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Use of Audiovisual Media in Improving Badminton Short Service Learning Outcomes in Class XI Science Students of SMA Negeri 10 Central Maluku

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Abstract

Technological developments influence learning patterns or processes. This causes a teacher or educational staff to be more creative and innovative in responding to technological developments. These days, science and technology have become two inseparable things because every aspect of human life is familiar with or accustomed to technology. One of the technological media that can be used is audiovisual media, because audiovisual media has image and sound elements so that students do not appear bored in following the learning process. This research aims to find out whether the use of audiovisual media can improve short service learning outcomes badminton game at SMA Negeri 10 Central Maluku. The type of research used in this research is classroom action research (PTK) with the population and sample in this research being 32 students of class XI Science at SMA Negeri 10 Central Maluku. The research instrument used in this research is the Syllabus and RPP as well as measurement instruments in the form of a skill assessment rubric for initial attitudes, implementation attitudes and final attitudes in short service. The data obtained in this research was through observation or observations as well as short service technique learning outcomes tests. In order to determine the short service ability, a test is carried out. The test carried out is performance, namely practicing short service skills, then the results of the test are assessed, then calculations are carried out using a formula. The research results show that the use of audiovisual media has proven to be effective in improving badminton short serve learning outcomes. This can be seen in cycle I, 31% in class is the passing standard for Physical Education subjects.

Keywords: Audio Visual Media, Short Serve, Badminton

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INTRODUCTION

Technological developments influence learning patterns or processes. This causes a teacher or educational staff to be more creative and innovative in responding to technological developments. This technological response has been confirmed by the Ministry of Education and Culture of the Republic of Indonesia through a curriculum that has undergone a transformation that adapts to technological developments and needs.

The learning process is a strategy in creating quality human resources and critical thinking. This process is obtained through education. The teaching and learning process is the main function and the most strategic effort in creating the goals of the educational institution (Pallot et al., 2017). Rohiyatun & Mulyani (2017) further explained that, The teaching and learning process is a process of interaction between teaching staff and students, which will end with a process of evaluating learning outcomes in order to achieve learning objectives that take place in a certain location and time period.

Teaching and learning activities carried out in schools are formal in nature, which are deliberately planned with the guidance of teaching staff in order to achieve learning objectives so that students can master or understand the material or knowledge presented. To achieve this goal, an educator must prepare strategies and materials that must be studied, as well as carry out evaluations to determine student learning progress. The physical education learning process must have clear goals to be achieved.

The main material in physical education learning is as varied as the existing sports, one of the materials taught and is a sport is badminton. The sport of badminton itself has two benefits that can be obtained, namely; The physical benefits of being able to form a good body posture include anatomical, physiological, health and physical abilities as well as spiritual benefits, namely mental health, personality and good character.

The game of badminton has become a global game or sport for all countries, including Indonesia itself. This is because the game of badminton is very fun and popular with many people. The tools used in the game of badminton are rackets and shuttlecocks which are balls made of goose feathers arranged in an open cone shape, with a base made of cork in the shape of a half ball. This game is also played against each other between two people (for singles) and two pairs (for doubles).

In the game of badminton, there are several techniques that badminton players must master so that players can play correctly. Hetti (via Ma'dum & Irawan, 2022) stated that the basic technical movements used in badminton include the racket grip, *footwork*, attitude and position, *hitting position*, service, service return, *underhand, overhand, Round the head clear/lob/drop/smash, smash, dropshot, netting, return smash, backhand overhead, drive*, variations *stroke*/game technique. So, of these basic techniques, the main asset in playing badminton is the serve.

Serving is one of the hitting techniques that is very important in starting a badminton game (Ardiyanto, 2018). Sutono (2008: 20) further explained that, serve is the most important single shot, it is difficult for any player to score consistently without adequate service. There are two types of serves, namely short serves and long serves. The long serve is generally used by singles players and the short serve is generally used by doubles players. Short serve is a serve by directing *shuttlecock* with the second aim, namely: to the corner of the intersection point between the service line in front and the center line and the service line with the edge line, while the road *shuttlecock* creeping thinly across the net (Tohar, 1992: 41). Serving is the initial determinant of scoring because to be able to control the game you need a good serve.

To serve in badminton, there are techniques that can be used, namely you have to know how to serve, the stance or standing position when serving, and how to hold the shuttlecock so you can create a score that ultimately results in victory.

However, based on the results of observations in the field in 2022 to 2023, it was found that the short serve ability in the game of badminton for class Physical Education, Sports and Health. The students' failure to achieve KKM scores was due to the fact that when delivering the material, teachers were not able to use learning media, one of which was audiovisual media.

In fact, today the development of science and technology have become two inseparable things because every aspect of human life is familiar with or accustomed to technology. One of the technological media that can be used is audiovisual media, because audiovisual media has image and sound elements so that students do not appear bored in following the learning process. As Adillah et al., (2023) argue, audiovisual media is media that contains sound and image elements. This type of media has more advantages, because it combines auditive (hearing) and visual (sight) media.

Apart from the lack of use of audiovisual media, there are also supporting facilities and infrastructure such as rackets and shuttlecocks which are media or supporting tools

for carrying out practice which are inadequate so that during the practice process students have to take a lot of time. So, if the media or practical tools are minimal, it can mean that other students do not have the opportunity to directly experience the practical experience due to limited time in the learning process. In fact, the aim of direct practice is so that students can gain experience and be able to demonstrate the material they have received in the classroom. As argued by Cahyono et al., (2021), the use of media in education is expected to provide various benefits and real experiences, so that the material presented is easy to understand and provides good understanding.

Researchers want to improve short serve skills in badminton games using audiovisual media, because using media will be able to make students happy and not bored following the learning being delivered. For this reason, researchers are interested in conducting research with the title "Utilization of Audiovisual Media in Improving Badminton Short Service Learning Outcomes in Class XI Science Students at SMA Negeri 10 Central Maluku"

METHOD

The type of research used in this research is classroom action research (PTK). Harjodipuro (via Parnawi, 2020: 4) explains that, classroom action research (PTK) which is also known as *classroom action research* is an approach taken to improve education through change, by encouraging teachers to think about their own teaching practices, to be critical of these practices and willing to change them.

Salakim further (via Wiradnyana & Ardiawan, 2020: 4) explained that classroom action research (PTK) is a need for teachers to improve their professionalism as teachers because there are several things, namely; (1) PTK is very conducive to making teachers sensitive and responsive to the dynamics of learning in their classes. Teachers become reflective and critical of what teachers and students do, (2) PTK improves teacher performance so that they become professional. The teacher is no longer a practitioner who is satisfied with what he has done for years without any efforts to improve or innovate, but he can position himself as a researcher in his field, (3) The teacher is able to improve the learning process through a deep study of what that occurs in his class, and (4) PTK does not interfere with a teacher's main duties because he does not need to leave his class.

Classroom action research will help researchers to solve student problems in the classroom. This means that classroom action research is research that carries out improvements, corrections and overcoming problems in the classroom, and also improves the quality of learning and teaching.

RESULTS AND DISCUSSION

Cycle I Research Results

The implementation of cycle I consists of four stages, namely, planning, implementing actions, observing and reflecting. The stages carried out in cycle I are described as follows:

a. Planning Stage

The planning stages below include several points, namely;

1) Researchers carried out an analysis of the learning syllabus to find out the basic material and competencies that will be conveyed to students in physical education learning.
2) Create a learning implementation plan (RPP).
3) Prepare learning tools and facilities that will be used in the learning process such as infocus, laptop, teacher's book, infocus, seprit, badminton court, net, shuttlecock, racket, and *stopwatch*.
4) Develop a test instrument for basic short serve technique movements in badminton learning as well as observing learning through the assessment rubric listed in (RPP).

b. Implementation Level

Learning activities in cycle I were carried out on July 31 2024 in class XI Science at SMA Negeri 10 Central Maluku for the 2024/2025 academic year, with a total of 32 students. This learning process follows the lesson plan and assessment rubric, where the researcher acts as a teacher.

c. Observation Stage

Observations were made during the learning process using an assessment rubric to assess basic short serve technical movements in badminton. Researchers must monitor from the beginning to the end of learning to evaluate the level of students' abilities in the teaching and learning process. Data from research results in cycle I are presented in Table 2 and Figure 3 below:

Table 1. Learning Results of the Short Service in Badminton in Cycle I

NO	STUDENT NAME	RATED ASPECT			AMOUNT	RERATA	INFORMATION	
		Attitude	Cognitive	Skills			Complete	Not Completed
1.	AR	100	65	77	242	81	u	
2.	ARP	100	60	63	223	74		u
3.	AGU	75	70	90	235	78	u	
4.	AJS	100	70	71	241	80	u	
5.	AH	100	80	77	257	86	u	
6.	YEARS	100	65	79	244	81	u	
7.	AS	75	55	81	211	70		u
8.	AS	100	70	92	262	87	u	
9.	DOWN	100	65	83	248	83	u	
10.	FAU	100	45	65	210	70		u

11.	MY	75	65	85	225	75	u	
12.	GO	100	75	77	252	84	u	
13.	HT	75	65	69	209	70		u
14.	HL	100	35	63	198	66		u
15.	HTL	100	60	83	243	81	u	
16.	THE	100	65	79	244	81	u	
17.	LM	100	85	85	270	90	u	
18.	LS	100	75	79	254	85	u	
19.	MS	100	75	79	254	85	u	
20.	NS	100	65	75	240	80	u	
21.	NSM	100	45	60	205	68		u
22.	RRM	100	60	77	237	79	u	
23.	RMM	100	65	65	230	77	u	
24.	RKKB	100	70	69	239	80	u	
25.	RT	100	65	85	250	83	u	
26.	SMH	100	65	73	238	79	u	
27.	SRM	100	30	63	193	64		u
28.	SRS	100	75	85	260	87	u	
29.	SRM	75	70	71	216	72		u
30.	WLPO	100	70	71	241	80	u	
31.	WS	100	40	60	200	67		u
32.	WS	75	30	63	168	56		u

Source: Data processed 2024

Information:

- u *Number of students who completed: 22 people*
- u *Number of students who did not complete: 10 people*

Figure 1: Percentage Completion Diagram in Cycle I

Source: Data processed 2024

Based on Table 1 and Figure 1 above, it can be seen that 22 students or 69% have an average score that meets the Minimum Completeness Criteria (KKM), namely >75, while 10 students or 31% have not reached the KKM or <75, which is the standard graduation for Physical Education, Sports and Health Lessons. This is caused by non-maximality in the three aspects of assessment, especially in the knowledge and skills aspects. To overcome this problem, it is necessary to carry out follow-up in Cycle II through two stages, namely reflection and revision of the design and media or learning aids.

d. Level of Reflection

In implementing teaching and learning activities, the following results were obtained:

1. At the first meeting, the teacher delivered the basic short serve techniques in badminton learning quite well. The teacher has also given examples to students, but some students are still seen making mistakes in practice.
2. They are still afraid of making mistakes, so they don't have the courage, which affects the practice process or basic short serve techniques in learning badminton.
3. Because the media used in the learning process is still conventional or traditional, it makes students less enthusiastic in the learning process.
4. However, by giving them the opportunity to do the basic short serve technique over and over again, there are some students who have not reached the KKM.

and. Draft Revision

The implementation of teaching and learning activities in cycle I still shows shortcomings, especially when students carry out short service movements using conventional or traditional learning media. Therefore, it is necessary to revise the use of learning media.

1. Teachers need to prepare more creative and modern learning media so that students do not feel tense and afraid in participating in the learning process.
2. Teachers need to pay close attention to learning time and add information that they feel is necessary.
3. Teachers must be enthusiastic and skilled in motivating students so that students are happier or more enthusiastic and eager to participate in the teaching and learning process.

Cycle II Research Results

Cycle II is a follow-up to the analysis of the results of cycle I, where it was found that several students had not achieved maximum results and did not meet the Minimum Completeness Criteria (KKM), namely >75, which is the passing standard for Physical Education, Sports and Health Lessons. The implementation of cycle II aims to improve the results of cycle I. The following are the stages carried out:

a. Planning Stage

The planning stages below include several points, namely;

5) Researchers carried out an analysis of the learning syllabus to find out the basic material and competencies that will be conveyed to students in physical education learning.
6) Create a learning implementation plan (RPP).
7) Prepare learning tools and facilities that will be used in the learning process such as infocus, laptop, teacher's book, infocus, seprit, badminton court, net, shuttlecock, racket, and *stopwatch*.
8) Develop a test instrument for basic short serve technique movements in badminton learning as well as observing learning through the assessment rubric listed in (RPP).

b. Implementation Level

Learning activities in cycle I were carried out on August 5 2024 in class XI Science at SMA Negeri 10 Central Maluku for the 2024/2025 academic year, with a total of 32 students. This learning process follows the lesson plan and assessment rubric, where the researcher acts as a teacher.

c. Observation Stage

Observations were made during the learning process using an assessment rubric to assess basic short serve technical movements in badminton. Researchers observed from the beginning to the end of the lesson to evaluate the level of students' abilities in the teaching and learning process. Data from research results in cycle II are presented in Table 3 and Figure 4 below:

Table 2. Learning Results of the Short Service in Badminton in Cycle II

NO	STUDENT NAME	RATED ASPECT			AMOUNT	RERATA	INFORMATION	
		Attitude	Cognitive	Skills			Complete	Not Completed
1.	AR	100	90	90	280	93	u	
2.	ARP	100	90	92	282	94	u	
3.	AGU	100	85	92	277	92	u	
4.	AJS	100	95	94	289	96	u	
5.	AH	100	95	94	289	96	u	
6.	YEARS	100	90	92	282	94	u	
7.	AS	100	95	92	287	96	u	
8.	AS	100	95	92	287	96	u	
9.	DOWN	100	80	90	270	90	u	
10.	FAU	100	90	94	284	95	u	
11.	MY	100	85	94	279	93	u	
12.	GO	100	85	94	279	93	u	
13.	HT	100	90	90	280	93	u	
14.	HL	100	90	88	278	93	u	
15.	HTL	100	80	96	276	92	u	
16.	THE	100	90	88	278	93	u	
17.	LM	100	100	96	296	99	u	
18.	LS	100	95	92	287	96	u	
19.	MS	100	95	98	293	98	u	
20.	NS	100	85	90	275	92	u	
21.	NSM	100	90	90	280	93	u	
22.	RRM	100	95	92	287	96	u	
23.	RMM	100	95	92	287	96	u	
24.	RKKB	100	85	88	273	91	u	
25.	RT	100	90	92	282	94	u	
26.	SMH	100	90	90	280	93	u	
27.	SRM	100	95	94	289	96	u	
28.	SRS	100	100	94	294	98	u	
29.	SRM	100	85	94	279	93	u	
30.	WLPO	100	85	90	275	92	u	
31.	WS	100	95	94	289	96	u	
32.	WS	100	95	92	287	96	u	

Source: Data processed 2024
Information:
- *Number of students who completed: 32 people*
- *Number of students who did not complete: 0*

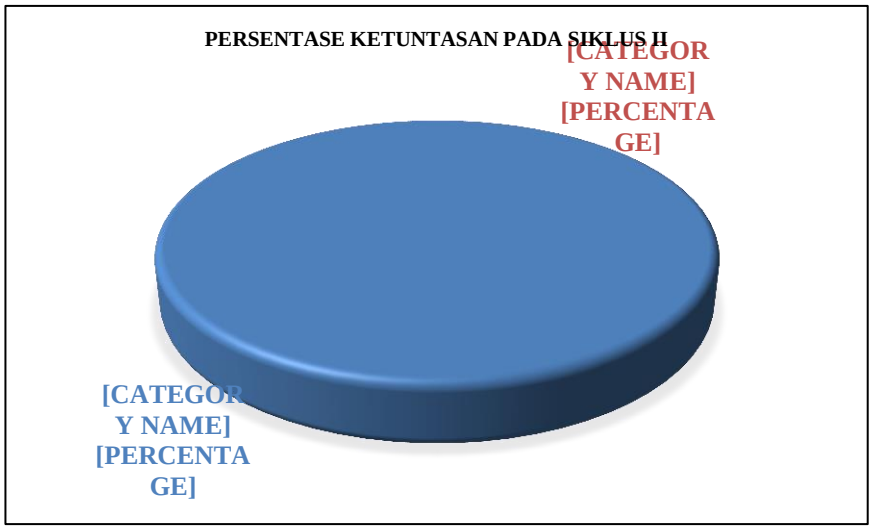

Figure 2: Completion Percentage Diagram in Cycle II

Source: Data processed 2024

Based on Table 2 and Figure 2 above, it can be seen that 32 students or 100% in cycle II have achieved an average score that meets the Minimum Completeness Criteria (KKM), namely >75, which is the passing standard for Physical Education, Sports and Health Lessons. . This shows that cycle II has been successful according to the revision, where the application of audiovisual media has improved students' critical and analytical skills, encouraged them to think creatively, so that they can understand the badminton short serve material more easily and meet or even exceed the Completion Criteria. Minimum (KKM) set. This is in the opinion of Serungke et al., (2023), that the use of audiovisual media in learning also allows the development of critical and analytical skills in students. They can be encouraged to think creatively, increase media literacy, and understand messages conveyed through various visual and sound forms.

d. Level of Reflection

At this stage, what happened during the learning process will be studied, both positive aspects and those that need to be improved, with the following observation results:

1. In the initial stance, the student has performed the badminton short serve movement correctly, as seen from the position of holding the racket *grip shakehand*, waist high, and stand straight when preparing to serve.
2. In the core stance, the student has executed the short serve movement correctly, as seen from the support of body weight on the soles of the

feet, wrists that do not move, *shuttlecock* directed forward, and position *shuttlecock* in line with the racket.

3. In the final stance, students demonstrate the correct movement after a short serve, as seen from the position of the racket pointing upwards when hitting *shuttlecock*, the racket is aligned with the waist, as well as the ready position shown by not standing still and immediately moving to hit the cue.
4. The deficiencies in cycle I have been corrected, and there have been improvements in cycle II, so that learning objectives can be achieved.
5. In cycle II, all students achieved Minimum Completion Criteria (KKM) >75, which is the graduation standard for Physical Education, Sports and Health subjects.

and. Draft Revision

The implementation of teaching and learning activities in the first cycle still has shortcomings, especially when they do the badminton short serve because the learning media used is still conventional or traditional so revisions need to be carried out in the next cycle.

1) Teachers need to prepare effective learning media so that students can understand the material more easily.
2) Teachers must be able to manage time well during the learning process, so that all material can be delivered optimally, which in the end will have a positive impact on students' knowledge.
3) Teachers need to have high motivation and creativity to create a fun and interesting learning atmosphere, so that students are more interested and understand the material presented more easily.

RESULT AND DISCUSSION

1. Media Use

The use of audiovisual media in learning the badminton short serve has a significant positive impact on the teaching and learning process, especially in physical education. This media helps students understand the material being presented, because it not only displays visuals, but also includes sound, thus encouraging students to think critically and develop their creativity. This supports the theory of Serungke et al., (2023), that the use of audiovisual media in learning also allows the development of critical and analytical skills in students.

2. Learning outcomes

The results of this research indicate that the use of audiovisual media can have a positive impact in improving short serve learning outcomes in badminton learning. This can be seen from the increase in students' understanding of the material presented by the teacher. In the first cycle, as many as 22 students or 69% of class , and Health.

As many as 10 students or 31% of class Therefore, it is necessary to carry out follow-up through cycle II. After implementing cycle II, all 32 students or 100% of class XI Science at SMA Negeri 10 Central Maluku had met the KKM or >75, which is the passing standard for this subject.

During the learning process, the teacher's activities have gone well. This can be seen from the teacher's active role in guiding and observing students during

learning activities, providing direct correction to students' movement errors, as well as explaining material, providing feedback, conducting evaluations, and holding question and answer sessions. Student activities also showed quite large participation.

Based on the results of the research above, student participation in learning using audiovisual media to learn short serves in badminton shows very good results. This can be seen in the implementation of cycle II, where all 32 students of class .

Students are considered complete if they have reached the Minimum Completion Criteria (KKM) or >75, which is the graduation standard for Physical Education, Sports and Health subjects. Based on the research results, in cycle II all students had achieved completeness or fulfilled the KKM. Thus, the hypothesis proposed can be accepted, namely the use of audiovisual media can improve short serve learning outcomes in badminton learning class XI IPA SMA Negeri 10 Central Maluku

CONCLUSION

1. Effectiveness of Audiovisual Media: The use of audiovisual media has proven to be effective in improving badminton short serve learning outcomes. This media helps students understand the material better because it provides visuals and audio that support understanding of concepts.
2. Increasing Student Abilities: In cycle I, there were still 10 students or 31% in class XI Science at SMA Negeri 10 Central Maluku whose average scores did not meet the Minimum Completeness Criteria (KKM). However, after implementing the revisions in cycle II, all (32) students or 100% succeeded in achieving the KKM, namely >75, which is the passing standard for Physical Education, Sports and Health subjects, showing a significant improvement in their learning outcomes.
3. Continuous Improvement: These findings indicate that improvements from cycle I to cycle II, including revisions to the use of media and learning steps, had a significant positive impact on students' ability to perform short serves.
4. Follow-up: To achieve optimal learning outcomes, it is important to continue to reflect and revise the learning methods and media used. This includes paying attention to aspects of assessment that are not optimal, such as knowledge and skills, and implementing more effective strategies.

Thus, the application of audiovisual media in badminton short serve learning not only increases students' understanding but also contributes to achieving the set passing standards. This research shows the importance of innovation in teaching methods to achieve better learning outcomes.

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