



Audiovisual Instruction and Badminton Backhand Short Serve Skills at SMK TR 2 Sinar Husni

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ABSTRACT

This research is an experimental research. The research design used in this study is a one-group pretest-posttest design. The population in this study was 50 people. From a population of 50 people in this study using Random sampling to 30 students. This study was used to determine the Effect of Audiovisual Media on Learning Outcomes Backhand Shot Service in Badminton Games in Grade X Students of SMK TR 2 Sinar Husni Academic Year 2025/2026. Based on the results of data analysis, description, testing of research results, and discussion, it can be concluded, for the Pretest Normality Test there is a L Count Value = 0.240, L Table Value with Dk = 30 at the $\alpha = 0.05$ level = 0.242. So $L \text{ Count} < L \text{ Table}$ ($0.240 < 0.242$). While the Posttest Normality Test L Count Value = 0.1721, $L \text{ Count} < L \text{ Table}$ ($0.1721 < 0.242$). Thus, the pretest and posttest data for the Backhand Shot Service Learning Outcomes in Badminton for the 2025/2026 Academic Year are normal.

The hypothesis test obtained F count = 0.75 and F table = 4.18 with a numerator dk of 1 and a denominator dk = $n-1 = 30-1 = 29$, so it can be seen that $f \text{ count} < f \text{ table}$ ($0.75 < 4.18$). This indicates that the population comes from a homogeneous variance. Meanwhile, for the Homogeneity test, the calculated t value was 13.44 and the t table value was 1.699. Furthermore, these values were consulted with the t table value at a significance level of $\alpha = 0.05$ with $dk = n-1$ ($30-1$) = 29, so these results indicate a significant difference. Thus, the alternative hypothesis (H_a) states "There is an influence of audiovisual media on the learning outcomes of backhand shot service in badminton games for class X students of SMK TR 2 Sinar Husni in the 2025/2026 academic year."

Keywords: Audiovisual media, backhand short service, vocational high school students.

Introduction

Physical Education (often referred to as PJOK in Indonesia) is a school subject comprising sports and physical activities aimed at maintaining health and enhancing students' movement capabilities. Through physical education, students are encouraged to engage in active movements—such as running, jumping, and throwing—and to participate in various sports. These activities not only build physical strength and fitness but also foster teamwork, discipline, and sportsmanship.

Physical education instruction involves both on-campus and off-campus physical activities, alongside learning the fundamental techniques of various sports to ensure movements are performed correctly and safely. Furthermore, physical education supports students' mental and social development by teaching them to follow game rules, respect their peers, and have the courage to try new things. Ultimately, physical education aims to help students achieve physical health, maintain an active lifestyle, and adopt healthy habits applicable to their daily lives.



Physical education is a vital component of the educational process, designed to develop students' physical capabilities, movement skills, and social attitudes through structured sports activities. In vocational high schools, physical education goes beyond mere physical activity; it focuses on the correct and effective mastery of fundamental sports techniques. One of the sports taught is badminton, a game characterized by rapid movement, the need for good coordination, and the requirement for precise technique to ensure optimal performance.

Physical education is a subject dedicated to learning and improving students' movement abilities, health, and sports skills through practical activities. The curriculum requires students not only to be physically active but also to understand the fundamental techniques of each sport to execute movements correctly. In the Grade 10 (SMA) curriculum, badminton is taught as part of the "small ball games" module.

Badminton is a highly popular sport governed by a global body, the Badminton World Federation. In a school setting, students must master fundamental techniques—such as the serve, smash, and backhand stroke—as these form the foundation of the game. One technique that students find quite difficult to master is the backhand serve, as it requires coordination of hand movements, proper body positioning, and accuracy in the direction of the shot.

Badminton is a popular sport experiencing rapid growth in Indonesia and globally, operating under the auspices of the Badminton World Federation. In the school curriculum, fundamental techniques—such as the serve, smash, drop shot, and backhand—are essential skills for students to master. The backhand serve is a technique that often presents challenges during the learning process, as it demands precise hand coordination, correct shuttlecock contact, and proper body positioning.

Observations of Grade X students at SMK TR 2 Sinar Husni during the 2025/2026 academic year revealed that badminton instruction was dominated by direct teacher demonstrations and verbal explanations, lacking support from varied instructional media. Some students appeared to lose focus when the teacher explained movement techniques, particularly regarding details such as racket positioning, the angle of the stroke, and the timing of shuttlecock contact. Furthermore, students had limited opportunities to view movement demonstrations repeatedly, which hindered their full understanding of the mechanics.

Initial observations of Grade X students at SMK TR 2 Sinar Husni (2025/2026 academic year) indicated that badminton instruction relied on direct explanations and demonstrations by the teacher. However, this method left some students struggling to grasp movement details, as they only viewed the examples briefly. Additionally, some students appeared inattentive and easily bored during lessons.

Observations also showed that many students made technical errors when executing the backhand serve, such as incorrect racket grip, uncontrolled hand coordination, and inaccurate shuttlecock placement. These issues resulted in poor learning outcomes regarding both skill proficiency and movement accuracy. Preliminary evaluation data indicated that more than half of the students failed to meet the Minimum Mastery Criteria (KKM) for the backhand serve. This situation suggests that the instruction provided was not fully effective in helping students understand the technique from both visual and practical perspectives.

Observations of practical sessions revealed that several students made errors when executing the backhand service shot. Common mistakes included incorrect racket grip, poor body balance, and inaccurate shuttlecock placement. Furthermore, practical assessment data indicated that many students had not yet met the required mastery standards, suggesting that student learning outcomes regarding the backhand service shot remained low.



An analysis of the instructional context revealed that the teaching aids employed were not sufficiently engaging, contributing to students' difficulty in grasping the movement technique. Relying solely on verbal explanations and live demonstrations prevented students from repeatedly observing the movements—a crucial aspect of learning sports skills, where clear examples that can be viewed multiple times are essential.

A needs analysis indicated a requirement for instructional media that allows students to observe technical movements more clearly and engagingly. Audiovisual media—specifically instructional videos—offer a suitable solution; they can display movements in detail, allow for replay, and clearly illustrate the various stages of the technique. Consequently, it is anticipated that students will find it easier to understand the backhand service shot technique.

To address these issues, an innovative instructional medium tailored to student needs is required. Implementing audiovisual media for teaching the backhand service shot technique is one such solution. This medium is expected to help students understand movements more clearly, boost learning motivation, and improve badminton skill proficiency.

Thus, efforts are needed to enhance student learning outcomes regarding the backhand service shot through the use of more effective instructional media. Consequently, the researcher intends to conduct a study titled "The Effect of Audiovisual Media on Backhand Service Shot Learning Outcomes in Badminton for Grade X Students at SMK TR 2 Sinar Husni (Academic Year 2025/2026)." This study aims to improve student learning outcomes and serve as a reference for physical education teachers regarding the use of instructional media that is both engaging and easy to understand.

Materials and Methods

Study Design

This study employs an experimental research design. According to Sandjaja (2006: 123), experimental research involves the deliberate creation of an event or condition, followed by an examination of its consequences. It can be defined as a method for identifying a cause-and-effect (causal) relationship between two factors—intentionally introduced by the researcher—while minimizing or eliminating confounding variables. Experiments are invariably associated with the objective of observing the effects of a specific treatment.

The research design utilized in this study is the "one-group pretest-posttest" design (Sandjaja, 2006: 124). This design entails two observations: one prior to the experiment and one following it. The observation conducted before the experiment (O1) is referred to as the pretest, while the observation conducted after the experiment (O2) is referred to as the posttest.

Tabel 1. Desain *one group pre-test post-test*

Sumber : (John Creswell, 2019: 172)

O1	X	O2
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Keterangan :

O1 : *Pre- test*



O2 : *Post- test*

X : *treatment*

Statistical Analysis

The data collection technique in this research is by using tests. The test used in this research used 36 low ball passing tests from Subagiyo Irianto (2000: 9). Tools Before proceeding to the t-test, there are requirements that must be met by researchers that the data analyzed must have a normal distribution, for this reason it is necessary to carry out normality tests and homogeneity tests (Suharsimi Arikunto, 2006: 299). The data analysis steps are as follows:

1) Prerequisite Test

a. Normality Test

The normality test is nothing more than actually testing whether the distribution of the data to be analyzed is normal or not. Testing is carried out depending on the variables to be processed. Testing the normality of data distribution uses the Kolmogorov-Smirnov Test with the help of SPSS 16. If the p value is > 0.05 then the data is normal, but on the other hand if the analysis results show a p value < 0.05 then the data is not normal. According to Sugiyono (2011: 107) with.

b. Homogeneity Test

In addition to testing the distribution of values to be analyzed, it is necessary to test homogeneity to be sure that the groups that form the sample are from a homogeneous population. Homogeneity was sought using the F test from pretest and posttest data using the SPSS 25 program. Homogeneity test was carried out using the anova test, if the analysis results show a p value > 0.05 , then the data is homogeneous, but if the data analysis results show a p value < 0.05 , then the data is not homogeneous. According to Sugiyono (2011:125):

varians terbesar

varians terkecil

Description

: F : The f value sought (Source Sugiyono, 2011: 125)

2) Hypothesis Testing

Hypothesis testing uses the t-test with the help of the SPSS 16 program, namely by comparing the mean between group 1 (pretest) and group 2 (posttest). If the calculated t value is $>$ than t table, then H_0 is rejected, if calculated t is $>$ greater than t table then H_a is accepted. According to Sugiyono (2011: 122), the t-test formula is as follows: To determine the percentage increase after treatment, the percentage increase calculation is used using the following formula (Sutrisno Hadi, 1991: 34):

Percentage increase = Mean Different X 100%

Mean Pretest

Mean Different = mean posttest-mean pretest

(Source: Sutrisno Hadi, 1991: 34)



Results

Pretest data on futsal passing skills was collected on February 3, 2025, followed by a target-based training intervention spanning 16 sessions, conducted three times a week (Mondays, Thursdays, and Sundays). Posttest data was collected on May 4, 2026. The pretest and posttest results regarding the backhand service shot in badminton for the 2025/2026 academic year are presented in Table 1 below:

Table 1. Tabel pretes dan posttes

No	Katagori	X1	X2
1	Pretes	210	318
2	Posttes	1484	3396
	Rata -Rata	7	10,6

Based on the table above, it can be seen that the lowest pre-test score was 6 and the highest was 8, while for the post-test, the lowest score was 9 and the highest was 12 regarding learning outcomes for the backhand service shot in badminton for the 2025/2026 academic year.

The first step taken by the researcher was to identify the problem to be studied by observing learning outcomes for the backhand service shot in badminton (2025/2026 academic year), specifically regarding the level of mastery and the participants' enthusiasm during training. This was done to observe changes in backhand service shot learning outcomes following the training sessions.

Before conducting the research, the researcher first interviewed the coach to gather information on the students' learning outcomes regarding the backhand service shot in badminton (2025/2026 academic year). Subsequently, the researcher administered the training and conducted a post-test.

The preliminary action involved planning the training program, followed by the execution of the research stages.

The stages were as follows:

- The researcher introduced themselves and explained the purpose and objectives of the research.
- The researcher explained the backhand service shot technique in badminton.
- The researcher explained the badminton training program.
- After completing the training program over 16 sessions, the participants took a post-test using the backhand service shot learning outcome assessment instrument.

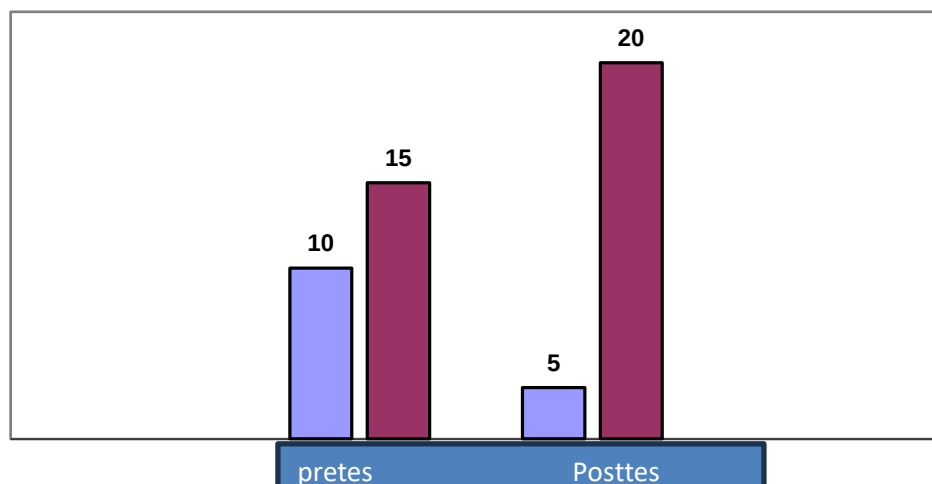


Figure 1. Histogram of Backhand Short Service

Discussion

The results of the first hypothesis test indicate that visual learning media has a significant influence on learning outcomes regarding the short service skill. The application of visual media—specifically imagery capable of boosting student engagement—demonstrates that such media can foster student interest and attention while reinforcing their understanding of the material.

The capabilities of visual media can clearly be leveraged for movement-based tasks, particularly when demonstrating movements that are complex or hazardous. The key lies in how the media is designed to teach movement to students. Since there are few existing mechanical media tools suited for movement instruction, physical education teachers need to exercise their own creativity. (Catur and Mujiriah 2021)

The use of audiovisual media in the learning process also positively impacts the teacher's role; by reducing the time spent on verbal explanations, teachers can focus on other aspects—such as monitoring and evaluating learning activities and providing appropriate feedback to students. Video is considered highly effective in the teaching-learning process because it is an audiovisual medium that combines two elements: sound and imagery. It captures students' attention, ensuring the material is well understood and facilitating better practical application in the field.

Audiovisual media has contributed significantly to physical education instruction. It maximizes the learning experience beyond the use of standard teaching aids, making the material easier to grasp by encouraging students to engage multiple senses. The more senses utilized to receive and process information, the greater the likelihood that the information will be understood and retained in memory.

Data analysis reveals that the results are normally distributed and homogeneous, showing a significant influence on learning outcomes for the badminton backhand service shot during the 2025/2026 academic year; this conclusion is drawn from the t-test results. This study aims to determine the effect of audiovisual media on badminton backhand service shot learning outcomes among Grade X students at SMK TR 2 Sinar Husni during the 2025/2026 academic year. The study began with a pre-test to assess students' passing abilities prior to the intervention, followed by an intervention consisting of 16 sessions of small-sided game training, and concluded with a post-test to evaluate their



passing abilities after the intervention. Regarding the pre-test normality test, the calculated L-value was 0.240, while the L-table value for degrees of freedom ($= 30$ at a significance level of $\alpha=0.05$) was 0.242; thus, $L_{\text{count}} < L_{\text{table}}$ ($0.240 < 0.242$). For the post-test normality test, the calculated L-value was 0.1721, satisfying the condition $L_{\text{count}} < L_{\text{table}}$ ($0.1721 < 0.242$). Consequently, the pre-test and post-test data regarding learning outcomes for the badminton backhand service shot (Academic Year 2025/2026) were found to be normally distributed. In the hypothesis testing, the calculated F-value (was 0.75 and the F-table value was 4.18, with numerator and denominator $=n-1=29$; thus, $F_{\text{calc}} < F_{\text{tab}}$ ($0.75 < 4.18$), indicating that the population variances were homogeneous. For the homogeneity test, the calculated t-value was 13.44 and the t-table value was 1.699; comparing this result against the t-table value at a significance level of $\alpha=0.05$ with revealed a significant difference. Therefore, the alternative hypothesis (H_a)—stating that "Audiovisual media influences learning outcomes for the badminton backhand service shot among Grade X students at SMK TR 2 Sinar Husni in the 2025/2026 Academic Year"—was accepted.

Acknowledgments

Based on the data analysis, description, research result testing, and discussion, the following conclusions can be drawn: for the pretest normality test, the calculated L-value (L-count) was 0.240, while the L-table value (with degrees of freedom/df = 30 at a significance level of $\alpha = 0.05$) was 0.242; thus, $L_{\text{count}} < L_{\text{table}}$ ($0.240 < 0.242$). Meanwhile, for the posttest normality test, the calculated L-value was 0.1721, satisfying the condition $L_{\text{count}} < L_{\text{table}}$ ($0.1721 < 0.242$). Consequently, the pretest and posttest data regarding learning outcomes for the badminton backhand service shot (Academic Year 2025/2026) are normally distributed. Regarding the hypothesis test, the calculated F-value (F-count) was 0.75 and the F-table value was 4.18 (with numerator df = 1 and denominator df = $n-1 = 29$), showing that $F_{\text{count}} < F_{\text{table}}$ ($0.75 < 4.18$); this indicates that the population originates from homogeneous variances. For the homogeneity test, the calculated t-value (t-count) was 13.44 and the t-table value was 1.699; comparing this result against the t-table value at a significance level of $\alpha = 0.05$ (with df = 29) reveals a significant difference. Thus, the alternative hypothesis (H_a)—stating "There is an effect of audiovisual media on learning outcomes for the badminton backhand service shot among Grade X students at SMK TR 2 Sinar Husni in the 2025/2026 Academic Year"—is supported.

Conflict of Interest

"Thank you to the teachers, students, and principal of SMK TR 2 Sinar Husni Tahun Ajaran 2025/2026"

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