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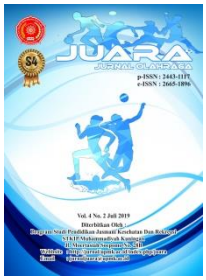

THE SPORT EDUCATION MODELS ON PHYSICAL ACTIVITY OF JUMPING ROPE PERFORMANCE IN ELEMENTARY SCHOOL

Shela Ginanjar[1*], Taufik Rihatno[2], Dena Widyawan[3]

[1,2,3]Department of Physical Education, Universitas Negeri Jakarta, Indonesia

*e-mail: shelaginanjar@unj.ac.id

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Abstract

The sports education learning model in physical education is currently widely applied by collaborating with team sports such as football, volleyball, and basketball. Regarding fitness material, very few use this sports education model. This will provide great benefits for students. The aim of this research is to test the effectiveness of learning to jump rope using the sports education learning model. The population in this study was Darussalam Elementary School, totaling 18 classes. The sample was chosen randomly and assigned to elementary school students at Darussalam Elementary School V.A. and V.B. classes, with 20 students each. The jump rope test was carried out for 1 minute, 1 minute, and 30 seconds. The results of the research show that students who study with the sports education model obtain better results than students who study with the conventional model regarding physical activity and performance in learning jump rope at Darussalam Elementary School. Teachers' skills in mastering MVPA are the key to maintaining students' fitness and health. Further studies regarding the use of this sports education model in football, volleyball, and basketball should pay attention to differences according to gender and other aspects such as student responsibility and discipline.

✉ Alamat korespondensi: Jl. R.Mangun Muka Raya No.11, RT.11/RW.14, Rawamangun, Kec. Pulo Gadung, Kota Jakarta Timur, Daerah Khusus Ibukota Jakarta 13220

E-mail : shelaginanjar@unj.ac.id

INTRODUCTION

Today's physical education learning still uses direct or teacher-centred instruction based on their own experiences or modelled by other teachers (Dervić et al., 2018; Murphy et al., 2021; Nuñez Enriquez & Oliver, 2021). This model is usually characterised by the dominant role of the teacher and the repeated assignment of tasks to students. In practice, students will learn based on the instructions given to them by the teacher without understanding the benefits of the learning provided. This condition actually burdens students and makes them bored. To avoid boredom, learning is needed that challenges students to find, solve problems, and answer their questions (Ginanjar et al., 2020). Therefore, we need a new approach that is more fun and challenges students to learn.

The learning model that was introduced to teachers several years ago and has attracted a lot of research attention is the sport education model (Siedentop et al., 2019). Sport Education's goal is to create an authentic sports experience that will help students develop into competent, educated, and enthusiastic sportsmen (Siedentop, 1994); Siedentop, 1998). This Sport Education Model has main characteristics that strengthen the goals of physical education, namely: 1) learning conditions that are like real sports activities, marked by seasons, registration, formal competition, affiliation, peak events, and parties; 2) there are three educational strategies, namely the development of responsibility through the assignment of roles, content adapted to student abilities, and the existence of gradual or seasonally based teaching units (Siedentop et al., 2019; Gutiérrez et al., 2020).

The Sport Education model in physical education learning is based on evidence showing this technique can improve student learning, motivation, and achievement (Metzler & Colquitt, 2021), it is also able to facilitate increased student motivation in physical education (Valério et al., 2021). The sport education model focuses on six main objectives in its learning, namely seasons, team affiliation, competition official and practice, record keeping, celebrations, and pinnacle events. This situation makes learning active, innovative, and fun for students (Ginanjar et al., 2022). The sport education model is a solution for physical education teachers; in the implementation of their learning, they can simultaneously teach the values contained in sports, for example, the elements of sportsmanship and teamwork that are reflected in the practice of basketball. Students are also expected to be able to organise the material obtained in physical education subjects (Ginanjar & Tarigan, 2018). It needs to be understood that sport is still an inherent part of Indonesian society.

The implementation of the sport education model in physical education can be applied to several sports categories: 1) Racquet Sports. 2) target sports, 3) team sports, and 4) martial arts (Siedentop, 1994), and can also be applied to both male and female genders (MacPhail et al., 2012). In connection with the broad scope of physical education activities and the currently developing activities that can be used as learning media, this will provide opportunities for students to be able to interact with other individuals or groups and develop their potential and talents (Asyrofie Aulawy et al., 2022). Innovation is needed in physical education learning (Hafid & Damiti, 2023) to support quality physical education learning. The author is interested in trying to use this sport education model to teach students jump rope. In another view, teachers are able to create an effective learning experience using jump rope activities during physical education learning sessions.

METHODS

The method used in this study was an experiment by giving treatment to the experimental group using the randomized control group pretest-posttest design (Creswell, 2018). In conducting the research, the experimental group studied using the sport education model, and the control group used the conventional model. The main purpose of this study was to see how physical education influences the sport education model and conventional approaches to jump rope performance and student heart rate monitors. The test instrument used was a jump rope test for 1 minute, 1 minute, and 30 seconds. The population in this study was Darussalam Elementary School with a total of 18 classes, and the research sample was students of Darussalam Elementary School classes V.A. and V.B. with a total of 20 students each. Class V.A. will learn using the sport education model, while class V.B. will use the conventional model. Data analysis follows the steps: 1) The normality test used is the Kolmogorov-Smirnov with a p-value > 0.05. 2) The homogeneity test used is the Levene test with a p-value > 0.05. 3) Data analysis using the ANOVA test at a p value > 0.05

Procedure and Test

Some of the preparations made by the author include:

1. Survey to see actual problems that occur; then, communicate with the principal and physical education teacher at Darussalam Elementary School regarding permission to conduct research.
2. The author sent a notification letter to the parents of the students in the period July to September 2023. The students involved were Darussalam Elementary School students who had received approval from their parents. Each participant and their parents agreed to participate in this study. From an ethical perspective, all procedures have been approved by the Jakarta State University ethics committee.
3. The author determines the population and research sample and prepares research equipment in the form of a rope as a medium for jumping rope.
4. Conduct a pretest at Darussalam Elementary School in the form of a jump rope test.
5. The treatment using the sport education model in the experimental group and conventional in the control group Schedule The experimental group was held every Thursday, while the control group was held on Friday. This physical education activity was held in seven meetings, each lasting 90 minutes.
6. Conduct a posttest at Darussalam Elementary School in the form of a jump rope test.

FINDINGS AND DISCUSSION

Findings

The following presents the findings of the research, including:

1. Characteristics of the Research Subjects

Based on Table 1, we can know some of the characteristics of the students who are the subject of this study. To be more specific, the author divides it into male and female groups within each group. For the number of male and female participants in each group, there are 10 students. The average age of male and female participants in each group was 11 years. while for the category of body mass index, experiment male has an average of 18.87 (normal), experiment female has an average of 19.12 (normal), control male has an average of 21.42 (disproportionate), and control female has a number of 16.28 (disproportionate).

2. Results of Jump Rope Performance

The experimental group who studied using the sport education model in the first 1 minute of the pretest obtained a mean score of 19,200 with a standard deviation of 4,937. For the posttest, a mean score was obtained of 25,500 with a standard deviation of 6,878. In the second 1 minute of the pretest, a mean score of 23,800 was obtained with a standard deviation of 8,433. For the posttest, a mean score of 30.950 was obtained with a standard deviation of 9.933. In the third 30 seconds of the pretest, a mean score of 15,850 was obtained with a standard deviation of 3,745. For the posttest, a mean score of 21,250 was obtained with a standard deviation of 6,796.

The control group that studied using the conventional model in the first 1 minute of the pretest obtained a mean score of 13,650 with a standard deviation of 3,587. For the posttest, a mean score was obtained of 14,350 with a standard deviation of 4,246. In the second 1 minute of the pretest, a mean score of 23,900 was obtained with a standard deviation of 11,120. For the posttest, a mean score of 25,300 was obtained with a standard deviation of 10,741. In the third 30 seconds of the pretest, a mean score of 17.250 was obtained with a standard deviation of 4.351. For the posttest, the mean score was 18.050 with a standard deviation of 3.734.

Table1. Characteristics of the Research Subjects

Subject	N	Average of Age	Body Mass Index	
			Average	Description
Experiment Male	10	11	18.87	Normal
Experiment Female	10	11	19.12	Normal
Control Male	10	11	21.42	Normal
Control Female	10	11	16.28	Disproportionate

Table 2. Results of Jump Rope Performance

Experiment Group	N	Mean	Std. Deviation	Control Group	N	Mean	Std. Deviation
Experiment_1MF_Performance_Pretest	20	19.200	4.937	Control_1MF_Performance_Pretest	20	13.650	3.587
Experiment_1MF_Performance_Posttest	20	25.500	6.878	Control_1MF_Performance_Posttest	20	14.350	4.246
Experiment_1MS_Performance_Pretest	20	23.800	8.433	Control_1MS_Performance_Pretest	20	23.900	11.120
Experiment_1MS_Performance_Posttest	20	30.950	9.933	Control_1MS_Performance_Posttest	20	25.300	10.741
Experiment_30s_Performance_Pretest	20	15.850	3.745	Control_30s_Performance_Pretest	20	17.250	4.351
Experiment_30s_Performance_Posttest	20	21.250	6.796	Control_30s_Performance_Posttest	20	18.050	3.734

1MF = 1 Minute First; 1MS = 1 Minute Second; 30s = 30 Second

Table 3. Normality Test Results of Jump Rope Performance

Experiment Group	Test Statistic	Asymp. Sig. (2-tailed)	Control Group	Test Statistic	Asymp. Sig. (2-tailed)
Experiment_1MF_Performance_Pretest	0.154	0.200	Control_1MF_Performance_Pretest	0.172	0.124
Experiment_1MF_Performance_Posttest	0.186	0.067	Control_1MF_Performance_Posttest	0.160	0.193
Experiment_1MS_Performance_Pretest	0.191	0.055	Control_1MS_Performance_Pretest	0.168	0.142
Experiment_1MS_Performance_Posttest	0.188	0.062	Control_1MS_Performance_Posttest	0.174	0.114
Experiment_30s_Performance_Pretest	0.140	0.200	Control_30s_Performance_Pretest	0.147	0.200
Experiment_30s_Performance_Posttest	0.165	0.159	Control_30s_Performance_Posttest	0.155	0.200

1MF = 1 Minute First; 1MS = 1 Minute Second; 30s = 30 Second

Table 4. Homogeneity Test Results of Jump Rope Performance

Experiment Group >< Control Group	Levene Statistic	df1	df2	Sig.
Performance_1MF	15.293	1	38	0.000
Performance_1MS	8.141	1	38	0.007
Performance_30s	6.122	1	38	0.018

1MF = 1 Minute First; 1MS = 1 Minute Second; 30s = 30 Second

Tabel 5. ANOVA Test Results for Jump Rope Performance

Experiment Group >< Control Group	df	Mean Square	F	Sig.

Performance_1MF	1	313.600	25.120	0.000
Performance_1MS	1	330.625	95.651	0.000
Performance_30s	1	211.600	30.003	0.000

1MF = 1 Minute First; 1MS = 1 Minute Second; 30s = 30 Second

3. Normality Test Results of Jump Rope Performance

The results of the normality test in the experimental group in the first 1 minute of the pretest obtained a statistical value of 0.154 with a significance value of 0.200, for the posttest a statistical value of 0.186 was obtained with a significance value of 0.067. At second 1 minute pretest obtained a statistical value of 0.191 with a significance value of 0.055, for the posttest obtained a statistical value of 0.188 with a significance value of 0.062. At third 30 seconds pretests obtained a statistical value of 0.140 with a significance value of 0.200, for the posttest a statistical value of 0.165 was obtained with a significance value of 0.159.

While the control group in the first 1 minute of the pretest obtained a statistical value of 0.172 with a significance value of 0.124, for the posttest a statistical value of 0.160 was obtained with a significance value of 0.193. At second 1 minute both pretests obtained a statistical value of 0.168 with a significance value of 0.142, for the posttest a statistical value of 0.174 was obtained with a significance value of 0.114. At third 30 seconds the pretests a statistical value of 0.147 was obtained with a significance value of 0.200, for the posttest a statistical value of 0.155 was obtained with a significance value of 0.200. because the significance value is more than 0.05, both group are normally distributed.

4. Homogeneity Test Results of Jump Rope Performance

The results of the lavene test for the experimental group and the control group for the performance variable in the first 1 minute of the pretest obtained a levene statistic of 15,293 with a significance value of 0.000. In the second 1 minute of the pretest, levene statistics was obtained at 8.141 with a significance value of 0.007. In the third 30 seconds of the pretest, levene statistics was obtained at 6.122 with a significance value of 0.018. Because the significance value is less than 0.05, the performance variable in the control group and experimental group is homogeneously distributed.

5. ANOVA Test Results for Jump Rope Performance

The results of the anova of jump rope test in the first 1 minute of the pretest obtained an F value of 25,120 with a significance value of 0,000. At second 1 minute pretests obtained an F value of 95,651 with a significance value of 0,000. At third 30 seconds pretests obtained an F value of 30.003 with a significance value of 0.000. Because the significance value is less than 0.05, it is concluded that the sport education model has a better effect than the conventional model at jump rope in learning physical education.

Discussion

Learning using the sport education model in practice uses a simple game format to hone the material or skills that must be mastered. This is a contextual challenge for teachers (Harvey et al., 2020), this model will not only help students with comprehensively detecting technical movements but also help students to understand their behaviour clearly (Putranto et al., 2023) and make teachers exhibit higher levels of enthusiasm, autonomy, responsibility, and engagement during learning (Gutiérrez et al., 2020) than before.

Learning using the sport education model can improve basic skills and understanding of tactics and cooperation at the same time, and students can learn by playing in

real-life game situations. The sport education model that is properly applied can foster feelings of cheerfulness, joy, and happiness in children. It is the result of learning that is right on target, which can increase students' intrinsic motivation to learn and make children study diligently (Harvey et al., 2020) nd this is more fun than learning with conventional or direct instruction (Solihin et al., 2022). specifically, the main goal to be achieved is to educate students to be competent (Gutiérrez et al., 2020), and they are expected to become independent learners and independent thinkers when self-planning, self-monitoring, and self-evaluation are carried out in their learning process (Li et al., 2023).

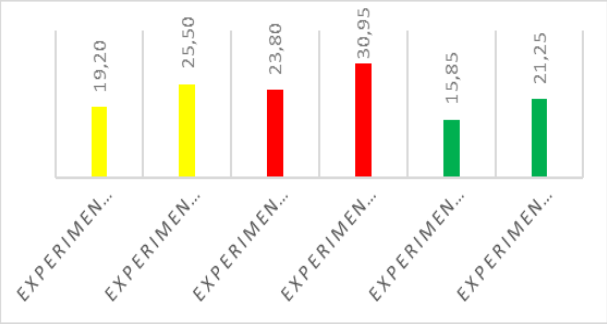

Figure 1. Average Results of the Sport Education Model on Physical Activity and Jumping Rope Performance in Darussalam Elementary School

Based on the graph students who studied with Sport Education, the best results were obtained in the second 1-minute phase (which is coloured red) with a pretest of 23.80 and a posttest of 30.95. his shows that the physical activity performance related to jump rope performance was obtained at a moderate level of physical activity. Learning using the Sport Education model is considered important (Meesters et al., 2019) because it can increase students' physical activity (Cupeiro et al., 2020), and teachers' understanding of MVPA (Moderate to Vigorous Physical activity) is also the key to effective learning in maintaining students' health (Vlooswijk et al., 2022), fitness (Hermawan et al., 2023; Pavlović et al., 2022), and student learning motivation (Hussien et al., 2022). Learning physical education using the sport education model with the right dosage has been proven to be able to meet students' needs regarding their lack of physical activity (Haverkamp et al., 2020; Meesters et al., 2019), especially at the moderate level. Understanding MVPA, which is supported by the ability to apply the Sport Education model in a targeted manner, is very useful in physical education learning for teachers (Borgen et al., 2021), and monitoring conditions for students' achievement of their abilities in physical education programmes (Yamaguchi et al., 2021). Students who are fit will clearly have a positive impact on their academic achievement (Cadenas-Sanchez et al., 2020).

This condition is reflected in the sport education model learning process, where students can practice by playing in real-life game situations. The role of teachers must be increased in facilitating learning (Hardika et al., 2023) and they must be enthusiastic and confident about changes by using the Sport Education model (Gutiérrez et al., 2020) because learning with fun and happy condition will have a positive impact on changes in cognitive aspects (Silva-Moya et al., 2022), affective (Pelletier et al., 2021), psychomotor (Dobersek et al., 2021; Hermawan et al., 2023) and student health (Buecker et al., 2021; Dorofieieva et al., 2019; Haegele & Zhu, 2021). This cannot be separated from the sport education learning process; the season model consists of competitions and training opportunities to develop game competence, and students are placed in roles and responsibilities other (Hastie et al., 2017). This is an advantage that the physical education teacher should reckon with. The existence of seasons in the sport education model makes students studies carefree and cheerful. Emphasis on cooperative aspects can also promote personal and social development. This results satisfaction, because students' psychological needs result in more

fulfilled motivation and active learning time (Harvey et al., 2020). Without reducing the fun of competing, this makes learning physical education effective and efficient. There is a link between the development of skills and tactical awareness.

CONCLUSION

Physical education learning using a sports education model that is implemented in a well-planned manner has proven to be able to be collaborated with sports games such as football, volleyball, and basketball. This was proven by collaborating on a jump rope game, and the students liked it. The advantage of this sports education model is that, apart from being able to hone students' technical skills, in implementing the learning, students also learn to know the roles of managers, team captains, coaches, scoring boards, and also as supporters of their team. This is very important for the growth and development of students because, apart from the cognitive, affective, and psychomotor aspects being trained, students also learn other aspects that are no less important, such as responsibility, cooperation, and discipline.

Students also seem to be able to discuss and correct each other's friends who are not good at jumping rope so that they can do it. Physical education does not only always talk about teaching boring techniques; this will actually weaken the position and role of teachers in physical education itself. The use of the season system in sports education makes students active and creative enough to be able to organise a series of activities that they believe can be carried out. Creative students are able to discuss with their teammates how to make their team master this jump rope game. This condition is proven by research results that show that the group that studied with this sports education model had better results than the group that studied with the conventional model.

Further studies related to the use of this sports education model are very necessary to increase our complete insight into physical education. It would be more interesting to research football, volleyball, and basketball materials by paying attention to how they differ according to gender and other aspects such as student responsibility and discipline.

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CONFLICT OF INTEREST

The author declares that there is no conflict of this article.

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