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Archery sport class management using demonstration methods to improve results learn beginner archery skills

Zarządzanie zajęciami sportowymi z łucznictwa przy użyciu metod demonstracyjnych w celu poprawy wyników nauki początkujących umiejętności łuczniczych

Hendra Setyawan[1(A,B,C,D,E,F)], **Suyanto**[2(A,F)], **Suharjana**[3(A,F)], **Yudik Prasetyo**[3(A,F)],
Deny Setiawan Wayoi[4(A,G)], **Hardianto**[5(A,G)], **Nugroho Susanto**[6(A,G)], **Ismail Gani**[7(A,G)],
Ahmad Rithaudin[7(A,F)]

[1]Department of Recreation Business Management, Yogyakarta State University, Indonesia
[2]Department of Economic Education, Yogyakarta State University, Indonesia
[3]Department of Sport Science, Yogyakarta State University, Indonesia
[4]Department of Javanese Language Education, Yogyakarta State University, Indonesia
[5]Department of Education Management, Pasir Pengaraian University, Indonesia
[6]Department of Sport Science, Padang State University, Indonesia
[7]Department of Physical Education Recreation and Health, Yogyakarta State University, Indonesia

Abstract

Introduction. This research examines archery sports class management implementation using the demonstration method (10 steps of basic archery techniques) in archery courses in the PJKR study program, faculty of FIKK UNY) odd semester 2022/2023. The research aims to describe classroom management and examine changes in students' archery skills after implementing classroom management using the demonstration method (10 basic archery technique steps).
Material and methods. This quantitative research used a descriptive design and pre-experimental one-group pretest-posttest data analysis technique with descriptive test and paired sample t-test analysis using SPSS. The research sample at the descriptive stage uses total sampling in classes A, B, C, D, and E, totalling 80 students, with data collection techniques through questionnaires distributed to students. The research sample at the pre-experimental stage used random cluster sampling of 30 students with data collection techniques through an archery test at a distance of 15 meters.
Results. Based on the class management descriptive test results on the planning aspect, the average result is 4.40, and the category is very suitable. The organization of 4.35 categories is very appropriate. The implementation/Instruction 4.37 category is very appropriate. The evaluation/Assessment 4.30 category is very appropriate. On the results of the paired sample test, the sig value was obtained. (2-tailed) of 0.000 < 0.05 so that there is a difference in the average pre-test and post-test after being given the application of class management using the demonstration method (10 basic archery technique steps). The result of the experimental pre-test value is 49. 10, while the experimental post-test was 70.80, there was an increase in the descriptive pre-test with the post-test.
Conclusions. It can be concluded that implementing archery sports class management using the demonstration method (10 basic archery technique steps) can improve the learning outcomes of beginner archery skills among students.

Keywords
classroom management, demonstration, basic archery techniques, archery skills

Streszczenie
Wprowadzenie. Niniejsze badanie analizuje implementację zarządzania zajęciami sportowymi z łucznictwa przy użyciu metody demonstracyjnej (10 podstawowych kroków techniki łuczniczej) w kursach łucznictwa na programie studiów PJKR na wydziale FIKK UNY w semestrze letnim 2022/2023. Celem badania jest opisanie zarządzania salą lekcyjną i zbadanie zmian w umiejętnościach łuczniczych studentów po wprowadzeniu zarządzania salą lekcyjną przy użyciu metody demonstracyjnej (10 podstawowych kroków techniki łuczniczej).
Materiał i metody. Badanie ilościowe wykorzystało projekt opisowy i technikę analizy danych pre-eksperymentalnych z jedną grupą pretest-posttest, z użyciem testu opisowego i analizy t-test na sparowanych próbach za pomocą SPSS. Przy próbie opisowej wykorzystano próbkowanie całkowite w klasach A, B, C, D i E, łącznie 80 studentów, a techniki zbierania danych obejmowały rozprowadzenie kwestionariuszy wśród studentów. Przy próbie preeksperymentalnej wykorzystano losowe próbkowanie skupiskowe 30 studentów, a techniką zbierania danych były testy łucznicze na odległość 15 metrów.
Wyniki. Na podstawie wyników testu opisowego zarządzania zajęciami na etapie planowania średni wynik wynosi 4.40, a kategoria jest bardzo odpowiednia. Organizacja wyników na poziomie 4.35 jest bardzo odpowiednia. Implementacja/instrukcja 4.37 kategorii jest bardzo odpowiednia. Ocena/ocena 4.30 kategorii jest bardzo odpowiednia. W wynikach testu sparowanych próbek uzyskano wartość sig. (2-ogonowy) wynoszącą 0,000 < 0,05, co oznacza, że istnieje różnica między średnimi wynikami pretestu a posttestu po zastosowaniu zarządzania salą lekcyjną przy użyciu metody demonstracyjnej (10 podstawowych kroków techniki łuczniczej). Wynik eksperymentalny pretest wynosi 49,10, podczas gdy posttest eksperymentalny wyniósł 70,80, co oznacza wzrost wyników opisowych pretestu w stosunku do posttestu.
Wnioski. Można stwierdzić, że wdrożenie zarządzania zajęciami sportowymi z łucznictwa przy użyciu metody demonstracyjnej (10 podstawowych kroków techniki łuczniczej) może poprawić wyniki nauki początkujących umiejętności łuczniczych wśród studentów.

Słowa kluczowe
zarządzanie salą lekcyjną, demonstracja, podstawowe techniki łucznicze, umiejętności łucznicze

Introduction

Currently, archery is a sport that is growing in popularity in society. Archery sport has many benefits that are needed at the stage of growth and development of adolescents. Archery activities will have a positive impact on increasing concentration and stability of visual balance [1–3]. In addition, archery can also help shape the values or character of students. Khoeriyah [4] stated that the character values of the archery activity program are the character of discipline, the character of hard work, the character of independence, the character of respect, and the character of being friendly/communication. The form of archery sports activities packaged within the framework of educational sports in Elementary School, Middle School, High School, and College can be used to develop cognitive, affective, and psychomotor aspects. It can be done through the habituation of character values or attitudes through games and sports activities. In order to make it come true, teachers or lecturers are expected to have sincerity in conveying knowledge, providing motivation to students, and using appropriate teaching methods or techniques to achieve educational goals [5].

The goal of education in the twenty-first century is to produce future PJOK teachers who have a variety of abilities, are creative, adept at technology, can use information media, can work, and can live by enhancing their life skills. The development of student potential includes academic and non-academic abilities, such as the ability to cooperate, communicate, adapt, and be creative. Sulfiani [6] mentioned this. Among the subjects included in the curriculum of the Health and Recreation Physical Education Study Program of the Faculty of Sports and Health Sciences UNY is the subject of archery. The learning achievements of the archery sports course include:

- Students can apply knowledge about archery sports, including the history and benefits of archery, archery safety standards, archery equipment and functions, archery muscles, standing technique, nocking technique, handling technique, set-up technique, drawing technique, anchoring technique, holding technique, aiming technique, release technique, follow-through technique, a consistent technique of movement, as well as strategy and tactics of archery.
- students can design and practice archery with the correct technique, as well as analyze the basic techniques of archery correctly;
- students can identify, formulate, analyze, and solve problems in the field of archery;
- students can communicate effectively orally and in writing regarding archery;
- students can work in teams in making archery sports course assignments [7].

This course is delivered in the final semester with the hope of becoming a provision for developing skills in one of the professional sports branches or sports development in extracurricular activities at school.

The results of initial observations in the archery course show that students' basic archery knowledge and movement skills are still below the expected minimum standard. Therefore, class management is needed with appropriate methods and techniques to improve students' beginner archery skills. Class management using the demonstration method with ten steps of basic archery techniques is considered appropriate for teaching archery among novice students. The stages of class management include planning, organizing, implementing/instructing, and evaluating/assessing by applying the demonstration method of 10 basic archery techniques steps. Rohiyatun & Mulyani [8] concluded that there is a relationship between classroom management procedures and the smooth teaching and learning process. Wahid et al. [9] also concluded that classroom management activities are intended to create and maintain a classroom atmosphere and condition so that the teaching and learning process can take place effectively and efficiently.

The implementation of the ten basic archery technique steps is carried out using the demonstration method. The demonstration method is a method of teaching by demonstrating objects, events, rules, and sequences of carrying out activities, either directly or through the use of relevant teaching media [10]. The demonstration method has an influence on increasing student sports abilities [11]. The demonstration method is carried out at ten stages of the basic archery techniques. The basic archery techniques used were adopted from the theory of archery sports professor from South Korea Kim Hyung Tak, including (1) basic standing techniques; (2) basic grip techniques; (3) basic hooking techniques; (4) basic set-up techniques; (5) basic drawing techniques (half & full draw); (6) basic anchoring techniques; (7) basic aiming techniques; (8) basic technique of extending; (9) basic release techniques; and (10) follow-through basic techniques (No, nd). It is hoped that implementing class management in archery courses using the demonstration method (10 steps of basic archery techniques) can improve learning outcomes in knowledge, attitudes, and skills. Referring to some of the arguments above, although in the last five years, there have been several previous studies examining archery, including research [13–17]. However, this research has not examined the implementation of archery sports class management using the demonstration method (10 steps of basic archery techniques) in improving the learning outcomes of archery skills for beginners among students. It is hoped that the renewal of this research can improve learning outcomes in lectures or teaching archery, especially in student archery skills.

Materials and methods

This quantitative study has two sets of designs: descriptive and pre-experimental one-group pretest-posttest. The research was carried out at the PJKR FIKK UNY study program with the subject of fifth-semester students taking part in archery sports of choice lectures. The data analysis technique used is descriptive analysis and paired sample t-test. The first data analysis technique used descriptive test analysis to determine the implementation of archery sports class management using the demonstration method [12] by the lecturer. Research at this stage is intended to provide an overview of classroom management activities in four aspects, namely; 1) planning; 2) organizing; 3) implementation; and 4) evaluation/assessment.

The research sample at this stage used total sampling in classes a, b, c, d, and e totalling 80 students. Data collection techniques in this study were carried out by distributing questionnaires to students taking archery sports of choice courses. The research instrument uses a Likert Scale with an assessment of 1)

Very Appropriate (VA) is worth 5; 2) Appropriate (A) is worth 4; 3) Enough (E) is worth 3; 4) Less Appropriate (LA) is worth 2; and 5) Very Not Appropriate (VNA) is worth 1. The instrument is prepared based on a theoretical study that has been adjusted to measure each indicator. The instrument has been tested for validity (Product Moment Pearson Correlation SPSS) and reliability (Alpha Cronbach's SPSS) before being used in research. The validity test results of all question items have an r-count value greater than r-table 0.227 and a sig. (2-tailed) is 0.000 < 0.05 at a significance level of 5%, so all question items are declared valid. The results of the reliability test on planning are worth 0.959 (No of Items 10), organizing is worth 0.929 (No of Items 4), implementation/instruction is worth 0.981 (No of Items 18), and evaluation/assessment is worth 0.884 (No of Items 3), so it was concluded that all question items were stated to be reliable or consistent. The results of the descriptive test analysis at this stage were then categorized using the assessment criteria [12] as follows:

Table 1. Category Value Scale

Scale	Category
1 – 1.8	Very inappropriate
1.81 – 2.6	Less appropriate
2.61 – 3.4	Enough
3.41 – 3.2	In accordance
4.21 – 5	Perfect fit

The second data analysis technique used paired sample t-test analysis with the SPSS program to determine the application of archery class management using the demonstration method (10 basic archery technique steps) on shot results for novice archers. The research design with the paired sample t-test at this stage is described in [12] below:

Table 2. Pre-experimental designs (one-group pretest-posttest design)

Pre-test	Treatment	Post-test
O1	X	O2

Information:
O1: ResultsPretest
X: Implementation of Archery Class Management Using the Demonstration Method (10 Steps to Basic Archery Techniques)
O2: Results Postest

The implementation of the primary archery technique demonstration method adopted from Kim Hyung Tak's technique includes the following ten technical stages:
1. Qbasic standing technique
2. Qbasic grip technique
3. Qbasic hooking technique
4. Qbasic set-up technique
5. Qbasic drawing techniques (half & full draw)
6. Qbasic anchoring techniques
7. Qbasic aiming techniques
8. Qbasic technique of extending
9. Qbasic release techniques, and
10. The basic technique of follow through [12]

The research sample at this stage used the cluster random sampling method in classes A, B, C, D, and E, totalling 30 students. The data collection technique in this study was carried out by giving an archery test at a distance of 15 meters by shooting 36 arrows. The test was carried out before and after the teaching treatment with the demonstration method (10 basic archery technique steps) to students taking archery sports of choice courses. The procedure for carrying out the archery test is carried out with the following explanation:
1. Students standing on the shooting line shoot six arrows with a maximum time limit of 3 minutes in each session.
2. After all the students have finished shooting the arrows, the appointed referee and the students calculate their respective scores.
3. Score is determined based on the results of shooting arrows that stick to the target face object with details of the yellow colour score 10–9, red 8–7, and blue 6–5.
4. After completing all the shot scores obtained, they are added and converted to a numerical value on a scale of 1–100.

Results

Research implementation schedule
Research related to the application of classroom management in archery courses using the demonstration method (10 basic archery technique steps) was carried out in the odd semester of the 2022/2023 academic year with a research implementation schedule as presented in Table 3:

Table 3. Implementation schedule

No	Class	Month	Time	Activity
1	PJKR A, B, C, D, E	September 2022	-	Planning
2	PJKR A, B, C, D, E	October 2022	2 x 50M	15-Meter Archery Pre-Test
3	PJKR A, B, C, D, E	November 2022	2 x 50M	Gathering 1: Applying Kim's
4	PJKR A, B, C, D, E	November 2022	2 x 50M	Method
5	PJKR A, B, C, D, E	November 2022	2 x 50M	Gathering 2: Applying Kim's
6	PJKR A, B, C, D, E	December 2022	2 x 50M	Method
7	PJKR A, B, C, D, E	January 2023	-	Gathering 3: Applying Kim's

Archery class management using demonstration methods (10 steps to basic archery techniques)

Class management in the archery elective sports course (Orpil) at the PJKR FIK UNY Study Program uses a demonstration method with ten steps of basic archery techniques adopted from the theory of a professor of archery from South Korea named Kim Hyung Tak. Management of demonstration method archery class (10 basic archery technique steps) includes the following ten basic techniques: (1) basic standing technique; (2) grip basic technique; (3) basic hooking techniques; (4) basic set-up techniques; (5) basic drawing techniques (half & full draw); (6) basic anchoring techniques; (7) basic aiming techniques; (8) basic technique of extending; (9) basic release techniques; and (10) follow-through basic techniques [12].

Classroom Management Implementation Score Data Description Archery Using Demonstration Methods (10 Steps to Basic Archery Techniques)

At this stage of the research, students provided feedback re-garding four aspects of the implementation of archery sports class management using the demonstration method (10 basic archery technique steps) [12] carried out by the lecturer, including aspects: 1) planning, 2) organizing, 3) implementation, and 4) evaluation. Furthermore, the four aspects are analyzed in a descriptive quantitative manner. The results of the description of the research data on four aspects of archery sports class management using the demonstration method (10 basic archery technique steps) can be seen as follows:

Planning

The results of the descriptive analysis on the planning aspect of the archery sports class using the demonstration method (10 basic archery technique steps), as shown in [4] with respondents (N = 74), obtained an average result of 4.40, including the very appropriate category.

Table 4. Planning

No	Indicator	Alternative respondent answers					Average	Conclusion
		VNA	LA	E	A	fVA		
		1	2	3	4	5		
1	X1.1	0	0	7	29	38	4.42	Perfect fit
2	X1.2	0	0	9	31	34	4.34	Perfect fit
3	X1.3	0	1	7	29	37	4.38	Perfect fit
4	X1.4	0	0	8	31	35	4.36	Perfect fit
5	X1.5	0	0	6	38	30	4.32	Perfect fit
6	X1.6	0	0	6	26	42	4.49	Perfect fit
7	X1.7	0	0	6	30	38	4.43	Perfect fit
8	X1.8	0	0	7	28	39	4.43	Perfect fit
9	X1.9	0	0	7	32	35	4.38	Perfect fit
10	X1.10	0	0	7	28	39	4.43	Perfect fit
	Average Class Planning Aspect Score						4.40	Perfect fit

Organizing

The results of the descriptive analysis on the aspect of organizing the archery sports class using the demonstration method (10 basic archery technique steps), as shown in Table 5 with respondents (N = 74), obtained an average result of 4.35 included in the very appropriate category.

Table 5. Organizing

No	Indicator	Alternative respondent answers					Average	Conclusion
		VNA	LA	E	A	fVA		
		1	2	3	4	5		
1	X2.1	0	0	8	34	32	4.32	Perfect fit
2	X2.2	0	0	8	33	33	4.34	Perfect fit
3	X2.3	0	0	8	35	31	4.31	Perfect fit
4	X2.4	0	0	5	36	34	4.45	Perfect fit
	Average Class Planning Aspect Score						4.35	Perfect fit

Implementation/Instructions

The results of the descriptive analysis on the implementation/ instruction aspect of the archery sports class used the demonstration method (10 basic archery technique steps) as shown in Table 6 with respondents (N = 74) obtaining an average result of 4.37 including in the very appropriate category.

Table 6. Implementation/Instructions

No	Indicator	Alternative respondent answers					Average	Conclusion
		VNA	LA	E	A	fVA		
		1	2	3	4	5		
1	X3.1	0	0	8	31	35	4.36	Perfect fit
2	X3.2	0	0	7	37	30	4.31	Perfect fit
3	X3.3	0	0	6	30	38	4.43	Perfect fit
4	X3.4	0	0	7	30	37	4.41	Perfect fit
5	X3.5	0	0	6	34	34	4.38	Perfect fit
6	X3.6	0	0	7	31	36	4.39	Perfect fit
7	X3.7	0	0	7	27	40	4.45	Perfect fit
8	X3.8	0	0	6	32	36	4.41	Perfect fit
9	X3.9	0	0	5	31	39	4.51	Perfect fit
10	X3.10	0	0	8	29	37	4.39	Perfect fit
11	X3.11	0	0	6	33	35	4.39	Perfect fit
12	X3.12	0	0	7	31	36	4.39	Perfect fit
13	X3.13	0	0	6	35	33	4.36	Perfect fit
14	X3.14	0	2	7	30	35	4.32	Perfect fit
15	X3.15	0	1	8	32	33	4.31	Perfect fit
16	X3.16	0	0	9	34	31	4.30	Perfect fit
17	X3.17	0	1	11	31	31	4.24	Perfect fit
18	X3.18	0	0	10	30	34	4.32	Perfect fit
	Average Score of Class Implementation/Instruction Aspect						4.37	Perfect fit

Evaluation/Assessment

The results of the descriptive analysis on the evaluation aspect or assessment of archery sports class using the demonstration method (10 basic archery technique steps) as shown in Table 7 with respondents (N = 74) obtained an average result of 4.30 included in the very appropriate category.

Table 7. Evaluation/Assessment

No	Indicator	VNA	LA	E	A	fVA	Average	Conclusion
		Alternative respondent answers						
		1	2	3	4	5		
1	X4.1	0	0	11	31	32	4.28	Perfect fit
2	X4.2	0	0	10	35	29	4.26	Perfect fit
3	X4.3	0	1	7	31	35	4.35	Perfect fit
	Average Score of Class Implementation/Instruction Aspect						4.37	Perfect fit

Student beginner archery skill learning outcomes

Data on student shooting results were obtained from an archery practice test instrument at a distance of 15 meters by shooting 36 arrows. The test was carried out twice, namely before (pre-test) and after (post-test), given the teaching treatment with the demonstration method (10 steps of basic archery techniques). As shown in Table 8, the result data is known as descriptive statistics Pre-test experimental demonstration method (10 steps of basic archery techniques) has a minimum value of 16, a maximum value of 69, a mean value of 49.10, and a standard deviation of 14.854. As for the post-test results, it is known that the minimum value is 51, the maximum value is 100, the mean value is 70.80, and the standard deviation value is 13.604.

Table 8. Descriptive statistics

No	N	Minimum	Maximum	Mean	SD
Kim's Method Experiment Pre-Test	30	16	69	49.10	14.854
Post-Test Experiment of Kim's Method	30	51	100	70.80	13.604
Valid N (listwise)	30				

Test results for normality as displayed in Table 9. When both the Kolmogorov-Smirnov test and the Shapiro-Wilk test have a significance value (sig.) > 0.05 for all experimental pre-test and post-test data, it may be said that the study data is normally distributed.

Table 9. Tests of normality

	Class	Kolmogorov-Smirnov[a]			Shapiro-Wilk		
		Statistics	df	Sig.	Statistics	df	Sig.
Results (Kim's Method Archery Test)	Kim's Method Experiment Pre-Test	0.144	30	0.115	0.939	30	0.084
	Post-Test Experiment of Kim's Method	0.098	30	0.200*	0.951	30	0.175

The test results of the paired sample t-test of the teaching application with the demonstration method (10 basic archery technique steps), as shown in Table 10, are known output paired samples test sig value obtained. (2-tailed) of 0.000 < 0.05, it can be concluded that there is a difference in the average student archery shooting learning outcomes for the pre-test of the experimental class and the post-test of the experimental class after being given the application of teaching with the demonstration method (10 basic archery technique steps).

Table 10. Paired samples test

		Mean	SD	Std. Error Means	95% confidence interval of the difference		t	df	Sig. (2-tailed)
					Lower	Upper			
Pair 1	Kim's Method Experiment Pre-Test – Post-Test Experiment of Kim's Method	−21.700	15.875	2.898	−27.628	−15.772	−7.487	29	0.000

Meanwhile, based on the output of paired samples statistics as shown in Table 11, it is known that the experimental pre-test value is 49.10 while the experimental post-test is 70.80, so there is a descriptive increase from the pre-test value to the post-test value. Thus it can be concluded that teaching using the demonstration method (10 steps of basic archery techniques) descriptively can improve student learning outcomes of archery shots.

Table 11. Paired samples statistics

		Mean	N	SD	SE
Results (Kim's Method Archery Test)	Kim's Method Experiment Pre-Test	49.10	30	14.854	2.712
	Post-Test Experiment of Kim's Method	70.80	30	13.604	2.484

Discussion

The descriptive results of this study have shown that the average respondents' answers regarding the implementation of archery sports class management using the demonstration method (10 steps of basic archery techniques) fall within the "very appropriate" category. The implementation of archery sports class management using the demonstration method (10 basic archery technique steps), including planning, organizing, implementing/instructing, and evaluating/assessing, carried out by lecturers or teachers, can effectively promote the achievement of learning objectives and outcomes.

Planning, as the initial stage of classroom management functions, is crucial in designing learning activities, guiding teacher actions, and serving as a blueprint for class organization. Planning supports students' cognitive and affective development, involving activities such as providing engaging games and conducting pre-tests [18] [19].

The second stage, class organization, encompasses tasks like arranging materials, forming groups, managing equipment, organizing learning resources, and distributing student assignments. Teachers play an essential role in classroom management, including organizing class activities, seating arrangements, and ensuring the availability of learning tools [20].

The third stage, class implementation or teaching, involves guiding students through their tasks, offering direction, guidance, and instructions to ensure effective and goal-aligned activities. Effective classroom management requires both pre-

ventive and corrective actions by teachers [21].

The fourth stage, evaluation or assessment, focuses on assessing archery learning outcomes, including cognitive aspects related to the understanding of basic archery techniques and attitudes such as discipline, responsibility, and cooperation in learning. Assessment standards, including validity, reliability, objectivity, and practicality, are crucial in sports education [22].

Teachers' roles in managing classroom learning, whether theoretical or practical, are indispensable for enhancing the effectiveness of teaching and learning processes, whether in online or offline distance learning [23]. Numerous studies emphasize the impact of classroom management on the teaching and learning process [8] [9]. Factors such as curriculum, facilities, teachers, students, and families contribute to successful classroom management [25]. Effective classroom management is integral to teacher professionalism [26], and teachers should maximize their use of teaching aids to enhance student comprehension [27]. In summary, teachers, lecturers, or trainers play a vital role in achieving optimal learning outcomes in archery sports skills through effective classroom management, including planning, organizing, implementing, and evaluating/assessing in sports education or professional sports.

Based on the paired samples test results, the significance level (sig. 2-tailed) is less than 0.05, indicating a significant difference in average student archery shooting learning outcomes between the pre-test and post-test of the experimental class following the application of the 10-step demonstration method of

basic archery techniques. Additionally, the descriptive statistics show an increase from the pre-test value of 49.10 to the post-test value of 70.80, suggesting that using the demonstration method (10 basic archery technique steps) in teaching can enhance the learning outcomes of novice students in archery skills. Previous research has also supported the effectiveness of the demonstration method in improving students' sports abilities [11].

The use of the demonstration method in sports education has consistently demonstrated positive effects on student learning outcomes in various studies conducted in elementary schools, middle schools, and universities [30–35]. Thus, it can be concluded that the demonstration method is a valuable tool for improving student learning outcomes and is particularly well-suited for practice-based learning activities in sports education at all educational levels.

Specifically, the basic 10-step archery technique is adopted from the theory of a professor of archery from South Korea, Kim Hyung Tak. These basic techniques include (1) basic standing techniques; (2) basic grip techniques; (3) basic hooking techniques; (4) basic set-up techniques; (5) basic drawing techniques (half & full draw); (6) basic anchoring techniques; (7) basic aiming techniques; (8) basic technique of extending; (9) basic release techniques; and (10) follow-through basic techniques [12]. Archery trainers from Korea have also taught or trained top athletes in several countries, and this is because the best archery sports achievements are from Korea [36]. These ten techniques are carried out in stages and sequentially in order to provide ease of practice for beginner archers among students. Efforts to improve archery abilities and skills must be carried out through planned exercises and the proper training methods. Several studies corroborate that training aims to improve individual and team competence and skills [11]. It is also reinforced by other research, which states that achieving success in sports is every athlete's dream, so maximum coaching and approaches or methods are needed [38]. In addition, in the management of learning the practice of archery, some bow equipment is needed, which is not cheap. Thus, to support the success of archery sports achieve-

ments in lectures, it is necessary to support the existence of adequate laboratories. The existence of an achievement laboratory and physical condition is beneficial for its use in lectures, training and research [39]. Thus it can be concluded that teaching using the correct basic techniques of archery sports, starting from basic standing techniques to basic standing techniques, grip, hooking, set up, drawing, anchoring, aiming, extending, releasing; and follow-through, which was carried out in stages able to improve the learning outcomes of beginner archery skills among archery sports class (Orpil) students.

Conclusion

Based on the results of research data analysis and discussion, this study obtained the following conclusions: (1) To achieve maximum learning outcomes in archery sports skills, the role of lecturers, teachers or trainers is needed in managing the class including; planning, organizing, implementing, and evaluating/assessing in the field of educational sports or professional sports; (2) The use of the demonstration method can improve student learning outcomes and is very suitable for use in practice-based learning activities, such as the practice of sports education in elementary schools, middle schools, and universities; (3) Teaching archery using appropriate basic techniques, including: standing technique, grip technique, hooking technique, set up technique, drawing technique, anchoring technique, aiming technique, extending technique, release technique, and follow-through technique which is carried out in stages can increase the value of the results learning archery skills for beginner students who take archery courses; (4) There needs to be support for the existence of a sports laboratory that provides adequate archery sports equipment, both at tertiary institutions or schools that hold archery sports classes.

Adres do korespondencji / Corresponding author

Nugroho Susanto

E-mail: nugrohosusanto@fik.unp.ac.id

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Appendix 1

Class Management Descriptive Instruments

No	Planning Aspect Indicators/Question
1	The lecturer opened the lesson by praying and giving apperception
2	Lecturers plan archery theory learning meetings in class
3	Lecturers plan practical learning meetings in the archery field
4	The lecturer conveys the learning objectives of archery
5	The lecturer conveys the benefits of archery Sports of choice learning
6	The lecturer conducts a Pre-Test of the initial ability of archery skills
7	The lecturer conveys the upcoming archery learning plan
8	The lecturer conveys the archery learning methods/techniques used
9	The lecturer explains the archery equipment that will be used in practice in the field
10	The lecturer conveys the upcoming archery learning material

No	Indicators/Questions on Organizational Aspects
1	Lecturers organize and give independent and group assignments to students
2	The lecturer organizes/divides class classes on the theory and practice of archery
3	The lecturer organizes/divides material on the theory and practice of archery
4	Lecturers organize study groups/assignments

No	Indicators/Question of Implementation Aspect/Instruction
1	Lecturers provide instructions for study/assignment group procedures
2	The lecturer gives instructions on the rules for study groups/assignments
3	The lecturer gives instructions or explains basic archery techniques from the first to the last material
4	The lecturer gives practical examples of using (students demonstrating) related basic archery techniques
5	The lecturer gave practical examples of using modified archery equipment and actual equipment
6	The lecturer explains and gives examples of archery movements with methods/techniques (Kim Hym Tak Archery)
7	The lecturer provides corrections to the basic techniques of archery movements that are still wrong
8	The lecturer conveys security/safety procedures in learning archery practice
9	The lecturer conveys security/safety rules in the archery field
10	The lecturer conveys the rules for using archery equipment in the archery field
11	Lecturers give warnings to students who behave defiantly or violate the learning rules
12	The lecturer arranges shooting practice formations in the learning process of archery practice
13	Lecturers arrange the placement of equipment when practical learning in the field
14	Lecturers try to create a conducive learning atmosphere: disciplined and calm
15	Lecturers have close communication relationships with students (limited to Lecturer-Student relations)
16	Lecturers motivate students to express opinions regarding archery learning
17	Lecturers motivate students to ask questions related to archery learning materials that have not been mastered
18	The lecturer closes the lesson by providing motivation and ends with a closing prayer at the end of the lesson

No	Indicators/Questions on Organizational Aspects
1	The lecturer evaluates by re-emphasizing the correct techniques and providing corrections to techniques that are still wrong
2	The lecturer evaluates by observing the development of archery abilities/skills that have been achieved
3	The lecturer evaluates by conducting a final Post-Test assessment of the learning outcomes of archery skills at the end of the learning meeting

Appendix 2

Pretest-Postest Student Archery Skills

No	Student Initials	Free Test/Post Test Archery Practice Exam														Conv Mark T_Pre	Value Conv T_Pos
		R1	R2	R3	R4	R5	R6	Pre	R1	R2	R3	R4	R5	R6	Post		
1	MFA	18	37	21	14	21	13	124	28	6	27	8	26	32	127	64	66
2	RCF	20	12	5	29	11	24	101	10	15	11	34	30	7	107	52	55
3	FN	12	5	7	19	23	7	73	12	21	19	38	18	6	114	38	59
4	NA	17	19	7	21	24	21	109	25	24	16	21	17	21	124	56	64
5	MZA	11	0	24	11	7	21	74	14	10	21	12	11	31	99	38	51
6	DAD	7	17	6	24	27	13	94	22	16	29	20	19	25	131	49	68
7	RKS	17	26	40	21	17	11	132	12	20	25	35	30	28	150	68	78
8	MKA	30	10	7	32	23	28	130	21	21	34	7	23	27	133	67	69
9	RFA	14	6	0	5	6	11	42	12	26	13	21	26	10	108	22	56
10	APS	0	5	9	23	5	9	51	20	36	18	34	16	19	143	26	74
11	MIAR	12	15	13	27	16	12	95	7	22	44	27	22	34	156	49	81
12	AR	28	20	25	11	0	7	91	22	26	7	34	6	43	138	47	72
13	AW	19	11	23	27	14	7	101	23	35	0	18	29	7	112	52	58
14	AYN	7	5	11	0	7	0	30	0	7	31	11	27	25	101	16	52
15	MAA	23	23	24	20	17	27	134	23	32	23	26	31	24	159	69	82
16	MRR	20	22	21	0	8	19	90	30	27	37	37	28	34	193	47	100
17	INAIB	6	29	14	13	32	37	131	27	20	30	21	34	27	159	68	82
18	MKA	7	0	22	13	13	10	65	18	21	20	17	6	34	116	34	60
19	HYTP	22	0	5	19	23	28	97	11	33	39	15	36	33	167	50	87
20	NLPS	18	12	19	17	20	28	114	17	31	20	43	27	21	159	59	82
21	ADF	0	0	6	11	0	27	44	11	45	39	12	18	26	151	23	78
22	LHS	6	26	13	19	18	10	92	11	34	19	33	16	26	139	48	72
23	TR	20	9	7	17	25	27	105	19	31	45	38	26	31	190	54	98
24	SN	7	6	14	12	25	11	75	0	10	19	15	28	47	119	39	62
25	SANS	31	12	36	8	19	5	111	36	38	31	28	40	15	188	58	97
26	ZPP	8	24	22	36	14	6	110	11	26	20	20	22	22	121	57	63
27	IPA	21	12	17	25	33	15	123	16	28	14	30	9	33	130	64	67
28	AAF	13	0	5	0	24	26	68	23	17	18	16	10	16	100	35	52
29	ZHB	14	22	17	30	18	26	127	16	12	22	29	27	26	132	66	68
30	CJ	14	24	12	39	14	8	111	24	21	27	25	7	33	137	58	71