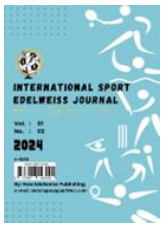
INTERNATIONAL SPORT EDELWEISS JOURNAL

ISSN: **3047-4434**
Journal Homepage: https://journal.neppublisher.com/
Volume: 01 Issue: 02, 2024, 11-22



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Application of Tactical Approach Model to Learning Outcomes of Playing Basketball in Extracurricular

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Received : Juli 2024
Accepted : Agustus 2024
Published : September 2025
DOI : 10.69543/cn30k555

ABSTRACT

Background: The basic idea of this research is that the tactical approach can provide students with a deeper and more contextual understanding of basketball, which in turn can improve their performance in the game.
Purpose: Objective of this research is to determine the effect of the application of the tactical approach on the learning outcomes of basketball extracurricular students.
Methods: In this study, the researcher used an experimental research method. The population used in this study was the students of SMAN 2 Kuningan, with the sample being the basketball extracurricular students of SMAN 2 Kuningan. For the sampling, the researcher used a purposive sampling technique. The instrument used to obtain data on the application of the tactical approach model to basketball learning outcomes is the GPAI (Games Performance Assessment Instrument)
Results: Data analysis in this study used the SPSS version 26 program, with the hypothesis test used being the paired sample t-test. The results of the calculation in this study obtained a significance value for the overall score variable, with an average difference of -2.330, a t-value of -3.832, and a significance of 0.004. Since $p < 0.05$, this difference is also significant, indicating that the overall score increase is statistically significant.
Conclusion: The analysis results show that the given intervention effectively improves students' support ability and overall score, as evidenced by the significant difference between the pretest and posttest in both variables.

KEYWORD: Basketball, Student Learning Outcomes, Tactical Approach

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To cite this article (APA Style):

Azzahra, Lafayza Keysa & Hidayat, Teten. (2024). Application Of Tactical Approach Model to Learning Outcomes of Playing Basketball in Extracurricular. *NEP Journal*. *02* (02), 11-22. https://doi.org/10.69543/cn30k555

INTRODUCTION

Physical education is a vital component in the education system, playing a significant role in the holistic development of individuals, encompassing physical, mental, and emotional aspects. In Indonesia, physical education is regulated by Law No. 20 of 2003, which emphasizes the importance of individual development based on an environment that supports physical education. As a discipline, physical education uses physical activities to bring about comprehensive changes in the quality of individuals, both physically, mentally, and emotionally (Mohendra, 2015). Its primary goal is to develop motor skills, knowledge, healthy and active living behaviors, sportsmanship, and emotional intelligence.

Physical education is not just about theory but rather about practical learning through physical activities, such as sports games. According to Indrayogi (2021), physical education includes the study of activities, one of which is sports games. However, in reality, the values of physical education are often underrecognized and underappreciated by society, as reflected in the implementation of physical education practices that are often unbalanced and lack value.

In the school environment, physical education encompasses intracurricular, cocurricular, and extracurricular activities. Each of these activities has different benefits, but they all aim to provide comprehensive fitness and skills to students. Extracurricular activities, in particular, offer students the opportunity to develop their interests and talents outside of classroom hours. At the high school level, extracurricular sports activities such as basketball are significant. However, in practice, many students still lack adequate basketball playing skills. This is often due to the lack of effective approach models used by physical education teachers. Gumilar (2016) states that physical education teachers often use methods that only emphasize basic techniques, causing students to feel bored and less interested. Therefore, it is important to apply appropriate learning models to improve the quality of learning and motivate students.

The common learning approaches used in sports games are the tactical and technical approach models. Sucipto (2019) explains that the tactical approach allows students to understand the relationship between playing strategies and their performance improvement in the game. This model also provides opportunities for students to solve problems within the context of game understanding, enabling them to play a more active and creative role. Based on observations in the field, students at SMA Negeri 2 Kuningan show less than optimal learning outcomes in basketball lessons. This is due to ineffective learning approaches. Therefore, this study aims to apply the tactical approach model in basketball learning in extracurricular activities at SMA Negeri 2 Kuningan. This research is expected to contribute to improving the quality of the curriculum and learning outcomes in physical education.

The main objective of this study is to explore the impact of applying the tactical approach model on basketball learning outcomes among extracurricular students at SMA Negeri 2 Kuningan. The basic idea of this research is that the tactical approach can provide students with a deeper and more contextual understanding of basketball, which in turn can improve their performance in the game. This study combines scientific knowledge, evidence-based information, and logical discussions from various disciplines, including physical education, educational psychology, and sports pedagogy. This approach aims to provide a comprehensive and valid foundation for developing more effective learning models in physical education, particularly in the context of basketball learning. This research is based on various studies and literature demonstrating the effectiveness of the tactical approach in improving learning outcomes in sports games. The literature review includes previous research highlighting the importance of the tactical approach in physical education and the benefits gained from applying this model in sports education contexts.

The discussion in this study will integrate findings from the literature with observations and experiments in the field. This discussion will include a critical analysis of the effectiveness of the tactical approach, challenges in its implementation, and recommendations for better teaching practices in the future. Thus, this research is expected to make a significant contribution to the development of physical education in Indonesia and serve as a reference for educators in improving basketball learning through the tactical approach. This study also aims to address the need for more effective and engaging learning models for students, thereby increasing their participation and performance in sports activities.

MATERIALS AND METHODS

PARTICIPANTS AND SAMPLING

This study will involve 10 participants selected through purposive sampling from students at SMA Negeri 2 Kuningan who are actively engaged in the extracurricular basketball program. This sampling method ensures that participants are specifically chosen based on their involvement in the basketball program, allowing for a focused investigation into the effects of the research intervention. The sample size is determined to provide adequate statistical power for detecting significant results and to minimize the risk of Type II errors, which can occur if the sample size is insufficient to identify real effects.

The population for this study includes all students at SMA Negeri 2 Kuningan, with the sample drawn specifically from those involved in basketball extracurricular activities. This ensures that the research findings are pertinent to this particular group. Purposive sampling was employed to select participants who meet the study's specific criteria, facilitating a precise examination of the research questions. This method enhances the validity and relevance of the findings by focusing on individuals directly involved in the area of interest.

RESEARCH DESIGN

This study employs a quasi-experimental design with a non-equivalent control group approach. According to Sukmadinata (2008: 194) argues that "experimental research is a different approach and has its own characteristics, because in this study it directly tests the effect of a variable on other variables. This design allows the researcher to compare the learning outcomes between the treatment group (experimental group) and the non-treatment group (control group), despite not using full randomization. This approach is suitable for educational contexts where full randomization is often impractical or unethical.

Pretest	Treatment	Posttest
O1	**X**	**O2**

Picture 1. Research Design

Explanation of Symbols

- O1: Initial measurement before treatment (pretest).
- X: Treatment using the tactical approach model in basketball.
- O2: Final measurement after treatment (posttest).

In this design, the study begins with an initial measurement (O1) to assess baseline skills and motivation of students before any intervention. The experimental group then undergoes the tactical approach treatment (X), while the control group continues with the conventional

approach. After the treatment period, final measurements (O2) are taken to evaluate any changes in the students' skills and motivation. This design facilitates a comparative analysis of the effectiveness of the tactical approach in enhancing basketball skills and student motivation.

LOCATİON AND TİME OF RESEARCH

The research will be conducted at SMA Negeri 2 Kuningan during the even semester of the 2023/2024 academic year. The selection of this location is based on several considerations: the ease of access, support from the school administration, and the availability of adequate facilities necessary for the successful implementation of the study. This site offers a conducive environment for conducting the research, ensuring that all required resources and support are readily available to facilitate effective data collection and analysis.

DATA COLLECTION AND ANALYSIS TECHNIQUES

Data Collection Techniques

Data collection is a crucial aspect of research design. According to Amalia Yunia Rahmawati (2020), collecting relevant information is essential for obtaining valid data. Ridwan (2015) defines tests as instruments for collecting data, consisting of exercises or questions used to measure skills, knowledge, or abilities. In this study, tests are employed to evaluate students' responses to the tactical approach model in basketball.

Data Analysis Techniques

Data analysis is facilitated using SPSS (Statistical Product and Service Solutions) version 26 to ensure valid results. The steps involved are as follows:

1. Descriptive Statistics: This involves summarizing the data using measures such as mean, standard deviation, variance, maximum, and minimum values, as outlined by Sujarweni (2015).
2. Assumption Testing: To validate the research model, assumptions such as normality, multicollinearity, and homoscedasticity must be met:
   - Normality Test: According to Ghozali (2018), the Kolmogorov-Smirnov test will be used to check if residuals are normally distributed. The null hypothesis (H0) is that residuals are normally distributed, and if the significance value (sig) is greater than 0.05, H0 is accepted. Otherwise, H0 is rejected.
   - Homogeneity Test: This test, using an F-test, assesses whether variances in post-test results between experimental and control groups are equal. Homogeneity is confirmed if the F value is greater than the critical F value at a 0.05 significance level; otherwise, the variances are considered heterogeneous.
3. Hypothesis Testing: The Paired Samples T-Test will be used to compare pretest and posttest results for the experimental group. According to Widiyanto (2013), this test evaluates the effectiveness of the treatment by analyzing mean differences before and after the intervention. The null hypothesis (H0) is that there is no effect of the tactical approach on basketball learning outcomes. If the significance value is less than 0.05, H0 is rejected, indicating a significant effect; if greater, H0 is accepted.

RESEARCH INSTRUMENTS

To collect comprehensive data on the implementation of the tactical approach model in basketball learning, this study employs a variety of instruments designed to measure key aspects of student skills and motivation. The instruments used include basketball skills tests, observation sheets, learning motivation questionnaires, and the Game Performance

Assessment Instrument (GPAI). According to Arikunto (2013), research instruments are tools selected and used by researchers to collect data systematically. Each instrument utilized in this study has a specific purpose and contributes to a thorough understanding of the effectiveness of the tactical approach.

Basketball Skills Test is used to assess students' technical abilities in fundamental basketball skills such as dribbling, passing, shooting, and lay-ups. This test has been validated by physical education experts to ensure its alignment with learning objectives and to provide accurate results regarding students' technical skills.

Observation Sheets are employed to record the learning process and student engagement during basketball extracurricular activities. Observations were conducted by the researcher and trained assistants to ensure consistency in data recording. These sheets help in assessing the application of the tactical approach in real-life activities.

Learning Motivation Questionnaire is designed to measure students' motivation in engaging with basketball learning through a tactical approach. The questionnaire includes various items that evaluate aspects such as interest, effort, and attitudes toward learning. Data from this questionnaire provide insights into how the tactical approach impacts students' motivation and attitudes.

Game Performance Assessment Instrument (GPAI), developed by Griffin, Mitchell, and Oslin (1997) and translated into Indonesian as the Instrumen Penilaian Penampilan Bermain (IPPB), is used to assess students' performance in actual basketball game situations. GPAI allows for the evaluation of various aspects of gameplay, including tactical decisions, skill execution, and overall game effectiveness.

***Table 1**. Components*

Components	**Appearance Assessment Criteria**
Decision Making	Make appropriate choices regardig what to do with the ball during the game.
Skill Execution	Efficient display of basic technical skills.
Adjust	The movement of the players, either in attack or defense as desired in the game.
Cover	Provides protective assistance for players who are playing the ball or moving the ball.
Support	Positioning the movement of the ball in a receiving position when a friend has the ball.
Guard/Mark	Defending against opponents who may or may not have the ball.
Refuge	Provides protective assistance for players who are playing the ball or moving the ball.

Source: The Game Performance Assessment Instrument (GPAI): Instructional Models for Physical Education, according to Griffin et al (in Metzler, 2005, p.362)

By integrating these various instruments, the study aims to provide a comprehensive picture of the implementation of the tactical approach model in basketball. The skills tests offer technical assessment, observation sheets record the learning process, motivation questionnaires gauge psychological aspects, and GPAI evaluates performance in game situations. The use of these diverse instruments is expected to yield valid and comprehensive data on the effectiveness of the tactical approach in enhancing both student skills and motivation.

RESULTS

This section presents the data obtained from the research analysis, which aims to determine the impact of implementing a Tactical Approach Model on basketball playing outcomes in extracurricular activities at SMA 2 Kuningan. The analysis and treatment were conducted on 10 athletes.

Table 2. Pretest and Posttest Result

Nama	*Pretest*				*Posttest*			
	DM	*SE*	*S*	Total	*DM*	*SE*	*S*	Total
Jia	3.3	6	6	15.3	12	0.8	8	20.8
Faras	3.2	0.9	2	6.1	4.25	1.1	3.5	8.9
Aal	1.75	0.7	1.5	3.9	2.5	1	4	7.5
Nadif	2.25	5	1	8.3	5	3	4	12
Farel	4.5	0.4	4	8.9	2.5	3	5	10.5
Hagi	2	0.8	1.7	4.5	2.3	1	2	5.3
Azka	1.3	3	2	6.3	2	2	3	7
Irsan	0.75	0.2	3	4	2.3	0.4	2.5	5.3
Romi	3	2	3	8	1.8	0.4	5	7.2
Alma	1.5	1.2	2	4.7	1.75	3	4	8.8
Jumlah	23.6	20.1	26.2	69.9	36.5	15.8	41	93.3

Table 2 shows the GPAI (Game Performance Assessment Instrument) test results before and after the intervention for 10 students. The data includes scores for Decision Making (DM), Skill Execution (SE), and Support (S), along with the total score for each student. The total scores of both tests reveal a significant difference, with an increase of 23.4 points from pretest to posttest.

Observing the GPAI test scores after the intervention shows a significant improvement in the total performance score of the students. The total performance score on the GPAI test after the intervention is 93.3, compared to 69.9 on the pretest. This indicates a statistically significant improvement in students' performance in game-related tasks following the intervention.

Table 3. Descriptive Statistics of Pretest and Posttest

	N	Minimum	Maximum	Mean	Std. Deviation
Pretest	10		3.9	15.3	7
Posttest	10		5.3	20.8	9.33

The descriptive statistics presented in Table 4 show that the minimum score in the pretest was 3.90, with a maximum of 15.30. The mean score of the pretest was 7.00 with a standard deviation of 3.442. In contrast, the posttest had a minimum score of 5.30 and a maximum of 20.80, with a mean score of 9.33 and a standard deviation of 4.549.

Comparison between the pretest and posttest groups shows a significant increase in posttest results. This is evident from the higher average score in the posttest (9.33) compared

to the pretest (7.00). The larger standard deviation in the posttest (4.549) also indicates greater variability in the results among participants.

FINDING RESULT

Normality Test

The Shapiro-Wilk normality test results show that the significance values (Sig) for the pretest group is 0.290, and for the posttest group is 0.100. Both values are above the commonly used alpha level (α = 0.05), indicating that both groups can be considered to have a normal distribution.

Table 4. Normality Test Results (Shapiro-Wilk)

Statistic	df	Sig.	Notes
Pretest	0.19	10	0.29
Posttest	0.238	10	0.1

Homogenity Test

Homogeneity of variance between pretest and posttest was tested using the Levene Test. The results are presented in the following table.

Table 5. Homogeneity Test

Test of Homogeneity of Variances	Levene Statistic	df1	df2	Sig.	Notes
Based on Mean	0.208	11	18	0.654	Homogeneous
Based on Median and with adjusted df	0.134	11	16.081	0.719	Homogeneous
Based on trimmed mean	0.122	11	18	0.731	Homogeneous

The Levene test results in Table 6 show consistent results across four different measurement methods. Based on the mean, Levene's statistic is 0.208 with degrees of freedom df1=1 and df2=18, with a significance value (Sig) of 0.654. Similarly, measurements based on other means and median with adjusted degrees of freedom also show homogeneous variances with non-significant values ($p > 0.05$).

Therefore, it can be concluded that the variance homogeneity assumption is met, which is a crucial prerequisite for using parametric statistical tests such as the t-test. This ensures that comparisons between pretest and posttest are made on groups with uniform characteristics, making the analysis more accurate.

Hypothesis Testing

After fulfilling the prerequisite tests, hypothesis testing was conducted. In this study, hypothesis testing was performed using paired samples tests to determine changes before and after treatment. The paired samples statistics, paired samples correlations, and paired samples test results provide a comprehensive view of the changes between pretest and posttest in the four measured variables: decision making (X1 and Y1), skill execution (X2 and Y2), support (X3 and Y3), and overall score (X and Y). Here is the interpretation of the data:

- Descriptive Statistics

Table 6. Paired Samples Statistics

Mean	N	Std. Deviation	Std. Error Mean
DM X1	2.36	10	1.133
DM Y1	3.64	10	3.126
SE X2	2.02	10	2.021
SE Y2	1.57	10	1.081
S X3	2.62	10	1.472
S Y3	4.1	10	1.68
TOTAL X	7	10	3.442
TOTAL Y	9.33	10	4.55

In terms of decision making (X1 and Y1), the mean pretest score was 2.36 with a standard deviation of 1.133, while the mean posttest score was 3.64 with a standard deviation of 3.126. The higher mean posttest score indicates an improvement in decision-making ability after the intervention.

For skill execution (X2 and Y2), the mean pretest score was 2.02 with a standard deviation of 2.021, while the mean posttest score was 1.57 with a standard deviation of 1.081. This decrease suggests a slight decline in skill execution ability after the intervention. For support (X3 and Y3), the mean pretest score was 2.62 with a standard deviation of 1.472, while the mean posttest score was 4.10 with a standard deviation of 1.680. The significant increase in support scores after the intervention shows improved performance in providing support during the game. Overall, the total scores for pretest and posttest indicate an improvement from a mean of 7.00 to 9.33, reflecting an overall enhancement in performance following the intervention.

- Paired Samples Correlations

Table 7. Paired Samples Statistics

N	Correlation	Sig.
DM	10	0.546
SE	10	0.12
S	10	0.802
TOTAL	10	0.657

The paired samples correlation results indicate:

- Decision Making (DM): The correlation of 0.546 with a significance level of 0.015 suggests a moderate positive correlation between pretest and posttest scores in decision-making.
- Skill Execution (SE): The correlation of 0.120 with a significance level of 0.679 indicates a weak and non-significant correlation for skill execution scores between pretest and posttest.
- Support (S): The correlation of 0.802 with a significance level of 0.001 shows a strong positive correlation for support scores, indicating a substantial improvement in support performance.
- Total: The correlation of 0.657 with a significance level of 0.004 signifies a moderate positive correlation between overall pretest and posttest scores.

➢ Paired Samples Test

Table 8. Paired Samples Statistics

Pair	Mean Difference	Std. Deviation	Std. Error Mean	t	df	Sig. (2-tailed)
DM	1.28	2.444	0.772	1.658	9	0.125
SE	-0.449	2.081	0.657	-0.683	9	0.523
S	1.488	1.466	0.464	3.209	9	0.009
TOTAL	2.333	3.265	1.033	2.258	9	0.048

Decision Making (DM): The t-test results for decision-making (t = 1.658, p = 0.125) suggest that the change in decision-making scores is not statistically significant at the 0.05 level.
Skill Execution (SE): The t-test results for skill execution (t = -0.683, p = 0.523) show that the change in skill execution scores is also not statistically significant.
Support (S): The t-test results for support (t = 3.209, p = 0.009) indicate a statistically significant improvement in support scores after the intervention.
Total: The t-test results for the total score (t = 2.258, p = 0.048) suggest a statistically significant improvement in overall performance after the intervention.

DISCUSSION

The results of this study highlight the impact of applying the tactical approach model on basketball learning outcomes among students engaged in extracurricular activities at SMA Negeri 2 Kuningan. The findings demonstrate significant improvements in several key areas, underscoring the effectiveness of this instructional method.

Effectiveness of the Tactical Approach

The tactical approach model significantly improved the overall performance of students in basketball, as evidenced by the increase in total scores from pretest to posttest. This aligns with Sucipto's (2019) assertion that the tactical approach enhances students' understanding of game strategies, promoting active and creative participation. The significant improvement in support scores (t = 3.209, p = 0.009) further validates the tactical approach's effectiveness in enhancing specific aspects of gameplay, such as positioning and teamwork.

Comparison of Pretest and Posttest Scores

The pretest and posttest comparisons revealed notable changes in decision making, skill execution, and support. While decision-making scores showed improvement, the change was not statistically significant (t = 1.658, p = 0.125). This suggests that while the tactical approach positively influences decision-making skills, other factors may also play a role in this aspect of learning. Interestingly, skill execution scores decreased slightly, though this change was not statistically significant (t = -0.683, p = 0.523). This could indicate that while the tactical approach emphasizes strategic understanding and gameplay, it may not directly enhance technical skills without additional focused practice. Support scores, however, showed a significant improvement, demonstrating the tactical approach's effectiveness in fostering better collaboration and assistance during the game. This aligns with the GPAI criteria, which emphasize the importance of support in effective gameplay (Griffin, Mitchell, & Oslin, 1997).

Conclusion

The study's findings have important implications for physical education practices, particularly in the context of extracurricular activities. The tactical approach model's success in improving overall performance and specific aspects of gameplay suggests that physical education teachers should consider integrating this method into their instructional strategies. This approach not only enhances students' understanding of game strategies but also promotes active participation and teamwork. Despite the positive outcomes, implementing the tactical approach model may present challenges, such as the need for teachers to be well-versed in the method and the potential for varying levels of student engagement. To address these challenges, it is recommended that teachers receive professional development training focused on the tactical approach. Additionally, incorporating a balance of tactical and technical training could mitigate the slight decline observed in skill execution scores. This study contributes to the development of physical education curricula by providing evidence of the tactical approach model's effectiveness in enhancing basketball learning outcomes. Future research could explore the long-term impact of this approach on student performance and investigate its applicability to other sports and educational contexts. In conclusion, the tactical approach model significantly enhances overall performance and specific aspects of gameplay in basketball extracurricular activities. By integrating this approach into physical education practices, educators can foster a more engaging and effective learning environment, ultimately improving students' sports performance and motivation.

ACKNOWLEDMENT

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