



Available online at:

<https://ejournal.upi.edu/index.php/penjas/article/view/35500>

DOI: <https://doi.org/10.17509/jpjo.v6i2.35500>

Differences between STAD Learning Model and DI Learning Model on Pencak Silat Learning Outcomes

Agi Ginanjar*, Riki Ramadhan, Wildan Adib, Fauzan Effendy

Department of Physical Education, Health and Recreation, STKIP Nahdlatul Ulama Indramayu, Indonesia

Article Info

Article History :

Received June 2021

Revised June 2021

Accepted August 2021

Available online September 2021

Keywords :

*DI learning model, learning outcomes,
Pencak Silat, STAD learning model*

Abstract

This study aimed to determine the effect differences of the Student Teams-Achievement Divisions (STAD) learning model and the Direct Instruction (DI) learning model on Pencak Silat learning outcomes. The research method used was an experimental quantitative approach with an intact-group comparison design. Participants from the population included 44 students (23 boys and 21 girls) aged 14-15 years selected using systematic sampling. Data collection techniques used observation and document analysis. The data analysis technique employed the independent samples t-test. The study results concluded that there were differences in the effects of the DI learning model and the STAD learning model on Pencak Silat learning outcomes. Furthermore, the result showed that the STAD learning model was better than the DI learning model. Thus, the STAD learning model can improve the Pencak Silat learning outcomes of Junior High-school students.

INTRODUCTION

The results of several studies reported that the Direct Instruction (DI) learning model has been successful in improving the learning outcomes of one of the movements in sports (Novia, 2019; Nur, Jonni, & Syampurna, 2019; A. Setiawan, Kharisma, & Yohan, 2020; Suherlan, 2019; Syahrudin, Saleh, Saleh, & Irmawati, 2020). However, several previous studies have also stated that there are still shortcomings, such as applying the DI learning model that must be strictly controlled in terms of material explanation to students (Shahrudin et al., 2020). Then, by using the DI learning model, students will lack of creativity (Ginanjar & Ramadhan, 2021; E. Setiawan, Juliantine, & Komarudin, 2017). In addition, basic competencies of the curriculum structure at the Junior High School level require students to show cooperation in carrying out various activities (Permendikbud No. 68 of 2013). By applying the DI learning model, these basic competencies cannot be achieved. It is because the DI learning model does not require students to cooperate in fulfilling basic competencies. Therefore, a learning model is needed to fulfill both the core and basic competencies; hence, the students train their movement abilities and social skills.

The learning model that is considered to fulfill all of these requirements is the cooperative learning (CL) model. The theme of this CL model is "Students Learning With, By, and For Each Other" (Metzler, 2005), which means that students learn by themselves and with other students. CL model requires learning groups that help each other, among students, in the learning process to achieve the learning objectives that have been set. This learning model is a set of instructional methods in which students work in small groups to help each other learn academic materials (Barrett, 2005; Slavin, 1991). Hence, students need to interact with each other positively within the group, which leads to academic and social outcomes. In Indonesia, research regarding the CL model has long developed and become popular in overcoming the problems of Physical Education learning. Various types of CL models can be used, such as Student Teams-Achievement Divisions (STAD) learning model, Team Games Tournament (TGT) learning model, Team-Assisted Instruction (TAI) learning model, Jigsaw learning model, and Group Investigation learning model (GI) (Ginanjar, 2016; Metzler, 2000, 2005; Suherman, 2009). One type of CL model applied

in this study was the STAD learning model. In using the STAD learning model in the teaching and learning process, all students were divided into groups with no competition in the groups (Metzler, 2000, 2005). All groups were given the same task to show both knowledge and skills learning outcomes in the first and second exercises, as seen in the first and second assessments. The keys of the STAD learning model are the first exercise, the first assessment, the second exercise, and the second assessment (Ginanjar, 2016; Jolliffe, 2007). In line with research development using the STAD learning model, this model is highly recommended in Physical Education learning because it can improve students' achievements in all subjects and has been proven effective at several grade levels (Barrett, 2005). In Indonesia, this model has been successful in learning Physical Education in elementary schools (Asri & Haeril, 2021; Barrett, 2005; Masdiyo, 2016; Wulandari, Henjilito, & Sunardi, 2021), in junior high schools (Fitriyanto, Sudiana, & Wijaya, 2020; Susila, Setiawan, & Artha, 2019; Tama, Artanayasa, & Satyawan, 2019), and in senior high schools (Pridani, Insanisty, Arwin, & Defliyanto, 2018; Suardika & Setiawan, 2019; Syafruddin & Herman, 2021).

At junior high school level or adolescent students, there has been limited research on applying the STAD learning model in Physical Education learning through Pencak Silat. Related study at the junior high school level through Pencak Silat has not been carried out. Initial works in this field focused primarily on invasive and team sports, such as basketball (Fitriyanto et al., 2020), volleyball (Susila et al., 2019), and soccer (Tama et al., 2019). For individual sports, research conducted outside Indonesia at junior high school or equivalent level, the CL model was employed in gymnastics (O'Leary, Wattison, Edwards, & Bryan, 2015) and mostly carried out in elementary schools (Dyson, 2001, 2002; Dyson, Colby, & Barratt, 2016; Dyson, Linehan, & Hastie, 2010; Wallhead & Dyson, 2017).

Furthermore, the core competency that must be achieved in understanding the concept of basic martial art movements (Permendikbud No. 68 of 2013). In the Pencak Silat learning materials, various movement techniques are learned: the front kick. The front kick is done by lifting one leg and then kicking it straight forward with the toes facing up and pounding the sole

along towards the opponent (Nasution & Pasaribu, 2017). Therefore, the front kick is one of the basic movements that students must possess in fulfilling the core competencies of martial arts. For this reason, this study was aimed to determine the effect differences between the STAD learning model and the DI learning model on Pencak Silat learning outcomes.

METHODS

The research method used in this study was an experimental quantitative approach with an intact-group comparison design. Two classes served as research classes. The experimental class employed the STAD learning model, while the control class applied the DI learning model.

Participants

Participants came from a population of 44 students (23 boys and 21 girls) aged 14-15 years. The research classes were divided through a systematic sampling technique with odd and even sequences. Odd sequence numbers belong to the experimental class, whereas the even sequence numbers belong to the control class.

Instrument

The research instrument used in this study was an observation sheet for the stages of the front kick movement in Pencak Silat (Nasution & Pasaribu, 2017), see Table 1, which was supported by videos of students' movements in performing the front kick movement in Pencak Silat. The instrument used four scales of scoring criteria for each of the stages of the front kick movement in Pencak Silat. For example, in the first movement stage, the fundamental stance and the gaze are straight ahead. Assessment criteria: score four if the position of the basic stance and the gaze are straight ahead, score three if the position of the basic stance and the gaze are facing the right side, score 2 if the position of the basic stance and the gaze are facing right and left, score 1 if the position of the basic stance and the gaze are facing down. The details of research instruments are available on the research results (Adib, 2021; Ginanjar & Ramadhan, 2021).

Procedure

Table 1. Observation Sheet for the Stages of Front Kick in Pencak Silat

Movement Stages of Front Kick in Pencak Silat	Score			
	4	3	2	1
The position of the basic stance and the gaze are straight ahead.				
Knees are lifted in front of the body				
The position of the body when lifting the right or left leg is in a balanced state.				
Releasing the right or left leg straight ahead				
The position of the body when releasing the right or left leg is in a balanced state				
The position of both hands are close to the body				
Pull the right and left leg with the knees close to the start position.				
The position of the body when the knees close is in a balanced state.				
The position of both hands is in front of the chest.				
Back to the basic stance in a balanced state.				

This research was conducted for seven meetings in the experimental and control classes to apply the learning model on different days. One session was used to take the pretest. On the other hand, the posttest was carried out after the last meeting was held. There was a one-hour break beforehand to prepare for the posttest, and participants rested to obtain optimal test results so that a total of 16 meetings were held from the two research classes. The time allocation for each session was 80 minutes, while the meeting frequency was twice a week—the intervention program presented in Table 2.

Table 2. Intervention Program of Experimental Class

Meeting	Treatment
1	Pretest
2	Lifting the right and the left knees in front of the body
3	Balancing the position of the body when lifting the right or left legs
4	Releasing the right or left legs straight ahead
5	Balancing the body when releasing the right or left leg
6	Pulling the right or left legs with the knees close to the start position.
7	Balancing the position of the body with the knees close to the start position
8	<ul style="list-style-type: none"> • Back to the basic stance in a balanced state. • Posttest

Model fidelity is considered from two points, namely planning and implementation. Planning is seen from the preparation of the teacher making lesson plans. In contrast, implementation is seen from implementing the STAD learning model by the teacher in

physical education learning. Researchers used the CL operational model (Metzler, 2000, 2005). A more precise assessment of the operating model can be seen in Table 3.

The assessment involved three experts working as lecturers from one of the universities in the eastern part

Table 3. Observation Sheet of the Model Operational

Model Operational	Stages of the Model Operational	P	I
Content List	<ul style="list-style-type: none"> The teacher delivers the goal of the learning objectives explicitly The teacher divides students into several groups 		
Group Selection	<ul style="list-style-type: none"> The teacher chooses heterogeneous groups with the same number of students in each group The teacher asks the students' responses regarding the group division 		
Presentation of Tasks and Problem Setting	<ul style="list-style-type: none"> The teacher gives the chances to the students to practice along with their groups The teacher gives the chances to the students along with their groups to conduct test 		
Bring Equipment to the Classroom	<ul style="list-style-type: none"> The teacher prepares the required equipment, including the ones that are needed to conduct tests 		
Structure of Assignments	<ul style="list-style-type: none"> The teacher gives instructions to the students so they can work and study together in each group The teacher gives instructions so the skilled students can teach the unskilled students 		
Relationship Pattern	<ul style="list-style-type: none"> Students work together to study in their group Skilled students teach unskilled ones 		
Problem Mediation	<ul style="list-style-type: none"> When there is a problem/lack of understanding, students and their groups work together to solve the problem Students ask the teacher's opinion when there is a problem/lack of understanding related to the assigned task 		
Test Assessment	<ul style="list-style-type: none"> Teacher designs tests. Students and their groups work together to get the best test results (on the first test and the second test) 		
Social skill Assessment	<ul style="list-style-type: none"> Teacher designs form of interaction assessment that occurs between students and their groups 		
Instructional Process	<ul style="list-style-type: none"> Students and their groups together decide to plan and implement their way of learning 		

Note: P = Planning; I = Implementation

of West Java Province in the Health and Recreation Physical Education Study Program (PJKR). Calculation of inter-rater reliability between raters obtained a value of 0.79 on planning and 0.86 on implementation.

Data Analysis

The data analysis technique used descriptive statistics to see the difference in mean, standard deviation, and variance. To find out the difference in the learning outcomes of Pencak Silat from the two research classes, it was analyzed using an independent samples t-test

with the help of SPSS.

RESULT

The calculation of statistical descriptions found that the mean was 32.45 for the experimental class and 30.68 for the control class. The standard deviation in the experimental class was 2.36, while the standard deviation in the control class was 1.36. The variance in the experimental class was 5.59 and in the control class was 1.85. To answer the research objectives that wanted to test the differences in the effect of the DI learning model and the STAD learning model on Pencak Silat learning outcomes, the data were analyzed using an independent samples t-test. The results showed t 3.04 with df n-1 (44-2=42) and Sig. 0.00 < 0.05, so there is a difference in the effect of the DI learning model and the STAD learning model on the Pencak Silat learning outcomes. The STAD learning model is better than the DI learning model in improving Pencak Silat's learning outcomes. More details are presented in Table 4.

Table 4. Results of Independent Samples T-Test

Class	Mean	STD	Variance	T	Df	Sig.
Experiment	32,45	2,36	5,59			
Control	30,68	1,36	1,85	3,04	42	0,00

DISCUSSION

Based on the results of research that has been conducted, this study states that there is a difference in the effect of the DI learning model and the STAD learning model on Pencak Silat learning outcomes. The STAD learning model is better than the DI learning model in improving Pencak Silat's learning outcomes. These results provide a new point of view and illustration that the STAD learning model can be used in Physical Education learning at the MTs class level in Indonesia. Thus, this study also supports the results of research carried out in Physical Education learning using the STAD learning model, stating that it has a positive impact at the Junior High School level (Fitriyanto et al., 2020; Susila et al., 2019; Tama et al., 2019), which is equivalent to MTs level in Indonesia. Hence, the CL model, which uses consistent social aspects, shows the ecology of physical activity in Physical Education (Dyson et al., 2010).

At the first time implementing the STAD learning model, the teacher experienced problems because it required adaptation to the use of the model. The teacher still seemed to be groping, especially when giving the first and the second tests. Once the students performed the movement task with each group, the teacher still directed the students according to the teacher's instructions. This is not following the opinion that in the CL model, when students perform the movement task, the teacher becomes a facilitator and monitors the social interactions (Metzler, 2000, 2005). This might be because, as explained earlier, teachers often use the DI learning model in teaching Physical Education. In line with this, the CL model requires practitioners to use a variety of theoretical insights coupled with context-sensitive understanding, and practitioners face difficulty translating theory into Practice (O'Leary et al., 2015). After the first lesson, the researcher and the teacher discussed what happened during the learning process. The discussion results showed that from the second lesson until the last lesson, the teacher could use the STAD learning model according to what was discussed. Yet, the problem that occurred was still related to the administration of the test. The test was too long, so it exceeded the predetermined time allocation, which ultimately impacted the second exercise, which had less time allocation than the first exercise.

Looking at the lesson plans that the teacher had prepared, the teacher had been prepared, but the test used an observation sheet. This took a long time to perform the test. Therefore, for further research, it is better to use movement tests in designing tests with the STAD learning model or giving movement tests that can facilitate group tests rather than test students one by one. The most unavoidable in using the STAD learning model from the first lesson to the last lesson was that when one group did the test, the other group did not continue to practice. Instead of paying attention to the group who was doing the test, they laughed and talked with their friends in the group. Thus, it should be the focus of future research. The most visible impact for students was that students interacted with each other. Each student and their group worked together very well. They were willing to teach each other. Thus, the STAD learning model can facilitate "students to work together to learn, not learn to cooperate." This is in line with the statement that the CL model is a set of alternative instructional methods in which students work in small groups

to help each other by interacting with each other, leading to academic and social outcomes (Barrett, 2005; Slavin, 1991).

In line with this, students who study using the STAD learning model can receive material correctly and adequately with their groups (Fitriyanto et al., 2020); there is interaction from each group to get better abilities (Susila et al., 2019). However, this study did not find a process of interaction between students where those who had a good movement gave direction or explanation to students who had poor movement. Instead, it could be found in the operational assessment stage of the model. In line with this, students are given less knowledge content, and, not surprisingly, students find it challenging to transfer limited knowledge to be taught to their peers (O'Leary et al., 2015). Therefore, teachers need to provide more mediated interventions to groups to realign with didactics (Dyson et al., 2016). From the results of this study, since it is more directed to the learning movement results, further research is expected to concentrate more on the social outcomes of each group or individual by using the STAD learning model and the preparation of teachers in assessing social interaction, which is in line with what was found in the operational assessment stage of the model. In addition, it can lead to an affective domain, such as student motivation in participating in Physical Education learning using the STAD learning model.

The most exciting thing happened, apparently in both the experimental class and the control class. It seems to have become a characteristic of students participating in Physical Education learning in Indonesia; students often joke and chat with other friends. However, if the teacher gives a warning, all students return to their Practice. The CL model promises a lot for Physical Education learning, but its implementation is not easy or problem-free (Dyson, 2002). Given the advantages and disadvantages of this study, the researchers suggest that a more in-depth analysis be carried out related to the findings that occurred in this study. It is not just a discussion of the results. However, when the STAD learning model is used, it needs to be in the spotlight in every learning activity that is carried out. The initial studies also state that the STAD learning model can be used in Physical Education learning at the Junior High School level (Fitriyanto et al., 2020; Susila et al., 2019; Tama et al., 2019), which is equivalent to MTs.

Yet, no one has revealed in detail the Physical Education learning process using the STAD learning model.

CONCLUSION

The results of this study indicate differences in the effect of the DI learning model and the STAD learning model on the Pencak Silat learning outcomes, in which the STAD learning model is better than the DI learning model. Thus, the STAD learning model can be used to improve Pencak Silat learning outcomes for MTs students. In addition, the STAD learning model can be used in Physical Education learning for Junior High School students or equivalent. However, further investigation is needed regarding the findings of this study which have been described in the discussion section both from teachers, as users of the STAD learning model, and students who receive learning material using the STAD learning model.

CONFLICT OF INTEREST

The authors declared no conflict of interest.

REFERENCES

- Adib, W. (2021). Pengaruh Model Pembelajaran Student Teams Achievement Divisions Terhadap Hasil Belajar Teknik Tendangan Depan Pencak Silat. *Jurnal Kependidikan Jasmani Dan Olahraga*, 2(1), 22–29.
- Asri, A., & Haeril. (2021). Pengaruh Model Pembelajaran Kooperatif Tipe Stad (Student Team Achievement Division) Terhadap Kemampuan Dasar Senam Rhytmik. *Jendela Olahraga*, 6(1), 89–97. <https://doi.org/10.26877/jo.v6i1.6938>
- Barrett, T. (2005). Effects of cooperative learning on the performance of sixth-grade physical education students. *Journal of Teaching in Physical Education*, 24(1), 88–102. <https://doi.org/10.1123/jtpe.24.1.88>
- Dyson, B. P. (2001). Cooperative Learning in an Elementary Physical Education Program. *Journal of Teaching in Physical Education*, 20(3), 3. <https://doi.org/10.1123/jtpe.20.3.264>
- Dyson, B. P. (2002). The implementation of cooperative learning in an elementary physical education program. *Journal of Teaching in Physical Education*, 22(1), 69–85. <https://doi.org/10.1123/jtpe.22.1.69>
- Dyson, B. P., Colby, R., & Barratt, M. (2016). The co-construction of cooperative learning in physical education with elementary classroom teachers. *Journal of Teaching in Physical Education*, 35(4), 370–380. <https://doi.org/10.1123/jtpe.2016-0119>
- Dyson, B. P., Linehan, N. R., & Hastie, P. A. (2010). The ecology of cooperative learning in elementary physical education classes. *Journal of Teaching in Physical Education*, 29(2), 113–130. <https://doi.org/10.1123/jtpe.29.2.113>
- Fitriyanto, H., Sudiana, I. K., & Wijaya, M. A. (2020). Pengaruh Model Pembelajaran Berbantuan Aplikasi Google Classroom Terhadap Hasil Belajar Bola Basket. *Jurnal Penjakora*, 7(1), 57–68. <https://doi.org/10.23887/penjakora.v7i1.24441>
- Ginanjar, A. (2016). Implementasi Praktis Model-model Pembelajaran Pendidikan Jasmani. Indramayu: Program Studi Pendidikan Jasmani Kesehatan dan Rekreasi STKIP Nahdlatul Ulama Indramayu.
- Ginanjar, A. (2021). Statistika Terapan Dalam Pendidikan Jasmani & Olahraga: Aplikasi Microsoft Excel & SPSS. Yogyakarta: Deepublish.
- Ginanjar, A., & Ramadhan, R. (2021). Pengaruh Model Pembelajaran Direct Instruction Terhadap Teknik Dasar Tendangan Depan Pencak Silat Siswa Madrasah Tsanawiyah. *Jurnal Kependidikan Jasmani Dan Olahraga*, 2(1), 1–8.
- Jolliffe, W. (2007). Cooperative Learning in the Classroom: Putting it into Practice. In *Cooperative Learning in the Classroom: Putting it into Practice Cooperative learning in the classroom: Putting it into Practice*. London: Paul Chapman.
- Masdiyo. (2016). Upaya Meningkatkan Motivasi Dan Hasil Belajar Lompat Jauh Gaya Jongkok Dengan Penerapan Model Pembelajaran Kooperatif STAD Pada Siswa Kelas IV SDN Batokerbuy 5 Kabupaten Pamekasan Tahun Pelajaran 2015/2016. *Jurnal SPORTIF : Jurnal Penelitian Pembelajaran*, 2(1), 59–64. https://doi.org/10.29407/js_unpgri.v2i1.656
- Metzler, M. W. (2000). *Instructional Models for Physical Education*. Massachusetts: Allyn and Bacon.
- Metzler, M. W. (2005). *Instructional Models for Physical Education (2nd ed.)*. Scottsdale, Arizona: Holcomb Hathaway.
- Nasution, F. H., & Pasaribu, F. S. (2017). *Buku Pintar Pencak Silat Untuk Pelajar, Atlet & Semua Orang*. Jakarta: Anugerah.
- Novia, A. (2019). Pengaruh Model pembelajaran Direct Teaching Dalam Pembelajaran Passing Atas Pada Siswa Kelas X. *JUARA : Jurnal Olahraga*, 4(1), 9–12. <https://doi.org/10.33222/juara.v4i1.383>
- Nur, H., Jonni, & Syampurna, H. (2019). Pengaruh Model Pembelajaran Langsung dalam Meningkatkan Penguasaan Teknik Dasar Sepaktakraw. *Jurnal Performa*, 4(1), 29–39.
- O’Leary, N., Wattison, N., Edwards, T., & Bryan, K. (2015). Closing the theory-practice gap: Physical education students’ use of jigsaw learning in a secondary school. *European Physical Education Re-*

- view, 21(2), 176–194. <https://doi.org/10.1177/1356336X14555300>
- Permendikbud No. 68. (2013). Kerangka Dasar dan Struktur Kurikulum Sekolah Menengah Pertama / Madrasah Tsanawiyah. Jakarta: Kementerian Pendidikan dan Kebudayaan.
- Pridani, I., Insanistyo, B., Arwin, & Defliyanto. (2018). Meningkatkan Keterampilan Lay Up Permainan Bola Basket Dengan Penerapan Metode Pembelajaran Kooperatif Tipe Student Team Achievements Divisions (STAD) Siswa Kelas X MIPA SMA Negeri 1 Bengkulu Tengah. *KINESTETIK: Jurnal Ilmiah Pendidikan Jasmani*, 2(2), 226–232. <https://doi.org/10.33369/jk.v2i2.8745>
- Setiawan, A., Kharisma, Y., & Yohan, S. (2020). The Effect of Direct Instruction Learning Model on The Forearm Pass Learning Outcome in Volleyball. *Jurnal Pendidikan Jasmani Dan Olahraga*, 5(2), 143–148. <https://doi.org/10.17509/jpjo.v5i2.23487>
- Setiawan, E., Juliantine, T., & Komarudin. (2017). Development Creativity Students through Problem Based Learning Model in Physical Education in Reviewed of Adversity Quotient. *Jurnal Pendidikan Jasmani Dan Olahraga*, 2(2), 8–13. <https://doi.org/10.5220/0007066606110613>
- Slavin, R. E. (1991). Cooperative learning and group contingencies. *Journal of Behavioral Education*, 1 (1), 105–115. <https://doi.org/10.1007/BF00956756>
- Suardika, I. K., & Setiawan, G. H. (2019). Implementasi Model Pembelajaran Kooperatif Tipe Student Teams Achievement Division Untuk Meningkatkan Aktivitas Dan Hasil Belajar Teknik Dasar Menendang Sepakbola. *Jurnal Penjakora*, 6(1), 50–56. <https://doi.org/10.23887/penjakora.v6i1.17346>
- Suherlan, E. (2019). Pengaruh Perbandingan Antara Model Pembelajaran Direct Instruction Dengan Model Project Based Learning Terhadap Hasil Belajar Backhand Pada Siswa Kelas Iv Sd Negeri Cipaku Kecamatan Sukaraja. *JURNAL PAJAR (Pendidikan Dan Pengajaran)*, 3(5), 1137–1143. <https://doi.org/10.33578/pjr.v3i5.7871>
- Suherman, A. (2009). Model Pembelajaran Pendidikan Jasmani: Alternatif Pengembangan dan Implementasi Model Pembelajaran dalam Pengajaran Pendidikan Jasmani. Bandung: FPOK UPI Bandung.
- Susila, G. H. A., Setiawan, G. H., & Artha, I. K. A. (2019). Implementasi Model Pembelajaran Kooperatif Tipe Student Teams Achievement Division (STAD) Berlandasan Tat Twam Asi Untuk Meningkatkan Aktivitas Dan Hasil Belajar Teknik Dasar Passing Bola Voli. *Jurnal Penjakora*, 6(1), 1–10. <https://doi.org/10.23887/penjakora.v6i1.17345>
- Syafruddin, M. A., & Herman. (2021). Pengaruh Pembelajaran Kooperatif Tipe STAD terhadap Kecerdasan Emosi Siswa SMK N 2 Somba OPU Kabupaten Gowa. *Jendela Olahraga*, 6(1), 97–105. <https://doi.org/10.26877/jo.v6i1.6889>
- Syahrudin, Saleh, M. S., Saleh, M. S., & Irmawati. (2020). Effect Of Direct Learning Method And Problem Solving Learning Method On High Jump Skill. *Jp.Jok (Jurnal Pendidikan. Jasmani , Olahraga Dan Kesehatan)*, 3(2), 165–176. <https://doi.org/10.33503/jp.jok.v3i2.793>
- Tama, I. G. S., Artanayasa, I. W., & Satyawan, I. M. (2019). Pengaruh Model Pembelajaran Kooperatif Tipe Student Teams Achievement Division (STAD) Terhadap Hasil Belajar Passing Sepakbola. *Jurnal Penjakora*, 6(1), 35–41. <https://doi.org/10.23887/penjakora.v6i1.17641>
- Wallhead, T., & Dyson, B. (2017). A didactic analysis of content development during Cooperative Learning in primary physical education. *European Physical Education Review*, 23(3), 311–326. <https://doi.org/10.1177/1356336X16630221>
- Wulandari, T. A., Henjilito, R., & Sunardi, J. (2021). Upaya Meningkatkan Keterampilan Passing Bawah Bola Voli Dengan Menggunakan Model Pembelajaran Student Teams Achievement Division. *Jurnal Pendidikan Jasmani Indonesia*, 17(1). <https://doi.org/10.21831/jpji.v17i1.39092>