



Improving T-Kick Accuracy Through Chair and Peching Box Training in Pencak Silat Athletes from Naga Pertapa Indonesia, Padepokan Muara Muntai

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Abstract

This study aims to improve the accuracy of T kicks using chairs and peching boxes on the accuracy of T kicks by athletes from the Indonesian Pencak Silat Naga Pertapa Padepokan Muara Muntai. The study used a quantitative approach with a one-group pretest-posttest design. The sample consisted of 14 athletes selected using purposive sampling. The research instrument was a kicking accuracy test. The treatment was given during 12 sessions with a frequency of three times a week. Data analysis included descriptive statistics, Shapiro-Wilk normality test, and Paired Sample T-Test. The results showed that the pretest average of 5.43 increased to 10.64 in the posttest. The normality test stated that the data was normally distributed (Sig. 0.249 and 0.252 > 0.05). The hypothesis test obtained a Sig. value of 0.000 < 0.05, which means that there was a significant increase after the treatment. Training with assistive media proved to be able to improve accuracy, direction control, and accuracy of T kicks through more directed movement repetition. The use of chairs and peching boxes was effective in improving the accuracy of T kicks by pencak silat athletes and can be used as an alternative in the preparation of training programs.

Keywords: *Pencak Silat, T-Kick Accuracy, Chairs and Punching Boxes*

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INTRODUCTION

Sports are physical activities aimed at maintaining physical health, improving fitness, and supporting quality of life (Syed Ali, 2018). In addition, sports also include systematic and structured activities that can encourage, nurture, and develop physical, spiritual, and social potential (Hindun et al., 2022; Kublanov, 2024; Winartin et al., 2023). In today's modern era, sports are becoming increasingly important because people's lifestyles tend to decrease their level of physical activity, making sports a basic need for all groups (Bogdan, 2024; Mahardhika et al., 2022). Sports also play a role in maintaining physical fitness, which is very important for both athletes and the general public, as it reflects an individual's ability to perform daily activities optimally (Oktaviana et al., 2024).

One of the rapidly growing sports in Indonesia is pencak silat. Pencak silat is a martial art that is part of Indonesia's cultural heritage, which has developed from an art and martial art into a competitive sport (Ismalasari, 2020; Marlianto Fani, Yarmani, 2017; Wahyudi Rizanul Achmad, 2022). The development of pencak silat as a competitive sport encourages athletes and coaches to continuously improve the quality of training in order to achieve optimal performance in various championships (Putra, 2023; Sulistyowati & Irsyada, 2022). In pencak silat competitions, kicking techniques are one of the main attack techniques because they have a longer range than punches and are awarded higher points when they hit the target legally (Sabit, 2023). One attack technique that is considered effective is the T kick, which has a trajectory resembling the letter “T” with a sideways attack direction and the sole of the foot hitting the opponent's target.

Field observations show that athletes from the Indonesian Pencak Silat Naga Pertapa Padepokan Muara Muntai still have difficulty optimizing the accuracy of their T kicks. Initial evaluations and training observations show that kicks often miss their target, veer off course, or go off track, thereby reducing the effectiveness of attacks and making it difficult for athletes to score maximum points.

Several previous studies have shown that the use of training aids can have a positive effect on improving technical performance in martial arts and significantly increase the effectiveness of movement learning (Hidayat & Firmansyah, 2023; Nugroho & Subekti, 2021). A study (Makhmud & Prasetyo, 2024) revealed that a kicking training method using a specific approach based on training aids, particularly chairs, can significantly improve kicking accuracy.

However, research specifically examining the use of a combination of chair and peching box media in improving the accuracy of T kicks in pencak silat athletes is still limited (Dimas Amjad Zukruf et al., 2024), especially in the context of local schools such as Naga Pertapa Indonesia Padepokan Muara Muntai. Therefore, this study contributes something new by focusing on the application of two simple training media designed to help athletes control their kicking trajectory while optimally improving their accuracy (Sulistyowati & Irsyada, 2022). This study is also important as an effort to provide practical solutions for coaches in developing effective and efficient training programs in accordance with the characteristics of regional athletes.

Based on the description above, the purpose of this study is to determine whether there is an increase in the accuracy of T kicks from the treatment given using chairs and peching boxes on Naga Pertapa Indonesia Padepokan Muara Muntai pencak silat athletes.

METHOD

This study used a quantitative approach with a one-group pretest-posttest pre-experimental design (Sugiyono, 2020). This design was used to identify changes in the accuracy of athletes' T kicks before and after treatment, without involving a control group, so that differences in measurement results could be observed directly by comparing pretest and posttest values (Fenanlampir et al., 2019).

The research was conducted at the Naga Pertapa Indonesia Academy in Muara Muntai, Kutai Kartanegara Regency, from December 18, 2025, to January 12, 2026. The research population included all 40 pencak silat athletes at the school. The research sample was determined using purposive sampling, considering the criteria of athletes who were actively training, were in the early age competition category, had not suffered injuries, and were willing to participate in the entire research process. Based on these criteria, 14 athletes were selected as the research sample.

Data collection was conducted by measuring the accuracy of T kicks using Mega's Kick Accuracy test instrument. Athletes performed ten T kicks toward a target in the form of a punching bag equipped with a scoring system. This instrument was used to obtain quantitative data on the level of kick accuracy, which was then used as an indicator of T kick technique performance (Sabit, 2023). Measurements were taken twice, namely before the treatment (pretest) and after the treatment (posttest).

The treatment in this study consisted of T-kick accuracy training using chairs and peching boxes. Chairs were used to limit the range of motion of the kick to help athletes control the direction and position of their feet, while peching boxes served as targets to train kick accuracy. The application of this training medium was based on previous research findings which showed that the use of simple training aids could significantly improve kicking technique accuracy (Makhmud & Prasetyo, 2024). The training program was carried out over 12 sessions with a frequency of three times per week.

Data analysis was performed using Statistical Package for the Social Sciences (SPSS) software version 25.0. Data were analyzed descriptively to obtain the mean, minimum, and maximum values. Before testing the hypothesis, the data was tested for normality using the Shapiro–Wilk test. Next, hypothesis testing was performed using the Paired Sample T-Test to determine the difference in T-kick accuracy between the pretest and posttest results with a significance level of $\alpha = 0.05$.

RESULTS AND DISCUSSION

Result

The results of the study were obtained from Indonesian Naga Pertapa pencak silat athletes at the Muara Muntai Training Center. The training process was carried out three times a week, with 12 treatments using a training program designed to support the implementation of T-kick accuracy training using chairs and peching boxes. This training was carried out by 14 people consisting of 8 male athletes and 6 female athletes. In this study, a pretest was conducted before treatment on December 18, 2025, and a posttest was conducted after treatment on January 12, 2026, to see if there was a difference in the accuracy of T kicks. This study used hypothesis testing to see if there was an improvement in the training given to the athletes using the Paired Sample T-Test method or T-Test data analysis with the help of SPSS version 25.0.

Pretest and posttest research data results

The results of the pretest and posttest data on the improvement in the accuracy of T kicks using chairs and peching boxes for athletes at Naga Pertapa Indonesia Padepokan Muara Muntai can be described as follows:

Table 1. Pretest Posttest Research Data Results

No	Name	L/P	Pretest	Category	Posttest	Category
1	Zain Chalief	L	1	Insufficient	8	Good
2	M. Nur Pasha	L	8	Good	14	Very Good
3	M. Syauqi Ramadhan	L	6	Sufficient	9	Good
4	M. Harris Muhjianur	L	7	sufficient	12	Good
5	M. Karim Amrullah	L	7	sufficient	15	Good

6	Adhara Dwi Rafka	L	9	Good	15	Very Good
7	Hafiz	L	5	sufficient	9	Good
8	M. Rory Pramudya	L	6	sufficient	10	Good
9	Zhafira Islami	P	4	sufficient	8	Good
10	Aisyah Azzahra	P	1	Insufficient	8	Good
11	Naila Su'ada	P	7	sufficient	13	Good
12	Farah Ghaida Putri	P	5	sufficient	10	Good
13	Nur Anisa	P	6	sufficient	12	Good
14	Adhiva Fazilla. FM	P	4	sufficient	10	Good

Descriptive Statistics

The descriptive analysis in this study consists of total data, mean, minimum and maximum values, and standard deviation. This descriptive statistics provides an overview of the data from the accuracy test of pencak silat athletes' kicks before (pre-test) and after (post-test) treatment using chairs and peching boxes.

Table 2. Descriptive Statistics of Kick Accuracy

Types of Tests	N	Min	Max	Mean	Standard Deviation
(Pretest) Before Training	14	1	9	5,43	2,344
(Posttest) After Training	14	8	15	10,64	2,274

Based on Table 2, it can be seen that the average accuracy value of athletes' T kicks before training using chairs and peching boxes was 5.43, with a minimum value of 1 and a maximum value of 9. This shows that the accuracy of athletes' T kicks before treatment was still relatively low. After training, the posttest average score increased to 10.64, with a minimum score of 8 and a maximum score of 15. This increase in the average score indicates a descriptive improvement in the athletes' kicking accuracy after treatment using chairs and peching boxes. The assessment of kicking accuracy before and after training can be presented in the following category assessment table:

Tabel 3. Accuracy Level Kick Category Assessment

Poin	Pretest	Posttest	Category
>13	0	2	Very Good
8 s/d 13	2	12	Good
2 s/d 7	10	0	sufficient
(-4_ s/d 1	2	0	insufficient
< (-5)	0	0	very deficient
Total	14	14	

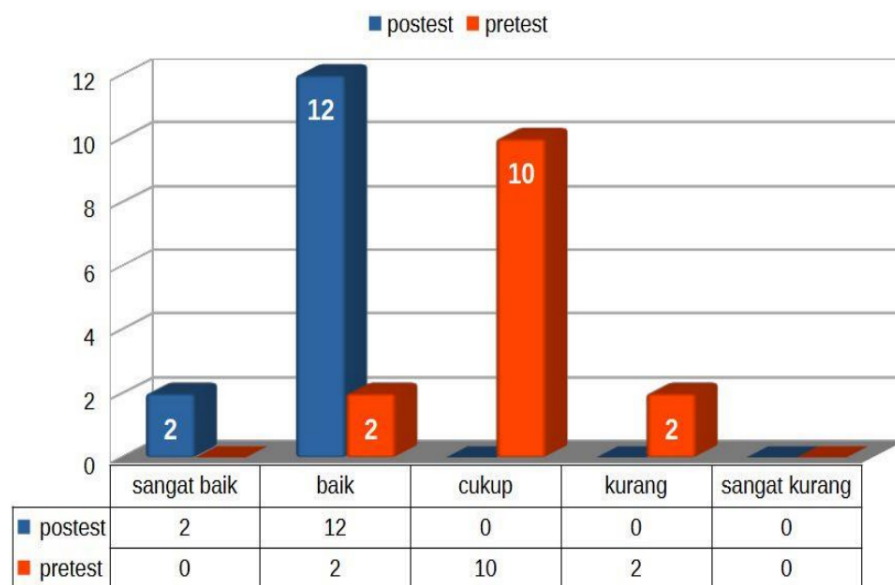


Figure 1. Accuracy Kick Test Bar Chart

Based on the bar chart, there was a change in the accuracy category of athletes' T kicks between the pretest and posttest. In the pretest, most athletes were in the good category (2 people), sufficient category (10 people), and insufficient category (2 people). This shows that the accuracy of athletes' T kicks before training was not yet optimal. After training using chairs and peching boxes (posttest), there was a clear shift in the posttest to the good category (12 athletes) and very good category (2 athletes), while the fair, poor, and very poor categories decreased. This change shows that the training provided was able to improve the athletes' T-kick accuracy descriptively.

Normality Test

The normality test is one of the tests used to determine whether the research sample is normally distributed or not. The normality of the data in this study was tested using the Shapiro-

Wilk test because the sample size was small, with the help of SPSS version 25.0. If the significance value produced is $> 5\%$ or 0.05 , then the data is normally distributed; conversely, if the significance value produced is $< 5\%$ or 0.05 , then the data is said to be non-normal. The results obtained from the normality test are as follows:

Tabel 4. Shapiro Wilk Normality Test Results

Variable	Significance Value	Conclusion
Pretest Accuracy of Kicks T	0,249	Normal
Posttest Accuracy of Kicks T	0,252	Normal

Based on Table 4 of the normality test results using Shapiro Wilk, the results of the pretest for kicking accuracy with a Sig. value of $0.249 > 0.05$ and the posttest for kicking accuracy with a value of $0.252 > 0.05$, it can be concluded that the data for each variable is normally distributed.

Hypothesis Testing

Hypothesis testing in this study used the T-test to determine the increase in each variable, and the method used was the Paired T-Test. The Paired T-Test is a paired two-sample test on the same sample but with different treatments, namely before and after the training. The following are the results of the Paired Sample T-Test:

Table 5. Paired Sample T-test Results

Variable	Mean	Sig (2-Tailed)
(Pretest) Before Training	5,43	0,000
(Posttest) After Training	10,64	

Based on the analysis results in Table 5, it can be seen that in the T kick accuracy exercise, the sig. (2-tailed) result was 0.000 , with a significance value of $0.000 < 0.05$. Therefore, the alternative hypothesis is accepted, and it can be concluded that there is an increase in T kick accuracy through the use of chairs and peching boxes for athletes of Pencak Silat Naga Pertapa Indonesia Padepokan Muara Muntai.

Discussion

Based on the data analysis results, it was found that there was a significant increase between the pretest and posttest scores after the treatment was given during 12 meetings.

Descriptively, the pretest average score of 5.43 indicates that the accuracy of the athletes' T kicks before treatment was still in the fair to poor category. This condition indicates that the athletes were not yet able to consistently control their movement trajectory, supporting leg stability, and the precision of their foot strike on the target. In the context of pencak silat competition, kicking accuracy is an essential component because the effectiveness of attacks and the acquisition of points are largely determined by the validity and accuracy of the technique's contact with a valid target. The T kick, as one of the attacking techniques, requires complex coordination between dynamic balance, hip rotation, leg strength, and neuromuscular control.

After being given treatment in the form of training using chairs and peching boxes, the average posttest score increased to 10.64. This increase was reinforced by the results of the Paired Sample T-Test, which showed a significance value of 0.000 ($p < 0.05$), so it can be concluded that there was a significant difference between the pretest and posttest results. Thus, the training provided has been proven to have a positive effect on improving the accuracy of athletes' T kicks. This principle is in line with the theory of physical training adaptation, which states that skill improvement occurs as a result of systematic and programmed training stimuli (Oktaviana et al., 2024).

Theoretically, this improvement can be explained by the principles of specificity of training and repetition in motor learning. Structured and repetitive training allows for the strengthening of neuromuscular pathways and the formation of motor memory (Pratama & Widodo, 2022). This adaptation process causes movements to become more automatic, stable, and precise. In addition, training three times a week for four weeks provides sufficient stimulus to trigger physiological and coordinative adaptations, particularly in the leg muscles and muscles that support balance.

The use of chairs in this study served as an external constraint that controlled the trajectory of the swing kick. From a motor control theory perspective, movement constraints can help athletes focus their movements on the correct patterns and reduce unnecessary movement variability. With certain height and distance limits in place, athletes are encouraged

to adjust their swing angle, hip rotation, and body position to remain on an effective movement path.

Meanwhile, the peching box serves as both a visual target and a source of extrinsic feedback. Clear visual feedback allows athletes to directly evaluate the success or failure of their movements (Nugroho & Subekti, 2021). In motor learning theory, feedback is an important component in improving technical accuracy because it provides corrective information that accelerates the process of refining movements. The clarity of the target also increases attentional focus, thereby optimizing coordination between the visual and motor systems. Previous research by (Makhmud & Prasetyo, 2024) also shows that the use of tools in kicking practice can significantly improve accuracy because it provides more targeted stimuli compared to practice without media.

The change in the distribution of ability categories from a predominance of adequate and poor categories in the pretest to all categories being good and very good in the posttest demonstrates the effectiveness of the training method applied. Pedagogically, this method is in line with the principles of progressive and targeted training, where athletes are given specific stimuli according to the technical needs being developed. In addition, the use of simple but functional media shows that improving technical quality does not always require complex facilities, but rather systematic training planning based on scientific principles.

Overall, the results of this study indicate that training using chairs and peching boxes is effective in improving the accuracy of T kicks through neuromuscular adaptation mechanisms, optimization of movement coordination, and structured visual feedback. These findings have practical implications for coaches in designing more innovative, efficient, and scientifically-based technical training programs, particularly in the coaching of pencak silat athletes.

CONCLUSION

Based on the results of the study, it can be concluded that T-kick accuracy training using chairs and peching boxes as media effectively improves the abilities of athletes at the Naga Pertapa Indonesia Padepokan Muara Muntai pencak silat school. This can be seen from the increase in the average pretest score of 5.43 to 10.64 on the posttest, accompanied by a shift in the ability category from adequate and poor to predominantly good and very good.

The results of the Paired Sample T-Test showed a significance value of 0.000 (<0.05), confirming that the improvement was statistically significant. Thus, the use of chair aids and peching boxes was proven to improve the accuracy, directional control, and target precision of athletes' T kicks.

ACKNOWLEDGMENT

The author would like to thank the Indonesian Naga Pertapa Pencak Silat Academy Padepokan Muara Muntai for granting permission and providing full support for this research. Appreciation is also extended to the athletes who were willing to participate as respondents and follow the entire series of training sessions and data collection with discipline. The author would also like to express his gratitude to the coaches and those who assisted in the preparation of the training program, the data collection process, and the implementation of field tests. The support, cooperation, and contributions of these parties were invaluable in ensuring the smooth running and success of this research.

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