

Multifunction Reflective Strap to Improve Basic Technical Skills Training for Basketball Extracurricular Participants

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Abstract

The development of basketball achievements in Indonesia begins at the school level through extracurricular activities, However, the availability of facilities and infrastructure, especially training aids, is still very lagging. Based on this, it is necessary to develop product development tools that can improve students' basketball playing skills. The purpose of this study is to produce a Multifunction Reflective Strap product that can improve basic technical skills training for basketball extracurricular participants. This research is a development research, the product development procedures consist of, conducting needs analysis to be developed, developing initial product drafts, expert validation, improvement of initial product drafts, small-scale trials, first product revisions (product revision based on the results of expert evaluation and small-scale trials), field trials (revision of the final product based on field trials), the final result in the form of Multifunction Reflective Strap media for basic technical skills training. The instruments used in this study were questionnaires, observations, interviews and documentation. The product produced in this study is named multifunction reflective strap that serves to help practice basic basketball techniques. The results of this study obtained evaluation data from basketball game experts and product assessment experts with an average percentage of 81.25% and met the "Good" criteria. While the small-scale trial data obtained a percentage of 78.6% and field trials of 81.8%, thus meeting the "Good" criteria. The conclusion is that the Multifunction Reflective Strap media is effective to be used as a medium for training basic technical skills for basketball extracurricular participants.

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INTRODUCTION

Suherman in Candra (2017:219) explains that achievement sports are carried out through a planned, tiered and sustainable coaching and development process through competitions with the support of science and technology (IPTEK).

The development of achievement sports, especially basketball in Indonesia, has not received a title or achievement in quite a long time. Indonesia as the country with the most population in Southeast Asia is currently still inferior to the Philippines in basketball. While in Asia at the last event, ASIAN GAMES in Indonesia was ranked 8th at the end of the competition. Rihtiana (2014:217) suggests that in a sports achievement coaching many factors are needed in the coaching process. A good sports coaching process is if it is supported by adequate equipment and infrastructure, effective training methods, effective training programs, effective talent scouting processes, evaluation or assessment of training results, sufficient funds, the ability of coaches, good management and organization.

Sports coaching can be done through various channels, one of which is through schools. At school there are various activities, namely intracurricular, cocurricular and extracurricular. Through sport extracurricular activities, in addition to deepening and expanding students' knowledge, it can also be used as an effort to foster, strengthen, and form student personality values, which include: cooperation, mutual respect, sportsmanship, enthusiasm and confidence (Nurchahyo, 2013:102).

Extracurricular activities, especially in the field of sports, students no longer carry out learning activities such as in class during intracurricular activities, but students carry out training activities to improve skills to become proficient. Ponkumar & Kalewaran (2017), exercise is a total process of preparing athletes through different ways and forms for better performance. Training aims to improve someone's fitness through an exercise program designed according to the athlete's needs.

Exercise is a very important factor in sports where a person's ability to exercise is largely determined by the exercise that person does. The main purpose of sports training is to emphasize various body systems to produce positive adaptations to improve exercise ability. To achieve this goal, coaches and athletes systematically apply a number of training principles including overload, specificity and development, which are governed by what is commonly referred to as periodization. (Vargheese, 2016:28).

The types of exercise that are most often carried out in basketball extracurricular activities are technical and physical exercises, while tactical and mental exercises are usually carried out only before the match. In general, in basketball there are 3 (three) basic techniques that must be mastered.

Based on rational observations of junior high school students in Banyumas Regency, students' basic technical skills are still below average, there are still many participants who have difficulty dribbling, passing, shooting or pivoting. It is evident from the still underachievement of Banyumas Regency basketball at the Central Java province level.

The success or failure of the learning process Physical education in this case is an extracurricular exercise is determined by several factors, namely internal and external factors. Internal factors are teachers/trainers and infrastructure, while external factors are family, environment, and community. Factors facilities and infrastructure is a very vital factor in the training process. (Zulkifli, 2018:14). According to Spica (2015:4) sports facilities are now an important resource, the available context, the increasingly quality space for health-oriented physical activity, under the guidance of trained staff.

Media or assistive devices are infrastructure for carrying out sports activities. According to Johaness (2016:27) the word "media" comes from the Latin "medius" which literally means middle, intermediary, or introduction. Can be interpreted as a carrier of information from source to receiver. Meanwhile,

according to Djamarah and Zain (2013: 120) media can be interpreted as a source of learning, then broadly the media can be interpreted as humans, objects, or events that allow students to gain knowledge and skills. The term media refers to anything that carries information between a source and a receiver. Media can be tools or objects that are useful to facilitate understanding of the learning content. (Priyatama, 2020:122).

Training aids are very vital in sports activities because the majority of sports activities are activities that prioritize body movement. Aids can be used as a medium to carry out exercises for athletes in carrying out exercises. Currently, the availability of assistive devices as a medium for sports training is still rare, which is in the sport of basketball still very rarely supported by media as training aids, whereas in basketball every athlete needs a tool to help develop their individual skills. As stated by Suresh and Vithal (2016) that sports facilities are very important for students and the community, it can increase motivation for teachers, coaches and students. Therefore, sports facilities should not be ignored. Based on these problems, the researchers created a multifunction reflective strap product.

Training using a multifunction reflective strap can improve basic basketball technical training, namely passing, dribbling, shooting. In addition, this tool can also be used for pivot exercises and also apply good body positions in playing basketball. By using this product, it is hoped that it can increase the enthusiasm of students in practicing and be motivated to be better at playing basketball.

The aims of this research are 1) to create a multifunction reflective strap so that it can be used in basic technical skills training for basketball extracurricular participants. 2) analyze the effectiveness of the multifunction reflective strap so that it can be used in basic technical skills training for basketball extracurricular participants.

METHODS

This research is a development research, as for product development procedures, namely, 1) needs analysis 2) initial product draft, 3) expert validation, 4) initial product draft improvement, 5) small-scale trial, 6) first product revision, product revision based on results of expert evaluation and small-scale trials, 7) field trials, 8) final product revisions based on field trials, 9) Final products. The data used are in the form of quantitative and qualitative data. Qualitative data obtained from observations, interviews and questionnaires in the form of criticism and suggestions from experts and extracurricular participants both orally and in writing as input for product revision materials. The analytical technique used is descriptive analysis of percentages. While quantitative data were obtained from observations of extracurricular participants. The data analysis technique used is the percentage to analyze and assess the developer subject in assessing the level of feasibility, quality, and product acceptability in the form of data from the technical aspects of extracurricular participants.

In processing data the percentage is obtained by the formula from Ali (2013: 201), namely:

$$\% = \frac{n}{N} \times 100$$

Description:

% = Value in percent to search

n = Value earned

N = Total Value

From the percentage results obtained then classified to obtain data conclusions. In the table below, the percentage classification will be presented:

Table 1. Percentage Classification

Percentage	Classification	mean
0 – 20	Not good	thrown away
20.1 – 40	deficient	repaired
40.1 – 70	Pretty good	repaired (conditional)
70.1 – 90	Good	used
90.1 – 100	Very Good	used

Source: Muhammad Ali, 2013

RESULT AND DISCUSSION

The results of the research that have been carried out have obtained the final product in the form of a tool that is effectively used as a training aid for basic basketball techniques for basketball extracurricular participants at school. The product produced in this research is a portable product with the name Multifunction Reflective Strap which can be made easily and cheaply. In addition, the resulting product is a manual for assembly and use in practice.

Multifunction Reflective Strap is a modification of sports facilities in the form of a tool for basketball practice. This product can be used to practice basic basketball techniques. The Multifunction Reflective Strap product is a visual tool that is three-dimensional and portable which can be disassembled according to the type of exercise to be performed. This product can be used to practice basic basketball techniques, namely passing, shooting, dribbling and pivoting. In addition, this product is useful for getting used to the correct body position in playing basketball.

The product specifications of the Multifunction Reflective Strap are 220 cm high and 150 cm wide. The main material used is galvalume iron which has a lighter weight than ordinary iron. The product is portable so it can be disassembled for easy mobility and storage when the product is not in use.



Figure 1. Product Pictures

The Multifunction Reflective Strap is made with human-like visuals to illustrate both friend and foe, where the product has several vital parts when used for training.

The strap is the main part of this product which has a rectangular shape that can be adjusted at the angle and is equipped with a reflective net that serves to practice basic passing techniques. The strap has a length of 75 cm and a height of 85 cm, this size is the ideal size to facilitate training and produce optimal ball bounce. The net used is a net using a 5mm elastic rope. The strap is placed on two opposite sides of the product with a height of 145 cm at the center.

Hands is the part that illustrates the human hand in this case is the hand from the defender position in basketball. The hands are made of flexible fiber sticks so that they are safe when bumped by the user. Hands can be placed in several parts according to the exercise performed, the upper position is used for shooting practice, the side and front positions are used for dribbling and ball handling exercises.

The foot is the bottom part of the Multifunction Reflective Strap which functions as a support and balancer for this product. The foot has a length of 120 cm and a width of 50 cm. This foot consists of wheels and ballast. Wheels function to facilitate mobilization when the product is used. The ballast functions as a counterweight so that the product does not change its place when used so that it is comfortable to use.

The Multifunction Reflective Strap product has two sides that can be used so that it will increase effectiveness and efficiency when used for group training because it can be done from two different sides. In addition, with the two sides, it can be used for series of motion exercises to improve the ability to play basketball optimally because in one series of movements students can perform all movement techniques in basketball games.

How to use the Multifunction Reflective Strap product for basketball practice in general is to assemble the product, then position the strap

angle for the type of passing to be trained according to the level on the Strap regulator, namely level 1 for overhead pass, level 2 for chest pass and level 3 for bounce pass.



Figure 2. Passing Practice Level Setting



Figure 3. Setting for Overhead Pass



Figure 4. Setting for Chest Pass



Figure 5. Setting for Bounce Pass

Shooting practice is done by positioning the hands at the top to visualize defenders and to practice parabolic shooting results to improve shooting accuracy. Dribble training is done by positioning the hands on the side to get used to a low penetration dribble position to produce optimal speed and the ball is difficult for opponents to grab (Showalter, 2012), then the hands on the front are used for ball handling dribble and pivot exercises, this exercise is intended to train ball handling and pivots that are fast and also precise so that players can dismantle the opponent's defense more easily (Kurniawan, 2020).

Based on the technical training of each movement, the trainer can combine the exercises into a series of movements according to the needs desired by the trainer, so the exercise does not have to be in accordance with what the researchers described above because this product is flexible so that product can be used for combinations of movements in basketball.

The Multifunction Reflective Strap product with such a design has the main function of increasing the effectiveness of basic basketball technical training, but in particular this product has several other benefits, namely: 1) Helping to get used to the optimal body position in carrying out movements in the game of basketball. 2) The product can be used independently or collectively because it is made with two sides so it will be more optimal when used for collective training. 3) Become an

alternative for trainers in developing training methods so that trainees are not bored and monotonous. 4) The product can be used as a benchmark for the extent of the capabilities possessed.

The data obtained from filling out questionnaires by game experts and product assessment experts serve as guidelines for stating whether the Multifunction Reflective Strap product can be used for small-scale trials and large-scale trials. The game experts consist of basketball extracurricular coaches for junior high schools in Banyumas district, while product assessment experts consist of basketball activists who come from the management of the facilities and infrastructure of the All Indonesian Basketball Association (PERBASI) Banyumas Regency. Aspects of the questionnaire given to game experts related to product effectiveness, efficiency, practicality, and performance (Sugiyono, 2015:419), while the aspects of the questionnaire given to product assessment experts are related to originality, superiority of development results, usefulness, economy, safety and convenience (Soenyoto, 2014). The following are the results of filling out questionnaires from game experts and product assessment experts.

Table 2. Expert Assessment Analysis

No	Experts	%	Classifications
1	Basketball game 1	80.56	Good
2	Basketball game 2	79.17	Good
3	Basketball game 3	75.00	Good
4	Basketball game 4	91.67	Very Good
5	Basketball game 5	81.94	Good
6	Product assessment 1	76.79	Good
7	Product assessment 2	75.00	Good

Looking at the table of results, the average score of the questionnaire assessment carried out by each basketball game expert and product assessment expert obtained an average percentage of 81.25% or included in the "good" category. Therefore, it can be concluded that the

Multifunction Reflective Strap product for basic basketball technique training for junior high school extracurricular participants can be used for small-scale trials.

A small-scale trial was carried out with the research subjects, that is 10 junior high school basketball extracurricular participants in Banyumas Regency. The aspect studied in the small-scale trial is the skill aspect with indicators of passing, dribbling, shooting and pivoting by observation. While the aspects of product assessment with performance indicators, product features, reliability, conformity with specifications, aesthetics and perceived quality are carried out by filling out a questionnaire (Kusuma, 2015: 130).

The implementation of a small-scale trial with a number of respondents 10 junior high school extracurricular participants on the Multifunction Reflective Strap product, the results of data analysis on skill observations obtained an average percentage of 78.1% so that it met the "good" category, while the data analysis of product assessment questionnaires by extracurricular participants obtained a percentage of 79.1% so that it meets the "good" category. From these two aspects, an average of 78.6% met the "good" category.

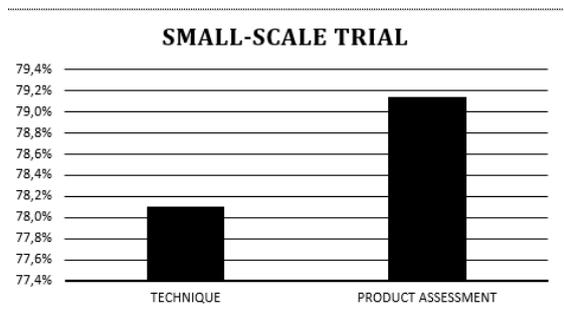


Figure 6. Diagram of Small-Scale Trial Results

The implementation of small-scale trials of the Multifunction Reflective Strap product can be carried out well, but there are several obstacles that prevent the Multifunction Reflective Strap product from being used optimally. The following are the obstacles that arise after the Multifunction Reflective Strap product was tested on a small scale, namely the size of the reflective net is not large enough, the

product is not solid, the size of the hands is too small. From these constraints, revisions were made to increase the effectiveness of the product, that is increasing the size of the reflective net, adding a load to the product and increasing the size of the hands.

After making improvements to the obstacles that exist in small-scale trials, then large-scale trials are carried out with a number of 47 junior high school extracurricular participants, the results of data analysis on skills observations obtained an average percentage of 81.3%, so that it meets the "good" category. while the analysis of product assessment questionnaire data by extracurricular participants obtained a percentage of 82.3% so that it met the "good" category. From these two aspects, an average of 81.8% met the "good" category.

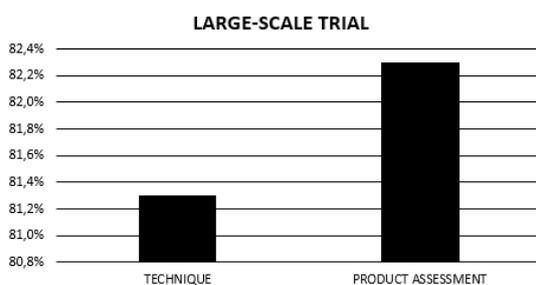


Figure 7. Diagram of Large-Scale Trial Results

Through research and revisions that have been carried out based on the evaluation of basketball game experts, product assessment experts, small-scale trials and large-scale trials of junior high school basketball extracurricular participants, a development product in the form of a Multifunction Reflective Strap which is effective for basic technical training of basketball extracurricular participants can be obtained. So that the product is feasible to be used for basic technical training for basketball extracurricular participants.

CONCLUSION

This research produces a product in the form of a basketball basic technique training tool for junior high school extracurricular participants in Banyumas Regency named the

Multifunction Reflective Strap. The Multifunction Reflective Strap product is effective for improving the basic technical training of junior high school basketball extracurricular participants which is indicated by the "good" criteria based on the results of the validity test of basketball game experts and product assessment experts, small-scale trials, and large-scale trials, so that the Multifunction Reflective Strap product can be used by extracurricular participants at school for basketball practice.

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