



Developing A Punching Exercise Tool For Boxing

David Iqroni*

Universitas Jambi
INDONESIA

Donny Setiawan

Universitas PGRI Banyuwangi
INDONESIA

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Abstract

This study aims to produce an exercise tool that can be used to train the speed of punches and reactions for boxing martial arts athletes. The research method used was Research and Development. The steps of this research were adapted from Sugiyono's research steps which consisted of thirteen steps. However, the researcher only adapted ten steps following the objectives of this development research. The researchers conducted a small group trial in the boxing gym of Sasana Kota Baru Jambi on five respondents. Also, the researchers conducted a large group trial at the boxing gym of Sasana Kota Baru Jambi on ten respondents or the entire population. The feasibility assessment result from the material expert was 100% (highly feasible), and the media expert was 98.88% (highly feasible). The results of the small group trial obtained an assessment score of 91.13% (highly feasible), and the large group trial obtained an assessment score of 91.39% (highly feasible). These results indicate that the developed tool is feasible and can be used to practice and train the speed of punches and reactions.

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INTRODUCTION

Limited boxing equipment facilities are an obstacle to the success of technical training (Drury et al., 2017; Mukhtar et al., 2018; Rajagukguk et al., 2021). Insufficient equipment will affect the creativity of the attacks (Nelson, 2008). Therefore, boxing training also requires a variety of exercises supported by adequate equipment to avoid the athlete's boredom in training (Dande et al., 2021). Equipment support is also very much needed to create an attack innovation (Nilasari et al., 2020; Sinurat & Putra, 2020). It is necessary to develop training tools developed from existing tools. Specific boxing training equipment will help the users to focus on the exercise (Fardiansah, 2015; Pic & Jonsson, 2021; Price, 2014).

Boxing matches require speed and reaction; thus, equipment to stimulate speed and reaction is indispensable during training (Kimm & Thiel, 2015; Muis, 2016; Price, 2014). The speed and reaction training process are very influential later in boxing matches (Howe, 2020; Lewandowski, 2021; Ye et al., 2022). In the ring, there will be physical contact demonstrated between two boxing fighters (Halperin et al., 2016; Wang et al., 2019). A punch in boxing to get hit points requires speed of movement as quickly as possible before the opponent's counters (Halperin et al., 2016; Howe, 2020). A quick reaction to respond is needed to see the opponent's movement. If an athlete's speed is low, he will be hit by an opponent. Therefore, boxing athletes must train their speed and reaction to prepare for their physical condition (Adhi & Wismanadi, 2018; Ward, 2021).

Several researchers have conducted research on the development of tools for exercise (Mariadi et al., 2021; Santosa, 2016; Setya, 2021; Utami et al., 2019; Wicaksono et al., 2021). Some of these studies show that the development of training tools is necessary for every sport because the development of training tools is one way to help coaches in varying each exercise program. Several studies related to training speed and reaction have also been carried out by researchers (Muis, 2016; Mustain & Akbar, 2021; Rahmat & Rohyana 2020; Rarasti & Heri, 2019). However, research related to developing training tools to train boxing athletes' speed and reaction has never

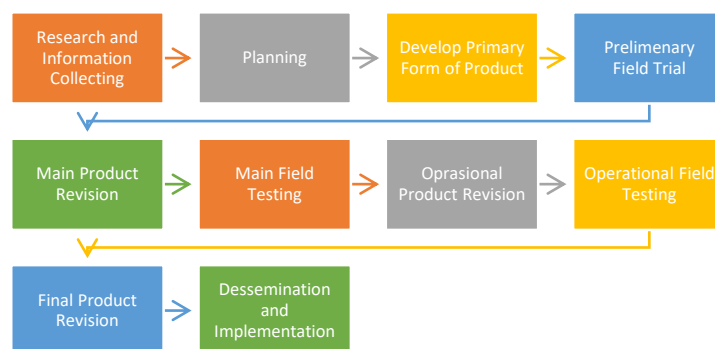
* Corresponding author:

David Iqroni, Universitas Jambi, INDONESIA. ✉ davidiqroni@gmail.com

been carried out by other researchers. For this reason, the researchers developed a Standing Punching Pad exercise tool by adding arms to train speed and reaction. The researcher hopes this research and development can help technical training programs that lead to speed and reaction training of boxing athletes.

METHOD

The research method used was the R&D (Research and Development) method which consisted of 10 steps (Wahyu, 2021). The researchers conducted a small group trial in the boxing building of Sasana Kota Baru Jambi on five respondents and a large group trial at the boxing building Sasana Kota Baru Jambi on ten respondents or the entire population of boxing athletes in the boxing building Sasana Kota Baru Jambi. The instrument used to collect data was a questionnaire. The evaluation data were descriptive, quantitative, and qualitative. The quantitative data was collected through a questionnaire or product trial questionnaire. The qualitative data was obtained through expert validation and trials in the form of input, feedback, criticism and suggestions.



Gambar 1. The Procedure of Research and Development by Borg & Gall

RESULTS AND DISCUSSION

Results

The development of the Standing Punching Pad exercise tool is based on the need for training tools to train speed and reaction that have more functions than the existing tools. This exercise tool's body size is a minimum of one meter in height and a maximum of two meters in height. The Standing Punching Pad exercise tool was added by arms and weighed about 35-kilo grams. The target ball in this training tool is flexible and will not be stiff when hit. The movement of the additional arms is very quick, from small to large strokes. The additional arm size was based on the athlete's arm length (45 cm). The punches will make the additional arms move quickly.

The design of the developed Standing Punching Pad exercise tool refers to the previous tool, namely the Standing Punching Pad. The existing tool was developed by adding an additional arm that can rotate when getting punched. The materials used were strong and comfortable during practice. This exercise tool can also be moved without disassembling the tool parts. The following is an image of the Standing Punching Pad before and after the development.



Figure 2. The Standing Punching Pad before Development



Figure 3. The Standing Punching Pad after Development

The selected material was strong with an adjusted weight. This tool's level of comfort was designed to be comfortable during exercises. This tool was made following the body size of junior and senior athletes. This exercise tool is very easy to maintain (Iqroni, 2015). The developed Standing Punching Pad exercise tool was designed as creatively as possible by adding functions to make it more interesting and challenging in practice. This exercise tool's main body was made of iron pipe, and the other parts were made of plastic for lighter and more comfortable exercise. The main targets of this exercise tool are the tool's head and arm.

Discussion

The developed product was designed based on the original Standing Punching Pad (Rachman et al., 2017). The development process went through research and development procedures: planning, production, and evaluation. After the initial product had been created, it was evaluated by the experts through expert validation and tested on athletes. At the evaluation stage, the material and media experts validated the product. Furthermore, the research process was continued by a small group and large group trials. The results of the questionnaire by the material experts indicated that the product obtained a 100% feasibility level in the highly feasible category. The results of the questionnaire by the media experts showed that the product's percentage was 98.88% in the highly feasible category. Furthermore, the small group trial showed that the product obtained a percentage of 91.13% in the highly feasible category. The results of the large group trial showed that the product obtained a percentage of 91.39% in the highly feasible category.

The development of tools for each sport contributes to the creativity of the exercise (Mariadi et al., 2021; Rarasti & Heri, 2019). Without the development of training tools, athletes will be monotonous in attacking creativity (Rachman et al., 2017; Rahmat & Rohyana, 2020; Setya, 2021). The researchers recommend that this tool be mass produced so that the training process can be useful for boxing sports facilities and infrastructure, especially in the boxing gym in Jambi Province. Lastly, this tool can be used by athletes independently without having to require padding from the coach to practice punching speed and reaction.

CONCLUSION

This Standing Punching Pad exercise tool provides effectiveness in boxing training. The additional arm on the neck of the tool gives the body a reaction to perform quick blows. The additional arm can be a multifunctional training tool and add a boxing athlete's facility to practice punching speed and reaction. Besides, this tool is an alternative to boxing training developed through sports technology. Therefore, this tool should be used optimally to create an optimal performance for boxing athletes.

AUTHOR CONTRIBUTION STATEMENT

DI gathered the information, conducted the literature review, and was the principal author. DS assisted with the writing process and performed data analysis.

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