

The Effectiveness of Playing Methods in Improving Physical Education Learning Outcomes

Pringgo Mardesia

e-mail: pringgomardesia@yahoo.com

Abstract

This study aims to see the effectiveness of the playing method in improving physical education learning outcomes. The playing method can be given to students in order to understand and explain the learning material. When using the playing method can introduce various levels of tasks / material to be carried out. Where the playing method assigns different tasks in levels. The use of the playing method can encourage students to determine their level of performance in carrying out the physical education learning process. This article provides an increase on physical education learning outcomes, with a difference in mean = 7.06, which means the difference in learning outcomes scores physical education between after and before given the playing method. The positive price was significant after being given the play method with the physical education learning outcomes score higher than before the playing method was given. Furthermore, the results in this study are the statistical price $t = 20,276$, where $df = 43$ and the number sig. or p -value = $0.000 < 0.05$ or H_0 is rejected. Thus, it can be concluded that the method of playing provides positive results on students' physical education learning outcomes. Because by playing students can develop creativity, physical, motor, perception, cognitive, and social personal.

Keywords: Playing, Physical Education Learning

Introduction

On the school grounds, students develop friendships and engage in a variety of fun activities that are essential to their learning, health and development (Pellegrini, 2005). One of the important factors associated with being outdoors, compared to being indoors, is getting physical activity (Raustorp et al., 2012). Play is a multidimensional concept with many overlapping definitions, all of which have the same idea of an activity that is fun and carried out for its own benefit (Burghardt, 2011).

The conceptual point in this study is the concept of play in physical activity, which can be defined as follows: Playing physical activity, in particular, may involve symbolic activity or games with rules; activity may be social or solitary, but a distinguishing behavioral feature is a pleasant context accompanied by physical activity such as metabolic activity that is well above resting metabolic rate.

This integrative concept is useful when discussing health functioning and the development of all the pleasurable physical activities that tend to thrive in outdoor settings. The difference between high-intensity play in content activates the imaginative, either verbally or physically (Bishop & Curtis, 2001). The skills that students acquire during play can be targeted for other activities, so that it benefits them physically, socially, and cognitively (Staiano & Calvert, 2011). The use of the play method in the implementation of physical education learning can increase the enthusiasm and desire of students in learning. Play generally follows a reverse U developmental course: It starts in early infancy, peaks during childhood, then declines during adolescence, and all disappears in adulthood (Pellegrini & Smith, 1998).

Play functions primarily for strength and endurance training; there is less clear evidence for the possible benefits of fat reduction and thermoregulation. In addition, there may be cognitive benefits from playing sports that we hypothesize to be largely incidental to their playful or physical nature (Renshaw, Chow, Davids, & Hammond, 2010). Modern physical education must shift from a competitive sports approach to an approach that uses a play method that involves strenuous physical activity for each student (Sattelmair & Ratey, 2009).

Thus the identification of different play behaviors among students of different ages and genders is a useful starting point for understanding the role of design characteristics for physical activity on school grounds. (Escalante et al., 2013). There are documented differences in play behavior between girls and boys and among students of different ages.

Baines & Blatchford (2011) describe how younger students are more likely to engage in motor games and interpret them while learning physical rounding rounds, whereas older children play more games and socialize with peers. A study of eleven year old students revealed that ball games and game names were the most common. Social girls prefer and practice a variety of verbal games, while boys play stronger games. Boys are generally more active than girls (Tudor-Locke et al., 2011).

But it is difficult to determine the context in which these variations are inherent in the development of the child ordained by the environment. For the reason schools are designed differently for younger and older students, documentation of age-related play has likely been undertaken in a variety of settings (Baines & Blatchford, 2011). It is more likely to cross gender gaps in settings where it is possible to play "girls" and "men" (Karsten, 2003). Therefore, in physical education, women and men have the same opportunity to do activities, it's just that they are distinguished from the side of their intensity of play.

(Burdette & Whitaker, 2005) emphasize that play provides opportunities for students to learn social interaction, and that all parents aspire for their students to be successful in these interactions. This success is a measure of a student's social well-being and is characterized by the student's ability to develop and maintain friendships, to cooperate, lead, and follow. Unstructured active play with

other people, including with parents, siblings, and peers, is a great opportunity to develop social skills.

Based on previous research using less complex play methods, we hypothesize that the playing method will provide differences in physical education learning outcomes.

Method

This research design is an experiment (Pre-examination) one group pretest and posttest. This study was conducted among students aged 16-17 years (Class XI), totaling 44 people in schools at SMA Negeri 1 Sutera, a district in the Coastal District.

Table 1. The total number of students who were sampled

| Gender | Total |
|--------------|--------------------|
| Male | 25 |
| Women | 19 |
| Total | 44 Students |

The sample is spread over classes XI 1 to XI 5. Each class consists of ± 9 students consisting of male and female students. The instruments in this study were: for skills using sports skills tests, while tests for knowledge used objective tests, and for affective tests used portfolios (direct observation in the field).

Statistical analysis of the data was made using the SPSS program version 24. Significance was determined at the 0.05 level. Before the data were analyzed, the data were tested for variance, namely the Kolmogorov-Smirnov test (KS test) on the normality test of the variables and the covariance matrix equivalence test was carried out. There is a non-significant value ($p < 0.05$), which indicates that the data do not differ significantly from the multivariate normality of the variables, so that a parametric test can be applied.

Result

The main influence in this study is the difference in the learning outcomes of physical education before being given the playing method and after being given the playing method. Based on the method given from the previous results it can be reported that:

Table 2. Tests of Normality

| | Kolmogorov-Smirnova | | | Shapiro-Wilk | | |
|-----------------------------------------|---------------------|----|--------|--------------|----|------|
| | Statistics | df | Sig. | Statistics | df | Sig. |
| Y1 Learning Outcomes of PJOK (Pretest) | .124 | 44 | .085 | .959 | 44 | .118 |
| Y2 Learning Outcomes of PJOK (Posttest) | .112 | 44 | .200 * | .963 | 44 | .164 |

*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

From the Tests of Normality table above, it is obtained: The price of the statistic before it is given playing method for Kolmogorov-Smirnov of 0.124 and sig or p-value = 0.085, and $0.085 > 0.05$ for Physical Education learning outcomes of Sutera 1 High School Students H_0 is accepted or insignificant. Accordingly, data Physical Education learning outcomes of Sutera 1 High School Students, normally distributed. For more details, see the normal Quantile and Quantile (QQ) plot diagram.

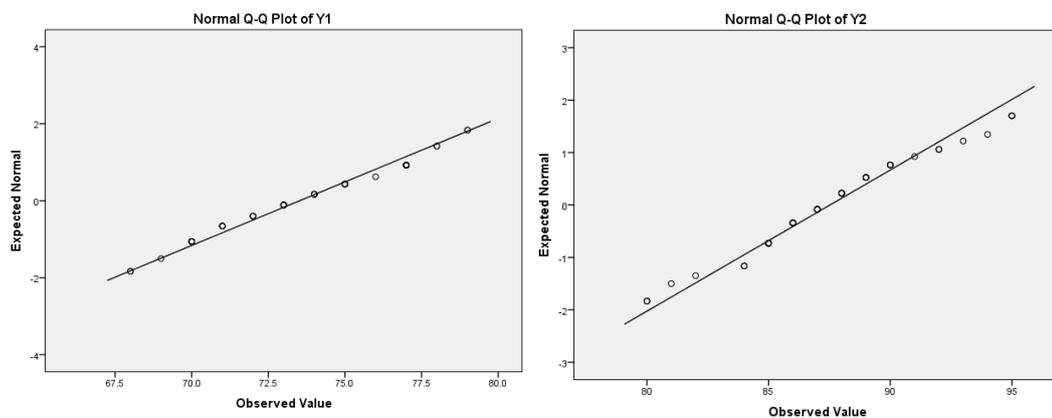


Figure 1. The Normal Quantile and Quantile (QQ) diagram of the Before and After plot

In addition to the normal QQ Plot, data normality testing Physical Education learning outcomes of Sutera 1 High School Students, can also be seen from the Detrended Normal QQ Plot. The indicator is that the data is stated to be normally distributed if the distribution of data in the form of dots does not form a certain pattern and gathers around a horizontal line through the zero point.

Table 3. Test of Homogeneity of Variance

| | Levene Statistics | df1 | df2 | Sig. |
|------|--------------------------------------|------|-----|---------|
| Data | Based on Mean | .561 | 1 | .456 |
| | Based on Median | .508 | 1 | .478 |
| | Based on Median and with adjusted df | .508 | 1 | .77,732 |
| | Based on the trimmed mean | .560 | 1 | .456 |

The statistical lavene test was based on all criteria with sig values, all of which were above 0.05. Because the sig value > 0.05 , it can be concluded that the Y1 and Y2 variables come from a homogeneous population.

Table 4. Paired Samples Statistics

| | | Mean | N | Std. Deviation | Std. Mean Error |
|--------|--------|-------|----|----------------|-----------------|
| Pair 1 | Before | 73.52 | 44 | 3,031 | .457 |
| | After | 87.52 | 44 | 3,714 | .560 |

The Paired Sample Statistics table shows the average learning outcomes of students' chest physical education before being given the playing method of 73.52 and standard deviation 3,031 and after being given the playing method of 87.52 and standard deviation 3,714. This means that descriptively there are differences in the average learning outcomes of chest physical education before and after being given the playing method.

Table 4. Paired Samples Correlations

| | | N | Correlation | Sig. |
|--------|----------------|----|-------------|------|
| Pair 1 | Before & After | 44 | .089 | .566 |

In the table *Paired Samples Correlations*, obtained correlation coefficient of learning outcome scores physical education chest between before and after given the method of playing is 0, .089 with the number sig. or p-value = 0.000 < 0,566 or significant.

Table 5. Paired Samples Test

| | | Paired Differences | | | | | t | df | Sig. (2-tailed) |
|--------|---------|--------------------|----------------|-----------------|-------------------------------------------|---------|---------|----|-----------------|
| | | Mean | Std. Deviation | Std. Mean Error | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair 1 | Y1 - Y2 | -14,000 | 4,580 | .690 | -15,392 | -12,608 | -20,276 | 43 | .000 |

In the table *Paired Samples Test*, the mean difference is obtained = 7.06, which means the difference in learning outcomes scores physical education between after and before given the playing method. Positive prices are significant after being given the playing method with a learning outcome score physical education the chest is higher than before given the playing method. Furthermore, in this table, the std.error Mean is also obtained which shows the number of standard errors for the average difference. Furthermore, the most important result of this table is the statistical value $t = 20,276$, where $df = 43$ and the number sig. or p-value = 0.000 < 0.05 or H_0 is rejected. Thus, it is concluded that there are differences in learning outcomes physical education students between before and after being given the playing method.

Discussion

With regard to the learning outcomes of physical education, this study offers a method of playing in formulating a physical education learning plan. The playing method used in physical education learning can give results that are categorized as good. This can be seen from the difference in the average student results that students have before and after being given the playing method.

(Burdette & Whitaker, 2005), explained that this is because all playing with other people requires solving some form of social problem, such as deciding what to play, who can play, when to start, when to stop, and engagement rules. Solving these dilemmas and conflicts that arise in the game encourages students to promise and cooperate. This process can cultivate a variety of social and emotional abilities such as empathy, flexibility, self-awareness, and self-regulation. Such abilities, sometimes referred to as "emotional intelligence," are essential for successful social interactions in adult life.

Although it has been the subject of little scientific investigation in children, free play has the potential to improve many aspects of emotional well-being such as minimizing anxiety, depression, aggression and sleep problems. In adults, physical activity can reduce symptoms of depression (Burdette & Whitaker, 2005).

Play methods seem to have a strong influence on child development, where students play at high levels of activity. To maximize physical activity in students, the playing field must be designed with a wide and varied playing equipment (Farley, Meriwether, Baker, Rice, & Webber, 2008). Access to facilities suitable for physical activity and physically active games has been identified as a key determinant of participation for physical development (Ellaway, Kirk, Macintyre, & Mutrie, 2007).

To solve these problems by applying learning methods that are attractive to students, namely using the play method, can provide solutions to problems in the learning process. The playing method that is given can have an impact on improving the quality of physical education learning in schools (Agustini, Tomi, & Sudjana, 2016). Modern physical education must shift from a competitive sports approach to an approach that uses a variety of games that involve strenuous physical activity for each student, so that it can have an impact on students' better physical education learning outcomes. (Sattelmair & Ratey, 2009).

To achieve a learning outcome in physical education, it is necessary to link psychological factors, where the strength of extrinsic motivation in physical education learning is needed to achieve better learning outcomes. By using the play method which acts as extrinsic motivation in learning, students feel comfortable and happy to carry out the learning process. So in physical education it is very important the perception of competence and intrinsic motivation in physical education (Ntoumanis, 2001).

Conclusion

The play method has a significant effect on improving the learning outcomes of Physical Education. This can be seen when the differences in the pretest and posttest data owned by students, both boys and girls. Playing methods can actually develop a variety of physical, motor, knowledge and personal social skills. For this reason, a structured learning program or design is needed, which contains elements of physical learning such as; affective, cognitive, and psychological.

References

- Agustini, IP, Tomi, A., & Sudjana, IN (2016). Playing Methods in Learning Physical Education for Class III C Students of SDN Krian III, Sidoarjo Regency. Physical education.
- 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>
- 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>.
- Burghardt, GM, 2011. Defining and recognizing play. In: Pellegrini, AD (Ed.), *The Oxford Handbook of the Development of Play*. Oxford University Press, New York, pp. 9–18.
- Bishop, JC, Curtis, M., 2001. Introduction. In: Bishop, JC, Curtis, M. (Eds.), *Play Today in the Primary Play School Ground*. Open University Press, Buckingham, PH, pp. 37–57.
- Baines, E., Blatchford, P., 2011. Children's games and playground activities in school and their role in development. In: Pellegrini, AD (Ed.), *The Oxford Handbook of the Development of Play*. Oxford University Press, New York, pp. 261–283.
- Ellaway, A., Kirk, A., Macintyre, S., & Mutrie, N. (2007). Nowhere to play? The relationship between the location of outdoor play areas and deprivation in Glasgow. *Health and Place*. <https://doi.org/10.1016/j.healthplace.2006.03.005>.
- Escalante, Y., Garcia-Hermoso, A., Back, K., Saavedra, JM, 2013. Playground design to increase physical activity levels during school recess. A systematic review. *Health Education & Behavior*, published online July 8.
- Farley, TA, Meriwether, RA, Baker, ET, Rice, JC, & Webber, LS (2008). Where do the children play? The influence of playground equipment on physical activity of children in free play. *Journal of Physical Activity and Health*. <https://doi.org/10.1123/jpah.5.2.319>.
- Karsten, L., 2003. Children 'use of public space: the gendered world of the playground. *Childhood* 10 (457).
- 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>
- Pellegrini, AD, & Smith, PK (1998). Physical activity play: The nature and function of a neglected aspect of play. *Child Development*. <https://doi.org/10.1111/j.1467-8624.1998.tb06226.x>.
- Pellegrini, AD, 2005. *Recess: It's Role in Education and Development*. Lawrence Erlbaum Associates, Mahwah (NJ), London.
- Renshaw, I., Chow, JY, Davids, K., & Hammond, J. (2010). A constraints-led

perspective to understanding skill acquisition and game play: A basis for integration of motor learning theory and physical education praxis? *Physical Education and Sport Pedagogy*.
<https://doi.org/10.1080/17408980902791586>.

- Raustorp, A., Pagels, P., Boldemann, C., Dal, H., Mårtensson, F., 2012. Accelerometermeasured level of physical activity indoors and outdoors during preschool time in Sweden and the United States. *Journal of Physical Activity and Health* 6 (9).
- Sallis, JF, Lewis, M., McKenzie, TL, Kolody, B., Marshall, S., & Rosengard, 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>.
- Sattelmair, J., & Ratey, JJ (2009). Physically Active Play and Cognition: An Academic Matter? *American Journal of Play*.
- 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>.
- 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 ado-lescents. *International Journal of Behavioral Nutrition and Physical Activity* 8 (78).