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The Influence of Audiovisual Learning Media on The Learning Outcomes of Underhand and Overhand Volleyball Serves At SMA Labschool Unesa 1

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ABSTRACT
Physical education (PE) aims to boost physical skills, motor abilities, and promote a healthy lifestyle. At SMA Labschool Unesa 1, students showed low interest in volleyball, leading to the use of audio-visual media to enhance learning outcomes for overhand and underhand serves. The study used a randomized control group pretest-posttest design. Results showed the experimental group, using audio-visual aids, improved from pretest scores of 5.59 (underhand) and 5.62 (overhand) to 7.07 and 7.21. The control group improved from 5.33 and 5.67 to 6.80 and 6.93. Despite these improvements, audio-visual media did not significantly impact learning outcomes. Recommendations include better integration of technology and more engaging lesson content.

Keywords: *Audiovisual, Volleyball, Learning.*

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INTRODUCTION

Physical education is an important part of education that focuses on physical activities to improve physical skills, motor skills, critical thinking, emotional control, morality, and a healthy lifestyle. Learning media plays a crucial role in achieving these educational goals. According to Firmadani (2020), learning media helps increase effectiveness, facilitates access to information, and creates an interactive learning experience. The use of technology as a learning medium has now become an integral part of education, including in physical education and sports learning (PJOK). In volleyball learning, technology-based media can help visualize game techniques, such as the overhand and underhand serve. This is in line with Hasyim's (2023) research, which explains that volleyball is a sport played by two teams aiming to score points by hitting the ball over the net. In an educational context, students are not required to master the techniques perfectly but are encouraged to enjoy the sport while developing basic skills. Fundamental techniques, such as the

overhand and underhand serve, are essential in learning this sport. As explained by Siregar (Palinata, 2023), basic techniques in volleyball are key elements that determine the success of the game. Serving techniques, whether overhand or underhand, are the starting point in an important offensive strategy. Syahab (2022) explains that a serve is an action to start the game by sending the ball to the opponent's area. An overhand serve is performed by hitting the ball tossed upward, while an underhand serve is performed by hitting the ball from below with the arm.

Based on observations at SMA Labschool Unesa 1, many students lack interest in volleyball lessons, and most have not mastered the correct techniques. The PJOK teacher mentioned that the teaching provided consists only of brief explanations before students perform the movements themselves. The lack of variety in teaching methods prompted the researcher to study the use of audio-visual media in improving students' interest and learning outcomes. This study aims to explore the impact of audio-visual learning media on the learning outcomes of the underhand and overhand serve in volleyball. By using this media, it is expected to create a more engaging and interactive learning environment, which in turn can increase students' motivation and learning outcomes in PJOK at SMA Labschool Unesa 1. The researcher formulated the problem to determine whether there is an influence of audio-visual learning media on the learning outcomes of the overhand and underhand serve in volleyball at SMA Labschool Unesa 1, and how significant this influence is. The objective of this study is to measure the impact and effectiveness of audio-visual media in volleyball learning at the school. The benefits of this research are expected to help PJOK teachers find more interactive alternative methods and provide the researcher with new insights into the use of audio-visual media. The scope of the study only includes 11th-grade students at SMA Labschool Unesa 1, focusing on overhand and underhand serving techniques. The research assumes that all students have equal opportunities, varying abilities, and will complete the questionnaire honestly without interference.

Learning is a process of interaction between students, teachers, and educational materials aimed at helping students master knowledge, skills, as well as shaping attitudes and beliefs. According to Winkel (in Siregar and Nara, 2016), learning is a series of activities designed to facilitate the learning process through external influences. Additionally, Shilphy A. Octavia states that learning is a system consisting of several interconnected components, such as goals, materials, methods, and evaluations, all of which focus on increasing student engagement and activity.

Audio-visual-based learning combines visual and auditory elements to enhance students' understanding. Coates (2020) states that audio-visual media is more effective than traditional methods because it activates both sight and hearing simultaneously. According to Yulianti (2016),

audio-visual-based learning technology has become an integral part of modern teaching methods, enabling a more interactive and efficient learning process. In volleyball, mastering basic techniques such as underhand passing, overhand passing, spiking, blocking, and serving is essential. Hawindri (2016) states that good basic techniques will improve the smoothness and outcomes of the game. Both overhand and underhand serves are crucial starting points in the game's strategy. The overhand serve is performed by tossing the ball into the air and hitting it with the palm, while the underhand serve involves hitting the ball from below using the arm.

METHOD

This study is a quasi-experimental research with a quantitative approach. Maksum (2018) states that this design is chosen when random assignment of subjects is not possible, for example, when the subjects are part of a structured group that cannot be separated or relocated. For instance, when conducting experimental research in a school, the school often does not allow random assignment of students as it may disrupt the existing class arrangements. In such situations, random assignment cannot be applied. In this study, a randomized control group pretest-posttest design was used, involving both an experimental group and a control group.

The research was conducted at SMA Labschool Unesa 1. The reason for choosing this location is because the author carried out the PLP (School Field Introduction) program at this school, thus becoming familiar with the characteristics of the students and the environment, which aligns with this study. The population in this study consists of all students at SMA Labschool Unesa 1, totaling 327 students. According to Sugiyono, a population is a generalization area comprising objects or subjects with certain qualities and characteristics determined by the researcher to be studied, so conclusions can be drawn (Sihotang et al., 2023). Based on this definition, the researcher determined the population for this study. The sample is a representative part of the population that shares similar characteristics, thus reflecting or representing the population under study. Sugiyono defines a sample as a portion of the number and characteristics present in the population (Sugiyono & Komariah, 2017). This study used a cluster random sampling method, which involves selecting samples in groups based on certain areas. The names of four classes, namely IPA 1, IPA 2, IPA 3, and IPA 4, were written on separate pieces of paper, rolled up, and placed in a box. The physical education teacher randomly selected the paper, and the result determined that classes IPA 1 and IPA 2 would be the sample, consisting of 59 students from grade XI.

According to Maksum (2018), an operational definition provides meaning to a variable or

explains its activities by detailing how the variable is measured. Audio-visual learning refers to the teaching method in which teachers use media to deliver material, allowing students to receive information through integrated auditory and visual senses. The independent variable (audio-visual learning) in this study involves audio-visual-based learning conducted using Zoom as a medium. Meanwhile, the dependent variable (volleyball material) focuses on overhand and underhand serve techniques in volleyball. In terms of the research instrument, an instrument as a measuring tool that can be used to collect data in research. Data collection tools are grouped into two categories: tests and non-tests. Tests involve sequential and objective procedures for data collection, ensuring the data obtained is relatively valid and relevant. For an instrument to be effective in data collection, it must meet several criteria, including validity, reliability, and objectivity. In this study, the measuring tools consist of tests in the form of questionnaires and assessment rubrics for the overhand and underhand serve techniques in volleyball. The data collection technique involved distributing test sheets containing volleyball material to students in classes XI 1 and 2 at SMA Labschool Unesa 1. The overall data collection technique can be outlined as follows:

1. Preparation phase,
2. Issuance of research permits,
3. Application for research permission at SMA Labschool Unesa,
4. Creating audio-visual learning media and volleyball learning materials, including:
   a. Mobile phones,
   b. Projector,
   c. Tripod,
   d. Books and stationery,
   e. Volleyball materials,
5. Developing direct learning media and volleyball materials, including:
   a. Volleyballs,
   b. Cones,
   c. Nets,
   d. Books and stationery,
   e. Whistles,
   f. Volleyball materials,
6. Conducting audio-visual learning sessions with class XI 1 at SMA Labschool Unesa 1 (Team A) for three meetings, along with a questionnaire test,
7. Conducting direct learning sessions on the field with class XI 2 students at SMA

Labschool Unesa 1 (Team B) for three meetings, along with a questionnaire test,

8. Inputting the questionnaire data.

In this study, the data analysis using SPSS 26, includes calculating the mean, standard deviation, normality test, independent sample t-test, paired sample t-test, and percentage results to assess pretest and posttest differences (Maksum Ali, 2018).

RESULTS AND DISCUSSION

RESULTS

The research on the influence of audio-visual media on students' learning outcomes in the basic techniques of underhand and overhand passing in volleyball showed significant results. The data collected were analyzed using SPSS 26, involving 59 students as respondents, with 30 students in the control group and 29 in the experimental group.

The experimental group showed a significant improvement in pretest and posttest results. The average pretest score for underhand serve was 5.59 and for overhand serve was 5.62, while the average posttest score for underhand serve increased to 7.07 and for overhand serve to 7.21. The standard deviation for the underhand serve pretest was 1.701 and for the overhand serve was 1.545, whereas in the posttest, the standard deviation for the underhand serve was 1.602 and for the overhand serve was 1.207. The control group showed more moderate results. The average pretest score for underhand serve was 5.33 and for overhand serve was 5.67, while in the posttest, the mean score increased to 6.80 for underhand serve and 6.93 for overhand serve. The standard deviation for the underhand serve pretest in the control group was 1.755 and increased to 2.301 in the posttest.

Tabel 1 Result *Mean* and Standard Deviation

Control			**Eksperimen**				
Mean Underhand serve		*Mean* overhand serve	*Mean* underhand serve			*Mean* overhand serve	
pre	Post	Pre	post	pre	post	pre	post
5.33	6.80	5.67	6.93	5.59	7.07	5.62	7.21
Standard Deviation			*Standard Deviation*				
pre	*post*	*pre*	*Post*	*pre*	*post*	*Pre*	*Post*
1.493	1.669	1.626	1.596	1.701	1.602	1.545	1.207

A normality test was conducted on both groups, namely the control group and the experimental group, and the results showed that both groups had a normal distribution. The following are the research data that have been collected:

Tabel 2 Result Normality Test

Group	Data	Result	Description
Eksperimen Underhand Serve	*Pretest*	**0,085**	Normal
	Posttest	**0,050**	
Overhand Serve	*Pretest*	**0,161**	Normal
	Posttest	**0,061**	
Kontrol Overhand Serve	*Pretest*	**0,074**	Normal
	Posttest	**0,067**	
Underhand Serve	*Pretest*	**0,095**	Normal
	Posttest	**0,094**	

The control group showed normality test results in both the pretest and posttest for underhand and overhand serves, with values greater than 0.05. These values indicate a normal distribution as they exceed the 0.050 threshold. Similarly, the experimental group also showed results indicating a normal distribution, with both pretest and posttest normality test values exceeding 0.05.

The independent samples T-test was conducted to determine whether there was a significant difference between the control group and the experimental group. The data is considered to have a significant difference if the value is less than 0.05. However, if the value is greater than 0.05, it indicates that there is no significant difference between the two groups, suggesting that the learning outcomes of overhand and underhand serves in the PJOK subject did not differ significantly between the control and experimental groups, even though the control group did not receive the same treatment as the experimental group. The following are the results of the Independent Sample Test:

Tabel 3 Result T-test Different Sample

Independent Samples Test	
Underhand Serve	*Overhand Serve*
0,530	*0,462*

Based on the data from the SPSS 26 calculation results, it can be concluded that the Sig (2-tailed) value is 0.530 for the underhand serve and 0.462 for the overhand serve, indicating that there is no significant difference between the control group and the experimental group.

The paired-samples T-test was used to evaluate whether there is a significant difference between the pretest and posttest. If the test result is less than 0.05, the difference is considered significant. Below are the results of the Paired Samples T-test:

Tabel 4 Result The Paired Samples T-Test

Group	Categort	Result	Description
Control	Overhand Serve	0,000	Signifikan
	Underhand Serve	0,000	Signifikan
Eksperiment	Overhand Serve	0,000	Signifikan
	Underhand Serve	0,000	Signifikan

According to the data in the table, both groups show a significant difference because the calculated values are less than 0.05. This indicates that there is a significant difference between the pretest and posttest, both with and without the treatment. Based on the table, the hypothesis can be accepted because the audio-visual media appears to have an impact on the learning outcomes of the overhand and underhand serve in volleyball. Below are the results of the percentage between the pretest and posttest*:*

Eksperiment		**Control**	
Overhand Serve	Underhand Serve	Overhand Serve	Underhand Serve
1,59%	1,48%	1,26%	1,47%

DISCUSSION

The study on the influence of audio-visual media on students' learning outcomes in the basic techniques of overhand and underhand passing in volleyball involved 59 students, divided into control and experimental groups. The data obtained from the pretest and posttest were analyzed using SPSS 26. The results showed an improvement in learning outcomes in both groups, although the control group did not receive any special treatment. However, the improvement in learning outcomes was considered statistically low. Contributing factors to this result include the limited number of rubric questions and the relatively small sample size. Consequently, the T-test conducted resulted in non-significant values.

A normality test was conducted to ensure that the data collected followed a normal distribution pattern, which is essential for reliable statistical analysis. The verification results

showed that both the experimental and control groups had data consistent with normal distribution in both the pretest and posttest. The normality test values for the experimental group in the pretest were 0.085 and 0.161, while in the posttest they were 0.050 and 0.061. In the control group, the normality test values for the pretest were 0.074 and 0.095, while for the posttest they were 0.067 and 0.094. The paired-sample T-test applied to assess the differences between pretest and posttest results showed no significant difference between the experimental and control groups.

Previous research by Nesia (2022) on the influence of audio-visual media on underhand passing techniques in volleyball showed an impact of 13.27% among students of SMA Negeri 7 Bengkulu. However, the results of this study differ, as audio-visual media did not have a significant effect on LAB School students. The percentage of learning outcomes for both the control and experimental groups remained low. Although there was a slight percentage difference between the two groups, it was not statistically significant. Another factor that may have influenced this result was the method of delivering audio-visual media to students during the study. As a result, both the control and experimental groups showed low results, and the independent sample test also yielded non-significant results.

CONCLUSION

Based on the research and discussion provided, the conclusions are as follows: Firstly, the study found no significant effect of using audio-visual media on learning outcomes for basic volleyball serves. The t-test results indicated values of 0.530 for underhand serves and 0.462 for overhand serves, both of which are greater than the significance level of 0.05, suggesting no statistically significant impact. Secondly, the increase in scores from pretest to posttest was minimal, indicating a nearly negligible effect of the audio-visual media on students' performance. The percentage improvement was very low, with only 1.59% for overhand serves and 1.48% for underhand serves, further supporting the lack of significant impact. In summary, the use of audio-visual media in teaching basic volleyball serves did not lead to substantial improvements in student learning outcomes. The minimal increases in test scores highlight that while audio-visual tools were implemented, their effectiveness in enhancing volleyball technique learning was limited.

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