

Feasibility Test of Hanging Sacks with Coconut Coir Waste Filling Materials for Martial Arts

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Abstract

Background and aim. Martial arts training requires effective equipment to enhance punching and kicking skills. The hanging bag (samsak) is widely used, but conventional materials are often costly and less accessible. This study aimed to develop and evaluate the feasibility of a hanging bag using coconut coir waste as an economical and practical alternative material.

Methods. This study employed a quantitative approach conducted at Satria Muda Indonesia Pencak Silat College, Pariaman City, involving 32 athletes. Data were collected through tests, questionnaires, and expert validation. Sampling used purposive and snowball techniques. The product feasibility was assessed by martial arts and material experts, followed by small group trials with athletes.

Results. The results indicate that the developed hanging bag is feasible for training use. Martial arts expert validation showed a score of 64% (good category), while material expert validation reached 86% (very good category). Small group testing revealed that 83% of athletes rated the product as strong and 17% as very strong, indicating high acceptance and usability.

Conclusions. The coconut coir-based hanging bag is a feasible, affordable, and effective training medium. It supports the improvement of kicking accuracy and offers a sustainable alternative by utilizing local waste materials.

Keywords: *Coconut Coir Waste; Feasibility Test; Martial Arts.*

1. Introduction

A sack is a martial arts tool as a medium for attacking targets to train kicks and punches. Initially, the use of samsak was only focused on punch training aids in boxing, but as the era progressed, it was developed to train kicks and other variations of techniques so that it can be used in training other sports such as taekwondo, karate, muaythai, pencak silat and other types of martial art. This research developed a tool that is commonly called a hanging bag as a means of practicing martial arts in improving the ability of punches and kicks in terms of strength and

agreement as well as technique, but the shape of the hanging bag that we will research has several differences in manufacturing that will be applied in it, and will have advantages in terms of economic value, quality of care, and also the quality of the material which is more affordable/easy to find and is likely to be better than the shape of hanging bags in general. Therefore, the author wants to respond directly and make a study on "Feasibility Test of Hanging Bags with Coconut Coir Waste Filling Materials for Martial Arts".

2. Materials and Method

The type of research that will be used in this study is quantitative research. This research was carried out at the Satria Muda Indonesia pencak silat college in Gor Aur, Pariaman City and the

population in this study is all athletes who are active in the Satria Muda Indonesia pencak silat college which totals 32 athletes. Sampling in this study used Purposive and snowball sampling

techniques. In accordance with the goal of the researcher, the type of data in this study consists of two primaries and secondary, primary data, namely data collected directly by the researcher from the

sample through tests. Meanwhile, secondary data is data obtained from the biodata of athletes of the Satria Muda Indonesia Pencak Silat College, Pariaman City.

3. Results and Discussion

Results

The martial artist who became the validator in this study was Juanda Putra S.Pd, M.Pd. He is an educator at the Faculty of Sports Sciences, Padang State University. The researcher chose him to be the validator because of his competence in the field of martial arts, especially pencak silat martial arts. Data was obtained by showing baggage products along with evaluation sheets for media experts in the form of questionnaires. The questionnaire contains aspects of feasibility, size aspects, and aspects of whether it is feasible or not for training. The martial arts shooting was carried out on March 10, 2023. The material processing expert who became the validator in this study was Japri. He is a member of the coconut fiber material. The researcher chose him to be the validator because of his competence in coconut fiber materials. Data

was obtained by showing baggage products along with evaluation sheets for media experts in the form of questionnaires. The questionnaire contains aspects of feasibility, size aspects, and aspects of whether it is feasible or not for training. The martial arts shooting was carried out on March 10, 2023.

Table 1. Validation Test of Martial Arts and Material Processing Experts

No.	Aspects Assessed	Scores Obtained	Maximum score	Percentage	Categories
1	Martial arts	34	50	64 %	Good
2	Waste	43	50	86%	Excellent

Eligibility Test of Hanging Bags And Coconut Filling Ingredients

Table 2. Frequency Distribution of Feasibility Test Data Results of Hanging Bags and Coconut Filling Materials

Yes	Interval	Category	Frequency (f)	Percentage (%)
1.	81% - 100%	Very Powerful	5	17
2.	61% - 80%	Strong	25	83
3.	41% - 60%	Enough	0	0
4.	21% - 40%	Weak	0	0
5.	0% - 20%	Very weak	0	0
				100

Based on the distribution of data in the table above, the description of Indonesian young knight pencak silat can be seen from the samsat feasibility test obtained results of 5 people with a percentage

of 17% of athletes interested in the very strong category, 25 students are categorized as strong with a percentage of 83%.

Discussion

Martial Arts Test

Based on the analysis of the martial arts expert test, the score was 34, the maximum score was 50, the percentage was 64% categorized as Good. From this data, the coconut filled bag is suitable for use as martial arts equipment, and is even ready to be tested without revision.

Material Management Expert Test

Based on the analysis of the material processing expert test, the score was obtained of 43, the maximum score was 50, the percentage of 86% was categorized as Very Good. From this

data, coconut filled bags are already called feasible, and are even ready to be used without revision.

Small Group Test

Based on the results of data analysis that illustrates the feasibility of Samsat Hanging With Coconut Coir Valley Stuffing Material for Pencak Silat Martial Sports, Satria Muda Indonesia has 5 people with a percentage of 17% of athletes interested in the very strong category, 25 athletes are categorized as Strong with a percentage of 83%.

This development research produced a product in the form of a hanging bag with coconut

fiber waste filling material for martial arts. Baskak and its use have been developed and validated by media experts and pencak silat material experts. After it was validated by experts, it was continued to the trial stage to several silat fighters to get feedback on this bag product. The result is that the development of the bag as a kick accuracy test tool in this silat player is included in the "Excellent" category and is suitable for use. This statement can be proven from the results of the analysis of the assessment of both experts, both media experts and material experts, as well as in the assessment of the

4. Conclusion

Based on the analysis of the martial arts expert test, the product obtained a score of 34 out of a maximum score of 50, resulting in a percentage of 64% which is categorized as good. Furthermore, the material processing expert test showed a score of 43 out of 50, with a percentage of 86% categorized as very good, indicating that the material used is highly feasible for application.

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trial to the silat fighters, the Respondent felt enthusiastic about the existence of this product because the respondent was interested in using it in the implementation of kick accuracy.

There are advantages and disadvantages of this product. The advantages of this bag include (1) providing efficiency and effectiveness to the coach to provide precise kicks to the athletes. (2) can help adapt the accuracy of kicks in the fighter. (3) Related to materials is very practical and affordable prices can be used for martial arts bags.

In addition, the results of the small group test on athletes at Satria Muda Indonesia Pencak Silat College demonstrated that 5 athletes (17%) rated the product in the very strong category, while 25 athletes (83%) categorized it as strong. These findings indicate that the hanging bag with coconut coir waste filling material is feasible and well accepted as a training medium for martial arts.

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