



## Effect of traditional games on learning interest among english education undergraduates: a one-group pretest–posttest study

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**Abstract:** Background: Traditional games may increase students' engagement in active learning, but evidence among university students is limited. Objective: To evaluate the effect of a traditional game-based intervention on learning interest among English Education undergraduates. Methods: One-group pretest–posttest study with N = 40 undergraduate students. The intervention consisted of 14 sessions of traditional games (fortification, gobak sodor, boy-boyan). Learning interest was measured using a 4-point Likert questionnaire (30 items; source/validated instrument 0.95). Data were analyzed with paired t-test (or Wilcoxon if normality of differences violated); effect size (Cohen's d) and 95% CI were calculated. Ethics approval and informed consent were obtained. Results: Mean learning-interest score increased from 64.43 (SD = 5.18) to 86.95 (SD = 5.73). Paired t-test showed a significant increase (mean diff = 22.52, 95% CI [-23.90, -21.15],  $t(39) = -33.16$ ,  $p < 0.001$ ). Conclusion: The traditional-game intervention substantially increased students' learning interest. Recommended: future randomized controlled or quasi-experimental studies, with larger samples and validated instruments, to confirm causality

**Keywords:** Traditional games, Interest in learning, Students.



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## Introduction

Sports are a series of beneficial physical activities that serve as a fundamental foundation for improving the quality of life of a nation (Rahadian et al., 2021). Everyone should exercise to stay healthy and fit. It has been proven that exercising regularly makes you feel fresh and not fatigued the next day. As stated by Anggraini, S. dan Alnedral, A. (2019) Physical fitness is a person's ability to perform daily activities without fatigue and still enjoy their leisure time (Hendra Dayani, 2020). Sports not only improve you physically and mentally, but also help you feel better about yourself, boost your confidence, enhance your cognitive and psychological development, and reduce the risk of depression. Exercising has many benefits because, in addition to improving

fitness and immunity, it is also considered capable of increasing motivation to get through busy days (Zuriaturizky & Ghasya, 2024).

Games are a means of entertainment that is popular and played by many people, including children, teenagers, and adults. Games consist of traditional games and modern games. Playing is one of the activities most liked by children (Mega et al., 2018). In general, games can be classified into two types, namely modern games and traditional games. Unfortunately, traditional games, as part of the nation's cultural heritage, are increasingly marginalized and difficult to find due to the influence of globalization that brings more advanced modern games (Birri et al., 2020). In fact, traditional games are a form of local wisdom that is currently being revived and preserved to prevent them from disappearing with the passage of time (Azim et al., 2023). Traditional games and sports are a culture passed down by ancestors in the past and were highly popular before online games entered Indonesia. These traditional games and sports use makeshift tools that can be easily found in each respective area. The need for a regeneration and introduction of traditional games and sports is very important in efforts to limit the use of online games or gadgets (Nurmachmud & Carmo, 2024).

Traditional sports or traditional games in various regions have their own characteristics and uniqueness, reflecting the noble values of culture. According to Herwandi, Sugiyanto, & Doewes, (2017) Traditional sports are games of the community that have boundaries within society, growing and developing orally passed down from generation to generation (Farizi et al., 2021). Gandasari, (2019) Traditional games, also known as folk games, are recreational activities that not only aim to entertain but also serve to maintain social relationships and comfort. Thus, they fulfill a need for children. Therefore, play for children has significant value and characteristics in the advancement of daily life, including in games. Traditional games are original sports from Indonesia inherited from ancestors that possess inherent cultural characteristics. Traditional games serve as a medium for communication, socializing, and refreshing oneself among people in ancient times. (Education et al., 2024). In moving towards a modern era, we must not leave behind the heritage or legacy of our ancestors, as can be seen from the traditional games that

are nearly extinct and no longer taught by our descendants in this modern age. In the past, traditional games were created as a hallmark of a city or region because each area has different forms of traditional games.

The purpose of having traditional games is to foster a sense of good cooperation, optimal self-confidence, and to create a level of physical fitness (Gatot Margisal Utomo & Harwanto, 2021). Traditional sports not only showcase the cultural wealth of Indonesia but also contribute to improving fitness and strengthening local values, which in turn enhances the perception of the Indonesian nation. Reviving traditional sports means reinforcing the uniqueness and identity of each ethnic group, which will ultimately strengthen the cultural values of the nation and increase the appeal of Indonesia's cultural tourism (Nurhidayat et al., 2022). Traditional games have a positive impact on Indonesian culture as they serve as a medium to preserve the cultural values inherited from ancestors. Through traditional games, the younger generation can learn about history, traditions, and social values that have been deeply rooted in Indonesian society for centuries. Furthermore, traditional games also strengthen the sense of togetherness and solidarity among players, as many of these games require cooperation and social interaction (Sahruni et al., 2024). The emergence of modern games with modern tools has started to alienate traditional games. However, research has shown that traditional games have more effects than modern games. Preserving and developing traditional games is a way to preserve Indonesian culture because there are many values contained in them that will not be lost over time (Dwi Handoko, 2021).

Traditional sports are sports that were born and developed in the local environment (Rumawatine, 2020) During free time or when gathering with peers, traditional sports are played. Adults, teenagers, and children all greatly enjoy these traditional sports. This activity can also enhance physical fitness in addition to serving as a game and traditional sport. A fit body condition is very important for daily activities. Everyone should have an ideal level of physical fitness (Kusuma & Sudijandoko, 2022). Education is something that everyone needs. Education usually aims to provide knowledge and the ability to change the way we think so that we become better.

It is very important for everyone to have an interest in learning during the educational process, as this will foster a sense of curiosity towards the lessons. Interest is what will drive someone to do something during the learning process. Education is one of the means used to achieve progress in all fields of life and also to enlighten the nation in a country (Berliana et al., 2023).

The factors that influence whether a country progresses or not are affected by the education that takes place within that country (Jusmawati et al., 2020). Especially for students, of course, in pursuing education, every student must have an interest in learning as something that can motivate themselves to feel attracted to the lessons provided by the lecturers. Interest is a desire that an individual has in a conscious state. Interest allows an individual to gain experience, activity, and skills in solving problems, thus requiring more attention (Anjanika et al., 2023). Interests can be divided into three categories, according to Sukardi (2019): interests that are expressed (demonstrated), interests that are realized (shown), and interests that are inventoried. Damayanti & Noordia (dalam Putra, Arisco & Mardian: 2023) It states that the elements of interest can be divided into three components: attention, pleasure, and will. These three components indicate that a person's interest does not arise by coincidence; rather, it is influenced by cause and effect. Many factors usually affect that interest. It can be known that the two components of interest are: intrinsic and extrinsic (Alvindo, 2024). Students' learning interest is influenced by two factors, namely individual factors and situational factors.

These two factors are interrelated, meaning that individual factors can be developed and deepened by situational factors that create learning experiences for students, and conversely, students' learning interest can decrease if the surrounding environment does not support it (Palupi & Cahjono, 2022). Hamdayama (2014: 44), Student-centered learning can spark their interest and indirectly help them understand concepts and their relation to various aspects of life (Oktarika, 2015). Safitri (2018), The interest in learning consists of two words, namely interest and learning. These words have different meanings, so the writer will explain each of them. In Erlando, Gie states that interest helps to 'give birth to immediate attention, facilitates the creation of focus, and prevents distractions from the outside". (Desi, 2022) The interest in learning is when

someone feels attracted to something and wants to do something, which can be measured by feelings of liking, interest, and engagement in learning activities (Haswati et al., 2023) Interest can be defined as affection, fondness, or enjoyment of something (Try et al., 2019). Olivia believes that the interest in learning related to the learning process is the attitude of obedience to learning activities; this includes planning study schedules and motivating oneself to do it earnestly (Siregar et al., 2022).

The interest in learning has a significant impact on learning outcomes because with interest, a person will engage in activities they are passionate about, whereas without interest, a person will lack the desire to do something. Interest becomes one of the components within a person that can influence students' academic achievement. Interest is a source of inspiration that motivates a person to pursue the things they desire. The interest in learning is the attraction and commitment of learners to participate in learning and to be able to apply it for educational purposes (Yusup & Sari, 2022). Based on several definitions regarding interest, it can be understood that there are two factors, namely intrinsic and extrinsic. The intrinsic factor is the one that comes from within a person, while the extrinsic factor is the external factor that affects a person's performance or behavior (Agustin et al., 2019) Some of the indicators are: interest is a feeling of liking or being attracted to something or a tendency of the soul to obtain something, which is generally marked by a feeling of pleasure. It is also mentioned that some indicators that determine a person's interest in something include: feelings of pleasure and attention (Cahya et al., 2022). Based on the description of interest, students' learning interest is their desire to participate in learning activities regularly to understand concepts and achieve learning objectives. Indicators of interest, enjoyment, desire, and attention are factors that determine students' learning interest. Interest serves as a foundation for engaging in activities that generate a sense of attraction, leading to the selection of enjoyable activities that will provide personal satisfaction (Meidawati, 2019). Interest is the feeling of attraction when engaging in activities without being prompted (Putri et al., 2021).

## Materials and Methods

### Research Design

A research study must have a research method; this is needed to reveal a problem so that we can answer and successfully solve the issues at hand in our research. This section is procedural, where the readers want to know how the designers planned this research, what methods were used, the research instruments, the stages of the research, as well as how the designers analyze the data.

In conducting research, it is essential to establish the appropriate method to help uncover issues and the success of those issues. The type of research used in this study is quantitative, utilizing experimental methods. The use of this design is adjusted to the aspects of the research and the main issues to be revealed. Based on this, the author employs the One Group Pretest Posttest design as the research design. The One Group Pretest-Posttest design involves an experiment conducted on a single group without a comparison group. In this study, the research subjects will first undergo a pretest before treatment is administered, followed by the treatment or intervention. After being given treatment, a posttest or final test is administered to determine the effects of the treatment. In the conducted research, the researcher used a quantitative research method with a One Group Pretest-Posttest Design experiment type. The one group pretest-posttest design refers to an experiment conducted on only one group without a comparison group. In this study, the research subjects will first be given a pretest before receiving treatment, then the subjects are given treatment. After being treated, a posttest or final test is given to determine the effects of the treatment (Nuryanti, 2019).

Table 1. Research Design

| Pre-Test | Treatment | Post-Test |
|----------|-----------|-----------|
| 01       | X         | 02        |

### Participants

Participants in this study are students of the English Education program 2024-2025 at Suryakancana University who are currently attending sports classes.

### Data Collection

The population and sample in the research are English language students totaling 40 people who will be decisive in a study because of their continuity. The researcher employs the One Group Pretest-Posttest Design technique. The instrument in this study uses a questionnaire, and the type of questionnaire used in this research employs a Likert scale consisting of 4 alternatives: strongly agree (SA), agree (A), disagree (D), and strongly disagree (SD).

## Data Analysis

Validity and reliability tests were conducted before data collection. The data were analyzed using descriptive statistics, Normality Test, Hypothesis Testing, and Pre-Test and Post-Test Difference Test. This analysis was performed using SPSS version 27 software.

## Results and Discussion

### Results

This This descriptive data shows a significant descriptive increase between the pre-test and post-test, both in terms of minimum, maximum, and average scores.

Table. 2. Descriptive Statistics

|           | N  | Range | Minimum | Maximum | Mean  | Std. Deviation | Variance |
|-----------|----|-------|---------|---------|-------|----------------|----------|
| Pre Test  | 40 | 21    | 55      | 76      | 64.43 | 5.178          | 26.815   |
| Post Test | 40 | 23    | 76      | 99      | 86.95 | 5.733          | 32.869   |

Based on the table above, it was found that the results of the descriptive statistical test showed a significant difference between the Pre-Test and Post-Test scores in the tested group. In the Pre-Test, the average score was 64.43 with a range of 55 to 76, whereas in the Post-Test, the average score increased to 86.95 with a range of 76 to 99. Overall, there is a significant improvement between the Pre-Test and Post-Test scores, as indicated by the higher average in the Post-Test. Additionally, the standard deviation in the Post-Test (5.733) is slightly higher compared to that in the Pre-Test (5.178), which indicates a slightly wider score distribution in the post-Test. The variance in the Post-Test is also larger (32.869) compared to that in the Pre-Test

(26.815), indicating higher test result variability after the treatment. In general, the data shows an improvement in scores after the intervention or learning. as reflected in the average score difference between the Pre-Test and Post-Test

**Table 3.** One-Sample Kolmogorov-Smirnov Test

|                                                  | Pre Test | Post Test |
|--------------------------------------------------|----------|-----------|
| Asymp. Sig. (2-tailed) <sup>c</sup>              | 0.018    | 0.181     |
| Monte Carlo Sig. (2-tailed)Sig.                  | 0.018    | 0.178     |
| <sup>d</sup> 99% Confidence Interval Lower Bound | 0.015    | 0.168     |
| Upper Bound                                      | 0.022    | 0.188     |

Based on the results of the normality test using the One-Sample Kolmogorov-Smirnov Test on the pre-test and post-test data, the significance value (Asymp. Sig. 2-tailed) for the pre-test data is 0.018, which is smaller than 0.05. This indicates that the pre-test data is not normally distributed. Meanwhile, the significance value for the post-test data is 0.181, which is greater than 0.05, allowing us to conclude that the post-test data is normally distributed. Thus, there is a difference in distribution between the pre-test and post-test data. Therefore, the selection of further statistical tests should consider the data distribution, for example, by using non-parametric tests if the analysis is conducted on data that is not normally distributed.

**Table 4.** Paired Samples Statistics

|                 | Mean  | N  | Std. Deviation | Std. Error Mean |
|-----------------|-------|----|----------------|-----------------|
| Pair 1 Pre Test | 64.43 | 40 | 5.178          | 0.819           |
| Post Test       | 86.95 | 40 | 5.733          | 0.906           |

Based on the results of the descriptive statistics of the Paired Samples test, the mean score of the pre-test was 64.43 with a standard deviation of 5.178, while the mean score of the post-test was 86.95 with a standard deviation of 5.733. The total number of respondents for both measurements was 40 individuals. The significant difference in mean scores between the pre-test and post-test indicates an improvement in scores after the treatment was given over 14 sessions.

In addition, the standard error mean for the pre-test was 0.819 and for the post-test was 0.906, indicating the accuracy of the mean estimation.

Table. 5. Paired Samples Test

|            | Mean   | Std.      | Std. Error | 95% Confidence Interval of |         | t       | df | Sig. (2-tailed) |
|------------|--------|-----------|------------|----------------------------|---------|---------|----|-----------------|
|            |        | Deviation |            | Lower                      | Upper   |         |    |                 |
| Pre Test - | 4.297  | 0.679     |            | -23.899                    | -21.151 | -33.156 | 39 | 0.000           |
| Post Test  | 22.525 |           |            |                            |         |         |    |                 |

Based on Table 4.1, the average difference between the pre-test and post-test scores is -22.525 with a standard deviation of 4.297 and a mean standard error of 0.679. The 95% confidence interval for the mean difference ranges from -23.899 to -21.151. The calculated t-value is -33.156 with  $df = 39$ , and the significance value (Sig. 2-tailed) is 0.000, which is less than 0.05. This indicates that there is a significant difference between the pre-test and post-test results. Thus, it can be concluded that the treatment given, in this case, the application of traditional sports games, has a significant impact on increasing the interest of PBING students in learning.

## Discussion

This research aims to determine the extent of the influence of traditional sports games on increasing students' interest in learning, especially in the subject of physical education practice. The following discussion relates to the results of quantitative research (pre-test and post-test), statistical analysis, theory, and previous research.

### 1. Increase in Student Learning Interest Scores

The research results show an increase in student learning interest after the implementation of traditional sports games in the learning process. Out of 40 students from the English Language Education program (PBING) who participated, the average pre-test score was 64.43, while the average post-test score rose to 86.95. This indicates an increase of 22.52 points. This shows that the learning method using traditional games has a positive impact on students' learning interest.

## 2. Gain Score Analysis

Descriptive statistical analysis shows that the average score of learning interest increased from 64.43 to 86.95. The standard deviation for the pre-test is 5.178 and for the post-test is 5.733, indicating greater variation in responses after treatment. The t-test results also show a significant difference at the 5% significance level ( $\alpha = 0.05$ ) between pre-test and post-test scores. Thus, statistically, traditional sports games have been proven to have a significant effect on the increase of learning interest among students in the English Education Study Program (PBING).

## 3. Relationship with Previous Theories and Research

This finding is in line with the theory proposed by (Pratama et al., 2023), which states that interactive, enjoyable, and culture-based learning can enhance students' interest and motivation to learn. Traditional games can facilitate social interaction, emotional engagement, and challenges that make students more active and enthusiastic. (Yulpiko et al., 2025) also emphasize that learning that integrates local culture can enhance students' attention and intrinsic motivation. Learning methods that align with students' characteristics, such as traditional physical games for physically active sports education students, make the learning process more meaningful and enjoyable. This research reinforces previous findings that concluded that varied, enjoyable, and participatory teaching methods can increase students' interest in learning.

## 4. Research Implications

This study shows that the use of traditional sports games can be an alternative strategy to increase students' interest in learning, especially in practical courses such as physical education. It is suggested that lecturers apply more interactive and enjoyable teaching methods to make students more engaged and active in learning. Theoretically, this research supports the development of learning strategies based on local culture and strengthens motivation theories that focus on positive experiences. Practically, the results of this study encourage the use of traditional games as a learning medium that not only preserves the nation's culture but also enhances the quality of higher education, especially in the fields of sports and education.

## Conclusion

This Based on research findings, it can be concluded that the application of traditional sports games significantly increases students' interest, especially in learning physical education practices. "The one-group pretest–posttest results suggest that implementing traditional games is associated with increased learning interest among the sampled undergraduates. However, causal interpretation is limited by the lack of a control group; future controlled studies are recommended.". These findings align with previous theories and research emphasizing the importance of active, contextual, and learner-centered learning. Practically, this study recommends that lecturers or educators integrate traditional sports games into the learning process, especially in practical courses. In addition to increasing learning interest, this method also plays a role in preserving local culture and improving the quality of education in higher education.

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