciocan

[1]Department of Physical Education, Health, and Recreation, Faculty of Teacher Training and Education, Universitas Sriwijaya, Palembang, Indonesia
[2]Department of Physical Education Health and Recreation, Faculty of Teacher Training and Education, Universitas Suryakancana, Cianjur, Indonesia
[3]Department of Sport Education, Faculty of Sport Education, Universitas Pendidikan Indonesia, Bandung, Indonesia
[4]Department of Physical Education and Sports Performance, Faculty of Movement, Sports and Health Sciences, University of Bacau, Calea Marasesti, Romania

Received: 27 May 2023; Accepted 08 July 2023; Published 05 August 2023

OPEN ACCESS

ABSTRACT

There has been an increase in the use of the TGT learning model in physical education, b the lack of TGT research which is associated with enjoyment and basic technical in handball is a gap in research. The objective of this study was to evaluate the effect of using TGT in improving student-athlete enjoyment and basic techniques. This study applied the true experiment method. The participants were student-athletes from junior high school 46 Palembang (n=30). Physical educatio classes was conducted in experimental group through TGT, while the control group received co entional PE. The results showed that there were no differences in the value of enjoyment and basic techniques in the experimental and control groups before the experiment, but there were differences after the experiment. Based on the Paired sample t-test it was proven that after teaching handball for 4 weeks through TGT, student-athlete enjoyment and basic techniques increased significantly, but the experimental group had a much larger mean value. Thus, it can be concluded that TGT was an effective method for physical education teacher to create enjoyment and improve basic techniques in handball. Future research needs to be carried out such as testing the effects of TGT using mixed methods research.

Keywords: Learning model; psychological performance; team sports; sports technique

***Corresponding Author**
Email: meirizalusra@fkip.unsri.ac.id

https://doi.org/10.25299/es:ijope.2023.vol4(2).12967

How to Cite: Usra, M., Setiawan, E., Octara, K., Lesmana, I. B., & Ciocan, V. C. (2023). Team game tournaments to improve the enjoyment and basic technical of handball student-athletes: A randomized-controlled trial. *Edu Sportivo: Indonesian Journal of Physical Education*, *4*(2), 148-158. https://doi.org/10.25299/es:ijope.2023.vol4(2).12967

Authors' Contribution: a –Study Design; b –Data Collection; c –Statistical Analysis; d –Manuscript Preparation; e –Funds Collection

INTRODUCTION

Entering 2023, student athletes who are active in competitive sport such as handball at school and organizations must start to be trained and developed their performance which had declined during the COVID-19 pandemic crisis (Setiawan et al., 2020; Vasiliadis & Boka, 2021; Juliantine & Setiawan, 2022). Data showed that improving the performance of student athletes could support them in competition (Aguelo & Aquino, 2023), and had a higher opportunity in getting achievements in sports events which held at school or at the national level (Gani et al., 2023). Previous studies reported that many student athletes experienced a decline in performance related to psychology, such as stress, self-confidence, self-efficacy, grit or mood state (Alzwain, Bashatwa & Hamadneh, 2021; Malureanu, Panisoara & Lazar, 2021; Muzakki et al., 2022; Yuda et al., 2022), until

technique basic in playing handball (Juliantine & Setiawan, 2022). The main factors that cause a decline in student-athlete performance were inadequate training due to social distancing (Wong et al., 2020; Conde et al., 2021; Tjønndal, 2022), a lot of assignments from school, so student-athletes did not have time to carry out training and had difficulties in learning handball skill through online (Jumareng et al., 2021).

Enjoyment is one of psychological factors which hampered due to pandemic (Fin, Moreno-Murcia, León, Baretta & Júnior, 2019), and student athletes could not felt this during pandemic. Data reported that the enjoyment of student athletes in sports was gradually decrease, because they felt anxious and afraid when conducting exercise during the COVID-19 pandemic (Amalia et al., 2021). Enjoyment is an important factor to trigger fun and involvement in learning a particular sport (Moreno-Murcia & Hernández, 2019; Jooste, Rogerson, Hogg & Houghton, 2020; Berki & Tarjányi, 2022). According to Rodríguez-Macías, Robles & Fuentes-Guerra (2021), that enjoyment can be interpreted as a positive feeling towards sports activities. In other words, student athletes with a good level of enjoyment have high level of motivation and commitment to learn sports now and in the future (Evans et al., 2019; Oya & Ishihara, 2022). On the contrary, student athletes who have not experienced enjoyment in training activities, tend to stop their careers or get poor performance (Juliantine et al., 2022). Engels and Freund (2020), emphasized that student athletes who enjoyed the class training in physical education tended to involve sports when they were outside of school. Their status as student-athletes caused difficulties for them to enjoy training activities, because they got many obstacles in schools and sports organizations (Rodríguez-Macías, Robles & Fuentes-Guerra, 2021). Other studies reported the same results, he enjoyment of sports at school decreased significantly (Leisterer & Gramlich, 2021), so it was needed to increase the level of enjoyment among student athletes.

Basic techniques in handball include dribbling, passing and shooting, are important aspects (Nopianto et al., 2021), and need to be developed optimally (Font et al., 2021; de la Rubia et al., 2021). A good basic technique will support the performance of student athletes to win competition (Soares et al., 2020), and have great potential to obtain achievements in handball (Gouveia et al., 2019; Rios et al., 2023). Meanwhile, if not properly developed the basic techniques it will cause student athletes difficult to win. A study reported that the key to success in a sport is to have a good basic technique (Juliantine & Setiawan, 2022). Given the importance of the aspects of enjoyment and basic technique for student athletes to experience handball successfully, a fun teaching model is needed and has the potential to enhance these two aspects.

Team game tournaments (TGT) is a type of teaching model that can be used in physical education classes to encourage student athletes much more active in learning (Novion, 2018; Irwanto & Setyaningsih, 2020). The TGT model can be interpreted as a learning model that promotes student athletes to learn all the basic techniques in handball through a tournament. TGT is a learning that requires student athletes to form a small team consisting of 4 to 5 people of different genders and abilities. TGT has learning characteristics that hold a game in a tournament, which means that each team must compete against another team to become the champion team. According to recent studies, learning filled with games could support students more enthusiastic, so that learning outcomes will be increase (Wibowo, 2018; Dimyati et al., 2023). Previous studies had documented the benefits of using TGT, such as increase motivation, movement abilities (Luo et al., 2020), creativity, cooperation (Sembiring et al., 2020), problem solving skills, so that in the end it can improve student-athlete learning outcomes (Hasmyati & Suwardi, 2018).

Previous studies had well documented TGT in physical education (Luo et al., 2020; Rubiyatno et al., 2023), but there was still limited research about the effect of TGT on increasing enjoyment. In addition, the basic techniques of student-athletes in handball was a gap in this study. This study presented a novelty in terms of testing the effect of TGT to increase enjoyment and basic techniques through an experimental study with a randomized controlled trial. Therefore, the purpose of our study was to examine the effect of the TGT model on increasing enjoyment and basic technique.

METHOD

Participants

This study involved 30 male athlete students and 5 female athlete students from junior high school 46 Palembang (Indonesia). The selection criteria were student athletes enrolled in handball extracurricular sports. Exclusion criteria were students who did not want to participate. The recruiting process is shown in Figure 1.

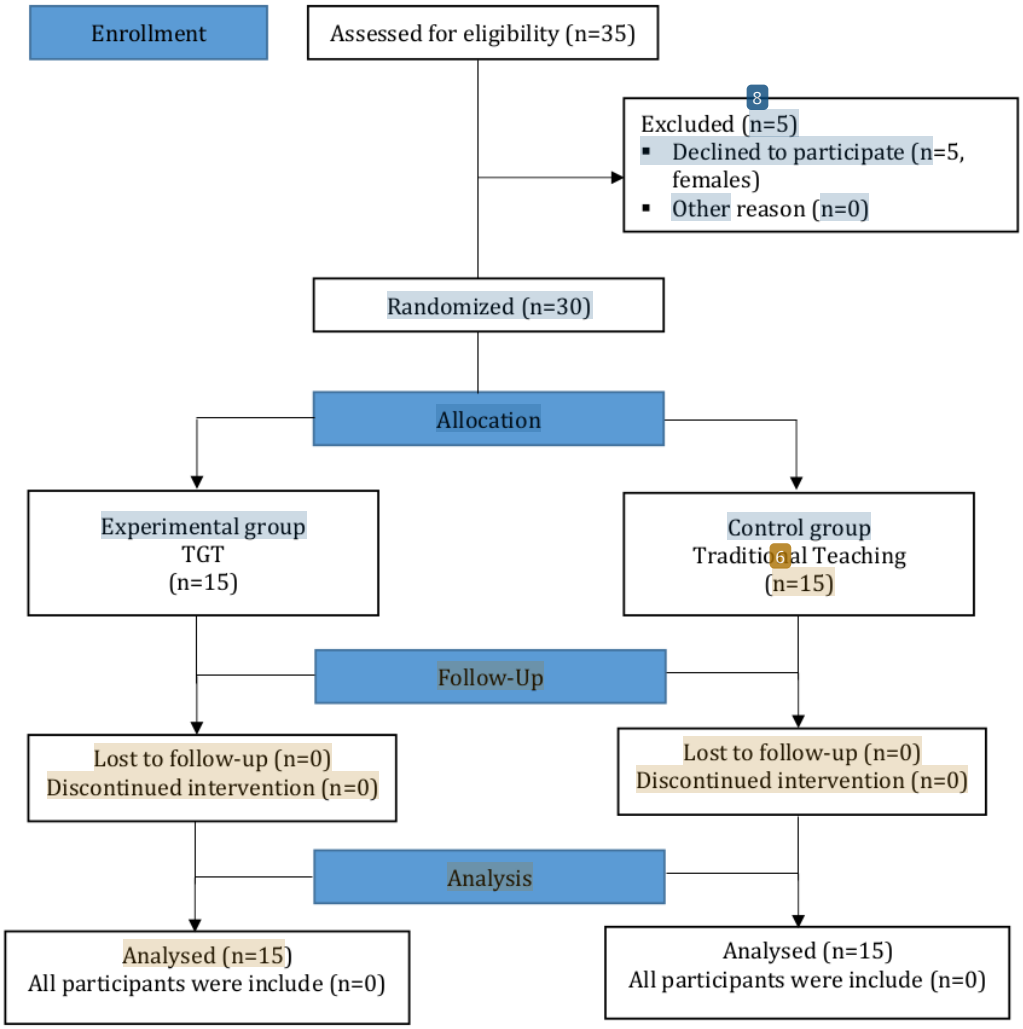

Figure 1. Participant selection process flow

Table 1. Demographic characteristics of the participants (Mean±SD)

Variable	Experimental group (n=15)	Control group (n=15)
Age (y)	21.90(0.55)	22.15(0.61)
Height (cm)	171.78(8.78)	169.62(8.03)
Weight (kg)	63.81(14.31)	64.18(15.51)
BMI (kg/m^2)	20.36 (3.51)	21.33 (4.17)

Instrument

Enjoyment. The instrument used to measure the enjoyment level of student-athletes adopted from Juliantine et al (2022), namely the Physical Education Curriculum Enjoyment Scale (PECES). This instrument consists of 5 question items, but it was modified to adapt to junior high school level athletes. Example questions: (1) "I like this teaching", (2) "This teaching is more interesting than previous", (3) I don't want to miss this class, (4) This teaching help me more motivated in learning", and (5) "This teaching is not boring". All of these questions were answered with a Likert scale from 1=disagree to 5=strongly agree. This instrument had been tested and got avalidity value of 0.89 and a reliability value of 0.7.

Basic Technical. To measure the basic technical level of student athletes, it can be adopted from previous studies (Saavedra et al., 2020; Juliantine & Setiawan, 2022; Metan & Küçük, 2022), with following details:

Shooting Test. Participants shot towards the goal with a distance of 9 meters. If the ball entered the upper left corner (zone 1), the upper right corner (zone 2), then the score was 2 points. Meanwhile, if the ball entered zones 3 and 4, then the score was 3 points. The subject is given 12 opportunities.

Passing Test. Participants stood behind the boundary line at a distance of 1 meter from the wall while holding the ball in front of their chests, then participants threw the ball to the wall and then caught it again. This activity was carried out for 30 seconds. The score was calculated from the total passing score for 30 seconds.

Dribbling Test. Participants dribble the ball over the cone. The score was calculated by counting the number of cones that had been passed in 30 seconds.

Procedure

This research was approved by the Research Ethics Committee of Sriwijaya (no: 345/04/2023) and junior high school 46 Palembang (15/04/2023). The research was carried out in the sport field of junior high school 46 Palembang from 08.00-10.00 in the morning. At the first meeting (01 April 2023), all participants carried out the initial test, namely filling in the enjoyment questionnaire and basic technical test. At the second meeting (02 April, 2023), participants carried out the TGT program activities, and it lasted until the eleventh meeting (23 April, 2023). Last meeting (April 26, 2023), participants carried out the final test by filling in the enjoyment questionnaire and basic technical test.

Statistical Analysis

Data was analyzed with IBM SPSS 25.0. Normality test using Shpairo-Wilk (P>0.05). Independent sample t-test was used to test differences in enjoyment and basic technical values between the experimental and control groups before and after the experiment. Meanwhile, the Paired sample t-test was used to test the effect of the TGT and control groups (p<0.05).

RESULTS AND DISCUSSION

In this study normality was assumed to be normal (p> 0.05). Table 2 shows the descriptive statistical values of the two groups. Table 3 shows that there is no difference in the enjoyment and basic technical values between the experimental and control groups before the experiment (p>0.05), but there is a difference in the values after the experiment (p<0.05). Paired sample t-tests proved that the experimental and control groups had an effect on increasing enjoyment and basic skills (p<0.05), but based on the average value of the experimental group had a greater effect (Table 5).

Table 2. Statistical descriptive value

Teaching Model	Enjoyment		Basic Technical	
	Before (M±SD)	After (M±SD)	Before (M±SD)	After (M±SD)
TGT	22.07 (`1.58)	24.47(1.64)	38.53(4.95)	41.27(4.48)
Conventional	21.80(1,32)	22.73(1.83)	36.60(3.33)	37.60(2.23)

Table 3. Differences in enjoyment and basic technical values between the experimental and control groups before the experiment

Teaching Model	Enjoyment			Basic Technical		
	(M±SD)	t	p	(M±SD)	t	p
TGT	22.07(1.58)	0.502	0.620	38.53(4.95)	1.254	0.220
Conventional	21.80(1.32)			36.60(3.33)		

Table 4. Differences in enjoyment and basic technical values between the experimental and control groups after the experiment

Teaching Model	Enjoyment			Basic Technical		
	(M±SD)	t	p	(M±SD)	t	p
TGT	24.47(1.64)	2.730	0.011	41.27(4.48)	2.838	0.008
Conventional	22.73(1.83)			37.60(2.23)		

Table 5. Paired sample t-test

Teaching Model	Enjoyment			Basic Technical		
	Before-After (M±SD)	T	p	Before-After (M±SD)	t	p
TGT	2.40(2.32)	4.000	0.001	2.73(5.67)	1.865	0.010
Conventional	9.33(1.71)	2.114	0.050	1.12(2.64)	1.464	0.018

Our research aims to evaluate the effect of the TGT model on increasing enjoyment and basic techniques. This study has several important findings. First, the teaching through TGT was proven to be able to increase the level of enjoyment among student athletes. Considering that TGT focused on presenting interesting games for student athletes, so that they felt motivation and enjoy with all classes (Rohmansyah, Marwati & Hiruntrakul, 2022; Usra et al., 2023). This is also in accordance with the opinion of Elumalai et al. (2022), providing game activities to student athletes could increase their enthusiasm and

enjoyment rather than conventional teaching. The result of this study is in line with previous studies which reported that teaching method with games could increase the ability of student athletes (Dimyati et al., 2023). Basically, teaching models with game elements had proven to be far more effective than conventional teaching in an effort to change the interest of students from boring to enjoy and active in learning (Zulfikar & Budiana, 2019). In addition, Jumareng et al. (2022), explained that teaching method with games was starting to be used frequently by physical education teachers, because it was proven had a strength to trigger student athletes to be happier and focus on learning. On the other hand, Luo et al. (2020), reported similar results, teaching by promoting interesting games could attract student athletes to enjoy all learning class.

Second, TGT was effective in improving the basic techniques of student athletes in handball. The tournament which was conducted in teaching TGT could be considered as a method to teach basic techniques with fun (Engels & Freund, 2020). This is in line with (Ramadhan, 2019), TGT was able to improve student-athlete long jump skills. In teaching TGT, student athletes were required to conduct training with their respective teams before carrying out tournaments. Team training activities could help them to improve playing skills to be better than before. Other research reported that game-based teaching was effectively improve basic technical skills in soccer (Putra et al., 2021). Dewi and Verawati (2021), reported the same results, teaching physical education with various forms of games was an effective way to improve movement skills. Thus, the uniqueness and novelty of this study, namely teaching through TGT, was proven to have the potential to create a sense of enjoyment and improve the basic techniques possessed by student athletes in handball.

CONCLUSION

After conducting TGT teaching for 4 weeks, it can be concluded that this method was effective to increase the level of enjoyment and basic techniques of student athletes. However, there were several limitations in terms of limited number of participants (student-athletes) and only concentrated in one school in the city of Palembang (Indonesia). Thus, it is recommended that future research should involve a greater number of participants and cover several junior high schools in Indonesia. This research contributes in providing information and guidance for physical education teachers in creating interesting teaching through TGT, so that in the future student athletes can always enjoy physical education teaching to obtain satisfactory achievements.

ACKNOWLEDGEMENTS

We would like to express our gratitude to the University of Sriwijaya and junior high school 46 Palembang who had providing full support and funding for this research.

CONFLICT OF INTEREST

The authors state that this research does not have a conflict of interest with any party.

REFERENCES

Aguelo, M. J., & Aquino, J. M. (2023). Students' dance performances and the utilization of e-materials in physical education. *Edu Sportivo Indonesian Journal of Physical Education*, *4*(1), 46–56. https://doi.org/10.25299/es:ijope.2023.vol4(1).11262

Alzwain, F., Bashatwa, M., & Hamadneh. (2021). Psychological stress and its relation to social distancing among a sample of Saudi during COVID-19 pandemic. *Journal of Education and Health Promotion*, *12*, 1–6. https://doi.org/10.4103/jehp.jehp_132_21

Amalia, E. F., Setiawan, E., Kastrena, E., Jumareng, H., Rahadian, A., Patah, I. A., & Gani, R. A. (2021). Physical education curriculum model: Can FEM and SEM create participation in physical activity and enjoyment? *Journal Sport Area*, *6*(3), 286–295. https://doi.org/10.25299/sportarea.2021.vol6(3).6851

Berki, T., & Tarjányi, Z. (2022). The Role of Physical Activity, Enjoyment of Physical Activity, and School Performance in Learning Motivation among High School Students in Hungary. *Children*, *9*(320), 2–9. https://doi.org/10.3390/children9030320

Conde, E., Martínez-Aranda, L. M., Sanz, G., López de Subijana, C., Sánchez-Pato, A., Díaz-Aroca, Á., Leiva-Arcas, A., García-Roca, J. A., Ramis, Y., & Torregrossa, M. (2021). Effects of the COVID-19 Health Crisis on Sports Practice, Life Quality, and Emotional Status in Spanish High-Performance Athletes. *Frontiers in Psychology*, *12*(September), 1–14. https://doi.org/10.3389/fpsyg.2021.736499

de la Rubia, A., Lorenzo, A., Bjørndal, C. T., Kelly, A. L., García-Aliaga, A., & Lorenzo-Calvo, J. (2021). The Relative Age Effect on Competition Performance of Spanish International Handball Players: A Longitudinal Study. *Frontiers in Psychology*, *12*(June), 1–13. https://doi.org/10.3389/fpsyg.2021.673434

Dewi, R., & Verawati, I. (2021). The Effect of Manipulative Games to Improve Fundamental Motor Skills in Elementary School Students. *International Journal of Education in Mathematics, Science and Technology*, *10*(1), 24–37. https://doi.org/10.46328/ijemst.2163

Dimyati, A., Junaidi, J., Wiradihardja, S., Dlis, F., Bayu, D., Dermawan, D. F., Monterrosa-Quintero, A., Gil-Espinosa, F. J., & Setiawan, E. (2023). Does movement games impact on increasing sports participation, fundamental movement skill and life satisfaction of students disabilities? *Revista Iberoamericana de Psicología Del Ejercicio y El Deporte*, *18*(1), 93–98.

Elumalai, G., Chinanapan, K., Choeibuakaew, W., Iqbal, D. R., & Abadi, F. H. (2022). Can Model-Based Approach in Physical Education Improve Physical Fitness, Academic Performance, and Enjoyment among Pupils? A Systematic Literature Review. *International Journal of Human Movement and Sports Sciences*, *10*(4), 21–28. https://doi.org/10.13189/saj.2022.101304

Engels, E. S., & Freund, P. A. (2020). Effects of cooperative games on enjoyment in physical education—How to increase positive experiences in students? *PLoS ONE*, *15*(12 December), 1–14. https://doi.org/10.1371/journal.pone.0243608

Evans, M. B., Vierimaa, M., Budziszewski, R., & Graupensperger, S. (2019). Coach Expectations and Athlete Lay Beliefs: Interactions When Predicting Adolescent Athletes' Enjoyment and Intentions to Return. *Journal of Applied Sport Psychology*, *32*(4), 416–428. https://doi.org/10.1080/10413200.2019.1570392

Fin, G., Moreno-Murcia, J. A., León, J., Baretta, E., & Nodari Júnior, R. J. (2019). Teachers' interpersonal style in physical education: Exploring patterns of students' self-determined motivation and enjoyment of physical activity in a longitudinal study. *Frontiers in Psychology*, *9*, 1–9. https://doi.org/10.3389/fpsyg.2018.02721

Font, R., Karcher, C., Reche, X., Carmona, G., Tremps, V., & Irurtia, A. (2021). Monitoring external load in elite male handball players depending on playing positions. *Biology of Sport*, *38*(3), 475–481. https://doi.org/10.5114/BIOLSPORT.2021.101123

Gani, R. A., Setiawan, E., Achmad, I. Z., Aminudin, R., Purbangkara, T., & Hofmeister, M. (2023). Virtual reality-based tabata training: a professional method for changing levels physical fitness and psychological well-being on student-athletes. *Pedagogy of Physical Culture and Sports*, *27*(2), 91–101. https://doi.org/10.15561/26649837.2023.0201

Gouveia, É. R., Gouveia, B. R., Marques, A., Kliegel, M., Rodrigues, A. J., Prudente, J., Lopes, H., & Ihle, A. (2019). The effectiveness of a tactical games approach in the teaching of invasion games. *Journal of Physical Education and Sport*, *19*(3), 962–970. https://doi.org/10.7752/jpes.2019.s3139

Hasmyati, & Suwardi. (2018). Experimentation of Cooperative Learning Model STAD-TGT Type against Students' Learning Results. *Journal of Physics: Conference Series*, *1028*(1). https://doi.org/10.1088/1742-6596/1028/1/012090

Irwanto, E., & Setyaningsih, P. (2020). Metode Pembelajaran Langsung dan Metode Pembelajaran Teams Games Tournament (TGT) Pada Hasil Pembelajaran Pasing Bawah Bola Voli. *Journal of Chemical Information and Modeling*, *53*(9), 1689–1699. https://doi.org/10.5281/zenodo.3661563

Jooste, J., Rogerson, D., Hogg, M., & Houghton, S. (2020). Transplant recipients' motivational orientation towards sport participation and physical activity enjoyment at the 2019 World Transplant Games in Newcastle-Gateshead UK. *Journal of Human Sport and Exercise*, *15*, S481–S494. https://doi.org/10.14198/jhse.2020.15.Proc3.02

Juliantine, T., & Setiawan, E. (2022). Effect Of Tactical Game Models On Formation Of Basic Techniques In Handball Players : Mixed Method. *Physical Education Theory and Methodology*, *22*(3), 373–378. https://doi.org/10.17309/tmfv.2022.3.11

Juliantine, T., Setiawan, E., Jumareng, H., Gani, R. A., & Asnaldi, A. (2022). Do Fundamental Movement Skills, Physical Activity And Enjoyment Among Inactive Student During The Covid-19 Era Improve After Exergame? *Journal of Physical Education (Maringa)*, *33*(2), e-3327. https://doi.org/10.4025/jphyseduc.v33i1.3327

Jumareng, H., Setiawan, E., & Németh, Z. (2022). Augmented pokemon go in times of COVID-19 : does it have any effect on promoting teenagers ' physical activity ? *Teorìâ Ta Metodika Fìzičnogo Vihovannâ*, *22*(3), 360–365. https://doi.org/10.17309/tmfv.2022.3.09

Jumareng, H., Setiawan, E., Patah, I. A., Aryani, M., Asmuddin, & Gani, R. A. (2021). Online learning and platforms favored in physical education class during COVID-19 era: Exploring student' perceptions. *International Journal of Human Movement and Sports Sciences*, *9*(1), 11–18. https://doi.org/10.13189/saj.2021.090102

Leisterer, S., & Gramlich, L. (2021). Having a positive relationship to physical activity: Basic psychological need satisfaction and age as predictors for students' enjoyment in physical education. *Sports*, *9*(7). https://doi.org/10.3390/sports9070090

Luo, Y. J., Lin, M. L., Hsu, C. H., Liao, C. C., & Kao, C. C. (2020). The effects of team-game-tournaments application towards learning motivation and motor skills in college physical education. *Sustainability (Switzerland)*, *12*(15), 1–12. https://doi.org/10.3390/su12156147

Malureanu, A., Panisoara, G., & Lazar, I. (2021). The relationship between self-confidence, self-efficacy, grit, usefulness, and ease of use of elearning platforms in corporate training during the covid-19 pandemic. *Sustainability (Switzerland)*, *13*(12). https://doi.org/10.3390/su13126633

Metan, H., & Küçük, V. (2022). The Effect of Psychological Skill Training Program and Positive Feedback on Handball Player's Self-Efficacy Beliefs and their Shot Accuracy. *Annals of Applied Sport Science*, *10*(3). https://doi.org/10.52547/aassjournal.1060

Moreno-Murcia, J. A., & Hernández, E. H. (2019). Effect of a teaching intervention on motivation, enjoyment, and importance given to Physical Education. *Motricidade*, *15*(2–3), 21–31. https://doi.org/10.6063/motricidade.16676

Muzakki, A., Arifin, B., Saputra, S. Y., Setiawan, E., Gani, A. R., & Nemeth, Z. (2022). Increasing students' mood state and self-confidence: 3 weeks plywood bow pvc archery program. *Edu Sportivo Indonesian Journal of Physical Education*, *3*(2), 149–157. https://doi.org/10.25299/es:ijope.2022.vol3(2).9761

Nopianto, W., Setiakarnawijaya, Y., Widiastuti, Daryono, & Lanos, M. E. C. (2021). Shooting skills training needs analysis in handball game for young athlete. *International Journal of Human Movement and Sports Sciences*, *9*(3), 554–559. https://doi.org/10.13189/saj.2021.090322

Novion, Z. (2018). Implementasi Model Pembelajaran Kooperatif Tipe Teams Games Tournament (TGT) Untuk Meningkatkan Hasil Belajar Siswa Pada Materi Menganalisis Teknik Dasar Passing Dalam Permainan Sepak Bola. *Journal Sport Area*, *3*(1), 87. https://doi.org/10.25299/sportarea.2018.vol3(1).1412

Oya, C., & Ishihara, Y. (2022). Characteristics of enjoyment of physical activity by gender and favorability of physical education classes. *Journal of Physical Education and Sport*, *22*(7), 1732–1741. https://doi.org/10.7752/jpes.2022.07217

Putra, D. D., Setiabudi, M. A., Nasution, U., Ibrahim, Wijaya, H. H., Mahyudi, Y. V., & Ningrum, D. T. M. (2021). The effect of game analytical game (GAG) to increase of basic skill shooting soccer player 6-9 years old. *International Journal of Human Movement and Sports Sciences*, *9*(4), 609–614. https://doi.org/10.13189/saj.2021.090401

Ramadhan, G. R. (2019). Effect of tournament team games team learning model on learning learning results. *Journal of Physical Education and Sport Science*, *1*(1), 26–37.

Rios, M., Fernandes, R. J., Cardoso, R., Monteiro, A. S., Cardoso, F., Fernandes, A., Silva, G., Fonseca, P., Vilas-Boas, J. P., & Silva, J. A. (2023). Physical Fitness Profile of High-Level Female Portuguese Handball Players. *International Journal of Environmental Research and Public Health*, *20*(9), 1-10. https://doi.org/10.3390/ijerph20095751

Rodríguez-Macías, M., Abad Robles, M. T., & Giménez Fuentes-Guerra, F. J. (2021). Effects of Sport Teaching on Students' Enjoyment and Fun: A Systematic Review and Meta-Analysis. *Frontiers in Psychology*, *12*(August), 1-21. https://doi.org/10.3389/fpsyg.2021.708155

Rohmansyah, N. A., Mawarti, S., & Hiruntrakul, A. (2022). The effect of teaching style on affective and cognitive motivation in physical education. *Jurnal Keolahragaan*, *10*(2), 147–156. https://doi.org/10.21831/jk.v10i2.41399

Rubiyatno, R., Perdana, R. P., Supriatna, E., Yanti, N., & Suryadi, D. (2023). Team Game Tournament (TGT)-type cooperative learning model: How does it affect the learning outcomes of football shooting? *Edu Sportivo Indonesian Journal of Physical Education*, *4*(1), 86–96. https://doi.org/10.25299/es:ijope.2023.vol4(1).12130

Saavedra, J. M., Halldórsson, K., Porgeirsson, S., Einarsson, I., & Guðmundsdóttir, M. L. (2020). Prediction of Handball Players' Performance on the Basis of Kinanthropometric Variables, Conditioning Abilities, and Handball Skills. *Journal of Human Kinetics*, *73*(1), 229–239. https://doi.org/10.2478/hukin-2019-0147

Setiawan, E., Iwandana, D. T., Festiawan, R., & Bapista, C. (2020). Improving handball athletes' physical fitness components through Tabata training during the outbreak of COVID-19. *Jurnal SPORTIF*, *6*(2), 375–389. https://doi.org/10.29407/js_unpgri.v6i2.14347

Sembiring, I., Tarigan, B., & Budiana, D. (2020). Model Kooperatif Team Games Tournament (TGT): Peningkatan kreatifitas, kerjasama dan keterampilan bermain sepakbola siswa tunarungu. Edu Sportivo Indonesian Journal of Physical Education, 1(2), 128–140. https://doi.org/10.25299/es:ijope.2020.vol1(2).5652

Soares, A. L. A., Leonardi, T. J., Silva, J., Nascimento, J. V., Paes, R. R., Gonçalves, C. E., & Carvalho, H. M. (2020). Performance, motivation, and enjoyment in young female basketball players: An interdisciplinary approach. *Journal of Sports Sciences*, *38*(8), 873–885. https://doi.org/10.1080/02640414.2020.1736247

Tjønndal, A. (2022). The impact of COVID-19 lockdowns on Norwegian athletes' training habits and their use of digital technology for training and competition purposes. *Sport in Society*, *25*(7), 1373–1387. https://doi.org/10.1080/17430437.2021.2016701

Usra, M., Bayu, W. I., Solahuddin, S., & Octara, K. (2023). Improving critical thinking ability using teaching game for understanding. *Journal of Physical Education and Sport*, *23*(2), 419–423. https://doi.org/10.7752/jpes.2023.02051

Vasiliadis, A. V., & Boka, V. (2021). Safe return to exercise after COVID-19 infection. *Sultan Qaboos University Medical Journal*, *21*(3), 373–377. https://doi.org/10.18295/squmj.8.2021.124

Wibowo, P. A. (2018). Peningkatan Keaktifan Siswa Dalam Permainan Futsal Melalui Metode TGT Pada Siswa Kelas X di SMA Selamat Pagi Indonesia Kota Batu. *JPJOK (Jurnal Pendidikan Jasmani, Olahraga dan Kesehatan)*, *1*(2), 14–23. https://doi.org/10.33503/jpjok.v1i2.164

Wong, A. Y. Y., Ling, S. K. K., Louie, L. H. T., Law, G. Y. K., So, R. C. H., Lee, D. C. W., Yau, F. C. F., & Yung, P. S. H. (2020). Impact of the COVID-19 pandemic on sports and exercise. *Asia-Pacific Journal of Sports Medicine, Arthroscopy, Rehabilitation and Technology*, *22*, 39–44. https://doi.org/10.1016/j.asmart.2020.07.006

Yuda, A. K., Resita, C., Nurwansyah, R., Gani, R. A., Németh, Z., & Setiawan, E. (2022). Confidence, Academic Stress, Coping Strategies as Predictors of Student Academic Achievement in Physical Education Classes During Covid-19. *Teorìâ Ta Metodika Fìzičnogo Vihovannâ*, *22*(2), 180–187. https://doi.org/10.17309/tmfv.2022.2.05

Zulfikar, M. L., & Budiana, D. (2019). Penerapan Model Pembelajaran Kooperatif Tipe Teams Games Tournament untuk Meningkatkan Partisipasi Belajar Siswa. *TEGAR: Journal of Teaching Physical Education in Elementary School*, *2*(2), 86–91. https://doi.org/10.17509/tegar.v2i2.15080

Team game tournaments to improve the enjoyment and basic technical of handball student-athletes: A randomized-controlled trial

ORIGINALITY REPORT

19%	18%	18%	5%
SIMILARITY INDEX	INTERNET SOURCES	PUBLICATIONS	STUDENT PAPERS

PRIMARY SOURCES

1	doaj.org Internet Source	7%
2	tmfv.com.ua Internet Source	4%
3	journal.uir.ac.id Internet Source	2%
4	www.riped-online.com Internet Source	2%
5	www.researchgate.net Internet Source	1%
6	coek.info Internet Source	1%
7	louisdl.louislibraries.org Internet Source	1%
8	Submitted to Western Governors University Student Paper	1%

Exclude quotes	Off	Exclude matches	< 1%
Exclude bibliography	On		