



Effectiveness of the Play Method to Improve Physical Education Learning Outcomes in the New Normal Period

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Abstract. This research aimed to find out the effect of the play method on physical education learning outcomes. The play method could be given to the students to help them understanding and explaining the learning materials. The play method approach introduces a different level of tasks or materials to be carried out because it provides different tasks at each level. The using of the play method could stimulate students performance level in the physical education learning process. The results showed that the play approach affects the learning outcomes of physical education, with a difference of mean = 7.06, which means the difference in the score of physical education learning outcomes before and after being given the play method. The positive value means that after being given the play method, the score for physical education learning outcomes is higher than before being given the play method. This is based on the results of data analysis showing that the statistical price $t = 20,276$, with $db = 43$ and the figure sig. or $p\text{-value} = 0.000 < 0.05$. It mean that Play method could enhancing Physical Education learning outcomes.

Keywords: Effectiveness · play method · physical education learning outcome

1 Introduction

School is a place to develop social skills in various fun activities, especially in physical education subject, which is carried out outdoors [1]. Outdoors physical activity is the good approach in increasing social relationship comparing with in class activity. [2]. Playing in outdoors serve advantage in creating happiness for student, and this activity highly recommended for education [3], Through playing activities will be giving some profit for student, especially for their mental growth, social relationship, carity, fun, and finally they have mental and physical health [4].

Playing in outdoors is the enjoyment and challenge activity. By playing outdoor, the student drive to healthful condition, and they also could develop bright imagination comparing with in class lesson activity[2]. The skills acquired by students during play can be transferred to other activities, resulting in physical, social, and cognitive benefits [5]. Learning motivation is the important factor for student in learning. Learning motivation could be upgraded by outdoors activity, and to suitable approach is play method. Play

method could be implemented during childhood until teenager, and it will foster spirit and enthusiasm of the learning participant [6].

Play approach also can improve physical conditioning of student, such as: strength, endurance, and power, speed, flexibility of the student. Not only physical aspect, play method also enhancing cognitive aspect. [7]. The way of learning in modern era for physical education must be changed, from the competition style to the play method, because by play method, the student change their opinion, from rival became a friend [8].

The student in classroom has different characteristics. Play method unify various attribute of student, so that they can learn together with one harmony in class [9, 10].

Researcher had been revealed that male student more likely playing. From this study, its better that learning process is served with play method, because it is suitable with the student growth [11]. In every single class, there ara a lot of difference characteristics among the students. To accomplished the characteristics gap, it is needed proper method to teach [12].

Students in class have various characteristics, because they came from miscellaneous environment and family back ground. This means, a teacher should make a proper way of teaching to abolishes those problem. And, the proper way of teaching is play method. This method is designed to bring teching activity full with joyfulness.

[13, 14]. By applying Play method in clas, teacher easier implemented the learning material among male and female student in class. [11]. In physical education class, all the students, wrether male or female have the same opportunities for join in class, but they are distinguished by the intensity of playing.

Raustorp emphasized that play provides chance for all students interact with other friends in their neighborhood. This conndition make all parents happy, because their children make social interactions better than before [15]. The performance of interact between students in school, influenced by some factors, such as play method. Play method drive the students understanding each Based on previous research that used a less complex the play method, this study hypothesized that the play method would provide differences in physical education learning outcomes.

2 Method

This study's research design used (Pre-Test one group both before and after the experiment. A total of 44 students in Class XI, aged 16 to 17, participated in this study at Senior High School 1 Sutera, a district inside the Pesisir (Table 1).

Table 1. Number of samples

Sex	Number
Male	25
Female	19
Total	44 Students

The sample spans classes XI 1 through XI 5. There are approximately 9 pupils in each class, both male and a woman. The study's instruments included sports skills assessments, objective exams for knowledge, and portfolios for affective testing. (direct field observations).

The SPSS version 24 application was used to perform statistical analysis on the data. The 0.05 level was used to establish the significance. The Kolmogorov-Smirnov test (KS test) on the covariance matrix equivalence test and the normality test of the variables. Were used to test the data for variance before it was studied. The data did not significantly deviate from the multivariate variables' normality, as evidenced by the non-significant value ($p < 0.05$), therefore parametric tests may be used.

3 Result

The primary determining factor in this study is the contrast between the outcomes of learning physical education before and after applying the play technique. According to the methodology suggested by the earlier findings, it can be stated informally (Table 2):

The average ability of the percentage of Before using the play technique, physical education learning results is 73.52 with a 95% confidence level, the average can estimate the population between 72.60 and 74.44 on average. While after using the play technique in physical education, the typical learning results is 87.52, and estimates the population average in the range of 86.39 to 88.65.

The ratio of skewness and kurtosis, obtained: skewness before given the play method = $0.055/0.357 = 0.154$ and skewness after given the play method = $0.211/0.357 = 0.591$. And kurtosis before given the play method = $-0.979/0.702 = -1.395$ and kurtosis after given the play method = $0.002/0.702 = 0.003$. Because these results are not below -2, it can be assumed that the physical education learning outcome data before and after being given the play method are normally distributed.

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Before	73.52	44	3.031	.457
	After	87.52	44	3.714	.560

Before being instructed in the ordinary chest physical education, kids' learning play approach were 73.52 and a standard deviation of 3.031 and after being taught the play method were 87.52 and a standard deviation of 3.714, as shown in the Paired Sample Statistics table. As a result, there is a descriptive difference between before and after the chest physical education, the typical learning results were play technique was used (Table 3).

The difference in mean between the scores for the learning outcomes for physical education before and after the play approach was applied is 7.06 in the Paired Samples Test table. The positive value indicates that the chest physical education learning outcome score was greater after the play approach was applied than it was before. The derived standard error mean, which displays the standard error of the average difference, is also

Table 2. Categorization of physical education learning outcomes observed

			Statistic	Std. Error
Before	Mean		73.52	.457
	95% Confidence Interval for Mean	Lower Bound	72.60	
		Upper Bound	74.44	
	5% Trimmed Mean		73.53	
	Median		73.00	
	Variance		9.186	
	Std. Deviation		3.031	
	Minimum		68	
			Statistic	Std. Error
	Maximum		79	
Range		11		
Interquartile Range		6		
Skewness		.055	.357	
Kurtosis		-.979	.702	
After	Mean		87.52	.560
	95% Confidence Interval for Mean	Lower Bound	86.39	
		Upper Bound	88.65	
	5% Trimmed Mean		87.52	
	Median		87.00	
	Variance		13.790	
	Std. Deviation		3.714	
	Minimum		80	
	Maximum		95	
	Range		15	
	Interquartile Range		5	
	Skewness		.211	.357
	Kurtosis		.002	.702

shown in the table. The statistical price $t = 20,276$ with $db = 43$ and the figure sig. or $p\text{-value} = 0.000$ 0.05 or H_0 is rejected is also the most significant result in the table. Thus, it may be said that there are substantial disparities in how students learn physical education.

Table 3. Paired Samples Test

		Pair 1
		Before- After
Paired Differences	Mean	14.000
	Std. Deviation	4.580
	Std. Error Mean	.690
	95% Confidence Interval of the Difference	Lower 15.392
	Upper 12.608	
t		20.276
df		43
Sig. (2-tailed)		.000

4 Discussion

In this study, a play method is suggested for creating lesson plans for physical education. The play technique applied in physical education instruction can produce outcomes that are deemed to be of a good quality. This is demonstrated by the difference between the typical student outcomes of kids before and after the play approach is applied.

Raustorp argues that this is the case since playing with others necessitates resolving social issues including deciding what to play, who to play with, when to start and stop playing, and the ground rules [15]. By settling these conflicts and issues that arise during the game, the youngsters are inspired to commit and cooperate. Through this method, a variety of social and emotional skills can be cultivated, such as empathy, adaptability, self-awareness, and self-management. These skills—often referred to as emotional intelligence—are essential for successful social interaction as an adult.

In this regard, parents want their kids to be happy, and the enjoyment that kids can experience via play is probably the most significant factor to convey to parents when discussing the advantages of parental physical exercise. Free play has the potential to improve many elements of emotional well-being, including reducing anxiety, depression, aggression, and sleeping problems, even though it has been the focus of scientific research in children. Physical activity can lessen the symptoms of depression in people. [15, 16].

When kids play with high levels of physical activity, it appears that the technique of play has a significant impact on a child's development. The field must be planned with a variety of play equipment to maximize the pupils' physical activity. [14]. Active physical games and access to appropriate physical activity spaces have been identified as key factors influencing engagement in physical development. [16, 17].

Applying engaging teaching strategies, such as the play method, can address issues with the learning process. The play technique can enhance the standard of physical education instruction in classrooms. [16, 18]. To improve students' learning outcomes in physical education, Modern physical education must move away from a competitive mindset and toward a strategy that includes a variety of games that require each student to engage in physically demanding activity. [8, 19].

The strength of motivation for learning physical education is required to obtain better learning outcomes, hence it is important to link psychological components in order to accomplish a learning outcome in physical education. The play technique, which serves as an extrinsic motivation for learning, makes children feel at ease and excited to engage in the process. Therefore, it is crucial for physical education students to feel competent and motivated. [16], [20].

5 Conclusion

The play method shows a significant effect on physical education learning outcomes. This can be seen through the difference in pre-test and post-test data from the male and female students. The actual play method can develop various skills, both physical, motor, knowledge, and personal social. Therefore, it is necessary to have a program or structured lesson plan that contains physical education learning elements like affective, cognitive, and psychomotor.

Physical education program related to health does not interfere with academic achievement. On the other hand, physical education related to health may have a positive effect on the students' academic achievement [21]. It means with a good lesson plan; the students' physical education learning outcomes can improve. So, this study suggests that human may have developed a special sensitivity to certain social information that facilitate social cognition. The cognitive benefits of physical games are described as giving a break time from intellectual task demands, so the play method will indirectly improve the students' learning outcomes [22].

References

1. Agustini, IP, Tomi, A., & Sudjana, IN (2016). Playing Method of Physical Education Students in Learning Class III III C SDN Krian Sidoarjo. *Physical education*.
2. Bjorklund, DF, & Brown, RD (1998). Physical play and cognitive development: Integrating activity, cognition, and education. *Child Development*. <https://doi.org/10.1111/j.1467-8624.1998.tb06229.x>
3. Burdette, HL, & Whitaker, RC (2005). Resurrecting Free Play in Young Children. *Archives of Pediatrics & Adolescent Medicine*. <https://doi.org/10.1001/archpedi.159.1.46>.
4. Burghardt, GM, 2011. Defining and recognizing the play. In: Pellegrini, AD (Ed.), *Handbook TheOxford of the Development of Play*. Oxford University Press, New York, pp. 9-18.
5. Bishop, JC, Curtis, M., 2001. Introduction. In: Bishop, JC, Curtis, M. (Eds.), *PlayTodayin the Primary School Play Ground*. Open University Press, Buckingham, PH, pp.37–57.
6. Baines, E., Blatchford, P., 2011. Children's games and playground activities in schooland Reviews their role in development. In: Pellegrini, AD (Ed.), *The Oxford Handbook of the Development of Play*. Oxford University Press, New York, pp. 261-283.
7. Ellaway, A, Kirk, A., Macintyre, S., & Mutrie, N. (2007). Nowhere to play? The relationship between the location of the outdoor play areas and deprivation in Glasgow. *Health and Place*. <https://doi.org/10.1016/j.healthplace.2006.03.005>.
8. Escalante, Y., Garcia-Hermoso, A., Back, K., Saavedra, JM, 2013. Playground designsto Increase levels of physical activity during school recess. A systematic review.*Health Education & Behavior*, published online July 8.

9. Farley, TA, Meriwether, RA, Baker, ET, Rice, JC, & Webber, LS (2008). Where do the children play? The influence of playground equipment on the physical activity of children in free play. *Journal of Physical Activity and Health*. <https://doi.org/10.1123/jpah.5.2.319>.
10. Karsten, L., 2003. Children 'use of public space: the gendered world of the play-ground. *Childhood* 10 (457).
11. Ntoumanis, N. (2001). A self-determination approach to the understanding of motivation in physical education. *British Journal of Educational Psychology*. <https://doi.org/10.1348/000709901158497>
12. Pellegrini, AD, & Smith, PK (1998). Physical activity play: The nature and function of a neglected aspect of the play. *Child Development*. <https://doi.org/10.1111/j.1467-8624.1998.tb06226.x>.
13. Pellegrini, AD, 2005. *Recess: It's Role in Education and Development*. Lawrence Erlbaum Associates, Mahwah (NJ), London.
14. Renshaw, I., Chow, JY, Davids, K., & Hammond, J. (2010). A constraints-led perspective to understanding the skill acquisition and game play: A basis for integration of the motor learning theory and praxis of physical education? *Physical Education and Sport Pedagogy*. <https://doi.org/10.1080/17408980902791586>.
15. Raustorp, A., Pagels, P., Boldemann, C., Dal, H., Mårtensson, F., 2012. Accelerometer-measured level of physical activity indoors and outdoors during preschool time in Sweden and the United States. *Journal of Physical Activity and Health* 6 (9).
16. Sallis, JF, Lewis, M., McKenzie, TL, Kolody, B., Marshall, S., & Rosengård, P. (1999). Effects of health-related physical education on academic achievement: Project spark. *Research Quarterly for Exercise and Sport*. <https://doi.org/10.1080/02701367.1999.10608030>.
17. Sattelmair, J., & Ratey, JJ (2009). Physically Active Play and Cognition: An Academic Matter? *American Journal of Play*.
18. Staiano, AE, & Calvert, SL (2011). Exergames for Physical Education Courses: Physical, Social, and Cognitive Benefits. *Child Development Perspectives*. <https://doi.org/10.1111/j.1750-8606.2011.00162.x>.
19. Tudor-Locke, C., Craig, CL, Bassett, DR, Beets, MW, Belton, S., Cardon, G., Dun-can, JS, Hatano, Y., Lubans, DR, Olds, TS, Raustorp, A. Rowe, DA, Spence, JC, Tanaka, S., Blair, SN, 2011. How many steps are enough? For children and adolescents. *International Journal of Behavioral Nutrition and Physical Activity* 8 (78).

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