



## Development of Kickboxing Tool Media for Pencak Silat Athletes

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### Abstract

The lack of assisting tools in improving the quality and accuracy of kicks also affects the enhancement of muscle mass and physical fitness of athletes in the Puslatcab Pagar Nusa Bojonegoro. This research aims to produce a development product of a kickboxing tool that assists in kicks for Pagar Nusa Pencak Silat athletes at the Puslatcab Pagar Nusa Bojonegoro. This study is a research and development (R&D) study that adapts the research and development strategies proposed by Borg and Gall. The data were analyzed using descriptive analysis techniques, consisting of descriptive feedback and assessment scores from all reviewers on each aspect of the product evaluation. The results of the conducted development research indicate that the product is a Kickboxing Tool Media for Pencak Silat Athletes at the Puslatcab Pagar Nusa Bojonegoro. It is suitable for use as a learning medium as it obtained a good average score. Based on the data obtained through the summary of three aspects, namely (1) accuracy aspect, (2) balance aspect, and (3) strength aspect, the small-scale study obtained a total score of 1800, while the large-scale study obtained 2771. Based on these research findings, it can be concluded that the average score for all questions is 2771 (Very Good).

**Keywords:** *Development, Pencak Silat Kicks, Kickboxing*

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### A. Introduction

Pencak Silat is an indigenous Indonesian culture that has undergone many struggles and developments throughout the ages to reach higher levels, and finally, Pencak Silat has become increasingly popular worldwide (Dongoran et al., 2020). The uniqueness of Pencak Silat is that it is part of the art that, in certain regions, is accompanied by distinctive percussion music (Aminudin, 2018). In this art form, there are rules of movement and rhythm that require special depth of understanding. Pencak Silat, as an art, must adhere to the principles of harmony, balance, and the harmonious integration of wirama (rhythm), wirasa (feeling), and wiraga (physicality) (J. Saputra et al., 2018). In some regions of Indonesia, Pencak Silat is predominantly performed as a dance art, bearing little resemblance to sports or martial arts (Utomo, 2017). At the national level, Pencak Silat, through its games and sports, has become a unifying force for the archipelago, bringing honor to the nation and serving as an expression of national identity. In essence, Pencak Silat is a combination of spirituality, intellect, will, and conscious awareness inherent in human beings as creations of the Almighty (V. D. Saputra, 2018). Therefore, Pencak Silat serves as art, self-defense, moral education, and sports achievement. Pencak Silat belongs to the category of martial arts that are competed in official events such as the

National Games, National Sports Week, National Youth Games, Southeast Asian Games, and World Championships (Mustafa, 2020).

An attack is a movement performed by a Pencak Silat athlete with the aim of scoring points by kicking or hitting a valid target according to the rules of the competition (Herlina & Suherman, 2020). There are several types of attacks in Pencak Silat, including hand attacks, which are attacks carried out using punches, striking the right parts according to the rules of the competition (Herlina & Suherman, 2020). Kicks are attacks performed using the legs, striking the right parts according to the rules (Ediyono & Widodo, 2019).

Training kicks through the "Chair Media" is a form of training method to develop physical condition, muscle strength, and kicking power, with the main goal of training the strength of the thigh muscles and kicking power. To address the above problem, we practice kicking techniques using a chair as an obstacle. In practice, students are trained to perform front kicks across the barrier of a chair, which will force them to lift and bend their knees before kicking. These exercises are referred to as skill movement training, which is crucial for the development and refinement of movement programs, reducing their variability, and should be designed to facilitate information

processing and transition students to the stage of automatic learning of movement skills (Alhinduan et al., 2018).

Therefore, it is important for martial artists to improve their kicking techniques in order to perfect their kicks and score points in Pencak Silat competitions. One way to train kicks is by using a chair as a medium, which is placed in a regular position in the training area, and then the martial artist performs kicks according to the coach's instructions. Since kicking is often a key technique for the success of an athlete or coach in teaching, a martial artist must be able to master various kicks correctly and time them well during matches. Media refers to the tools used to deliver instructional materials in the learning process to achieve learning objectives (Sari, 2019). According to Pangalo (2020), media is a means or tool for Pencak Silat training. Therefore, it is expected that the process of Pencak Silat kicking training using a chair as a learning medium can improve the results of kicking training.

Based on the research conducted by the author on Pagar Nusa Pencak Silat athletes, it is stated that during training and competitions, the accuracy of kicks is still not optimal in hitting the opponent's body target to score maximum points and be observed by the judges. This is influenced

by the lack of practice in kicking with precise targets and the quick weakening of thigh muscles. Since kicking is a technique frequently used to block opponent's attacks, score points quickly, and be used for both offense and defense during matches. In fact, kicking is the appropriate technique for quickly scoring points on the field, allowing athletes to swiftly earn points and bring down opponents during matches. Thus, the author concludes that the quality and skill of the athletes' kicks are lacking, preventing them from executing precise kicks on their opponents.

## **B. Methods**

The study conducted is a type of research and development (R&D), which is used to produce specific products and test the effectiveness of those products (Rayanto, 2020). The stages in this development include planning, designing, and implementing. The research and development (R&D) process in this study operationally adopts the Borg & Gall model, which consists of: 1) Potential and Problems; 2) Gathering Information; 3) Model Development; 4) Model Validation; 5) Model Revision; 6) Model Testing; 7) Model Revision; 8) Extensive Testing; and 9) Final Model Revision (Siyoto & Sodik, 2015). The potential and problem identified in this research is the lack of power in the

kicks of Pencak Silat athletes. Information was gathered during the initial observation of Pencak Silat athletes from Pagar Nusa Bojonegoro, where their kicking ability lacked power. Media is crucial in training, which led the author to create a tool for kicking exercises. The validation of the model involved Pencak Silat coaches to obtain better results than the previous development model. The product testing was conducted with a small group and a large group at Alun-alun Bojonegoro from June 9th to June 12th, 2022.

The data collection instruments used in this study are interviews and questionnaires. Interviews are used to analyze the kicks of Pencak Silat athletes from Pagar Nusa Bojonegoro. The questionnaires used in this study include validation sheets for content experts, media experts, coaches, and athletes. Additionally, the researcher also developed assessment sheets for content experts, media experts, language experts, coaches, and athletes to assess or validate the suitability of the developed learning media product.

This study uses questionnaire validation tests to measure the level of validity. The validation refers to the validation sheets for content experts, media experts, coaches, and Pencak Silat athletes. The validity used is focused on the construct validity, which measures the

extent to which the items measure the predetermined concept (Ananda & Fadhli, 2018). In testing the validity of the student questionnaire, the researcher uses item analysis, which measures validity by correlating the item scores with the total item scores. To calculate the validity level of the athletes' questionnaire, the researcher utilizes the SPSS program version 23 and Pearson's product-moment correlation at a significance level of 5%. The decision-making basis for the validity test is as follows (Anggraeni, 2021):

- 1) If  $r$  calculated  $>$   $r$  table, then the item is considered valid.
- 2) If  $r$  calculated  $<$   $r$  table, then the item is considered not valid.

Reliability test is used to determine the consistency of a measuring instrument, allowing us to assess whether the instrument used is reliable and remains consistent in repeated measurements. In this case, the reliability test is conducted to measure the reliability of the student questionnaire validation sheet. The reliability test is performed using Cronbach's Alpha formula with the assistance of SPSS version 23 (Ananda & Fadhli, 2018), which states that a research instrument can be considered reliable if it has a reliability coefficient value  $>$  0.70. The data analysis technique used for

assessing the feasibility of the product by experts, coaches, and athletes in this developmental research is the Likert scale. The questionnaire used for assessing the feasibility of the developed media product

by the researcher utilizes a Likert scale with 4 answer alternatives. After validation, the resulting numerical data will be converted into qualitative data using a product feasibility percentage table.

**Table 1. Product Feasibility Percentage**

Percentage (%)	Validation Criteria / Assessment Category
76 -100	Valid (very feasible to use)
56 - 75	Valid enough (fit for use)
40 - 55	Invalid (not suitable for use) Invalid (not suitable for use)
0 - 39	Invalid (not suitable for use)

Source Arikunto in (Jajar, 2021)

**C. Result and Discussion**

Material Experts on the basic techniques of Pencak Silat kicks

**Result**

The following is a table of the results of the Validation Test by Pencak Silat

**Table 2. Material Expert Validation Test**

No	Rated aspect	Scale					Comment	
		1	2	3	4	5		
1	Kick truth					V		
2	Track leg depth				V			
3	Kick accuracy				V			
4	Kick power				V			
5	Actualization of kick material				V			
6	Selection accuracy				V			
Score							28	
Category							Very Good	

Based on the Material Expert Validation Test Table, a rating of 28 out of a total score of 30 can be concluded, so that it can be concluded that the assessment

criteria fall into the 75-100% category which explains that the Material Validation Test is very feasible to use (Valid).

**Table 3. Media Expert Validation Test**

No	Rated aspect	Scale	Comment
1	Material resistance		
2	Efficient or inexpensive materials		
3	Product size accuracy		
4	Cearsan trajectory		
<b>Score</b>		<b>19</b>	
<b>Category</b>		<b>Good</b>	

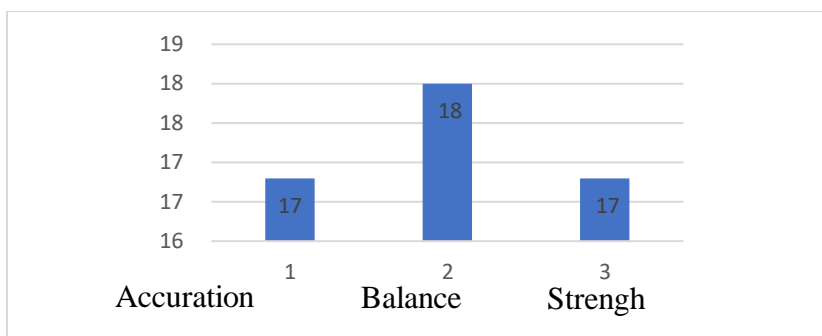
Based on the Media Expert Validation Test Table, a score of 19 out of a total of 20 was obtained, indicating that the evaluation criteria fall into the 75-100% category, indicating that the material validation test is highly suitable for use (Valid). Based on the evaluation results of the product by the validation experts mentioned above, who have revised the product in phases 1 and 2, with several revisions provided by the validation experts, the material aspect

received a score of 28, categorized as "Very Good," and the media aspect received a score of 19, categorized as "Good." With these results, the development of the kickboxing media tool is deemed suitable for use and can be tested during teaching or training.

Here are the average scores of the Small Group Test for Pencak Silat in the Basic Techniques of Pencak Silat, explained in a Table and Bar Chart.

**Table 4. Small Group Test Average Value**

Accuration		Balance		Stengh	
Mean	1680 %	Mean	1800 %	Mean	1680%
Standard deviation	1	Standard deviation	1	Standard deviation	1
Max	18	Max	19	Max	18
Min	16	Min	17	Min	16
N	5	N	5	N	5

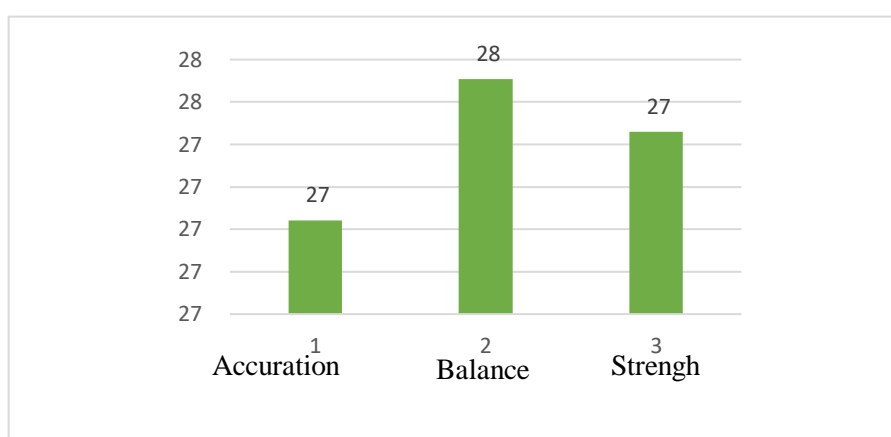


**Figure 1. Small Group Test Average Value**

The following is the average value of the technique Pencak Silat Kicks explained with Tables and Bar Charts.

**Table 5. The Average Value Of The Large Group Test**

Accuration		Balance		Strength	
Mean	2704%	Mean	2771%	Mean	2746%
Standard deviation	1	Standard deviation	1	Standard deviation	1
Max	28	Max	29	Max	29
Min	26	Min	26	Min	26
N	25	N	25	N	25



**Figure 2. The average value of the large group test**

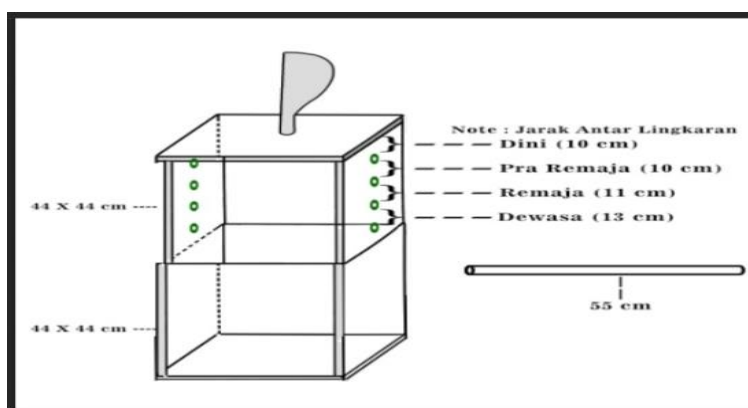
Based on the results of the table above, it can be concluded that the small group test showed average scores of 16, 18, and 16 for accuracy, balance, and strength

aspects respectively, with a sample size of 5 individuals. These scores fall into the "Good" category. As for the large group test, the average scores for accuracy, balance, and strength aspects were 27, 28, and 27 respectively, which fall into the "Very Good" category. Therefore, based on the comparison above, there is a significant difference between the average scores of the small group test (16, 18, and 16) and the large group test (27, 28, and 27).

**Discussion** The development of the kickboxing media tool for the kicks of Pencak Silat athletes from Pagar Nusa is an effort to produce good kicks. The kickbox

is a tool presented in this development research to provide a product in Pencak Silat. The characteristics of this kickbox are as follows:

- 1) Flexible
- 2) Adjustable for different age groups: early childhood, pre-adolescence, adolescence, and adults
- 3) Provides an accurate width for practicing kicks on the kickbox
- 4) Easy-to-make tool for coaches
- 5) Reduces boredom during training.



**Figure 3. Display of the kick box**

The developed product, the Kick Box media tool for Pencak Silat kicks, has the following specifications:

- 1) The Kick Box media tool can be used according to the desired age/category.
- 2) The Kick Box media tool can be used in training facilities as well

as at home.

The results of the small and large group product tests showed differences, particularly in the average scores. The average score of the large group was better than that of the small group. This difference can be attributed to the revisions made to the product based on media validation.



Pencak Silat kicks can be performed using the Kick Box media tool, allowing athletes to adjust the height of the tool according to their preferences.

The resulting product is the Kick Box media tool for learning/training Pencak Silat kicks, designed for athletes from the PUSLATCAB Pagar Nusa Bojonegoro. To assemble the Kick Box media tool, the specifications include a 2-meter wooden plank, a 44x4cm x 6 wide board, one

package of adhesive, nails, and a double pad. The tool comes with instructions for use and contains material related to basic Pencak Silat kicks. The product has been validated by subject matter experts and media experts. It has also been tested by athletes from the PUSLATCAB Pagar Nusa Bojonegoro. The following is the final result of the development of the Kick Box media tool for Pencak Silat kicks.



**Figure 4. Final Product Development of Kick Box Auxiliary Media**

#### **D. Conclusion**

Based on the validation test and feasibility test of the product, it can be concluded that the Kick Box media tool for training Pencak Silat kicks, intended for athletes from PUSLATCAB Pagar Nusa Bojonegoro, is suitable to be used as a resource for teaching/training purposes.

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#### **F. Conflict of Interest**

There is no conflict of interest in the preparation of this research

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