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Media development study basic techniques of handball based adobe flash player on extracurricular coach of handball and the student of junior high school level in Demak Regency

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ABSTRACT

Background: The background of this research is the unavailability of learning model of basic technique of hand ball which is used as a reference to build the ability of basic technique of hand ball among the students. The purpose of this research is to develop the basic technique of handball based technique of handball based on adobe flash player, including opening, passing, catch the ball, dribble, blocking, shoot the ball, goalkeeper training and stretching, all of which are arranged in one easily accessible media anytime, by anyone and anywhere, especially at Junior High School degree in Demak Regency.

Subject and Method: This research method used is "Research and Development" approach. "This research is a research and development through preliminary stage, development of learning design, production, and

product evaluation. After the production phase, then the initial product validation stage by media experts, academicians and practitioners. The population in this study was handball extracurricular coach and student of junior high school students in Demak Regency.

Result: The evaluation results of media experts for the assessment component containing aspects of text, images / photos, sound audio, video obtained 61% of the total for the feasibility conclusion of the product. The results of the evaluation of academicians for the assessment component containing aspects of conformity, usefulness, security, and aspects of implementation are 85.71% of the total for the feasibility conclusion of the product. The results of the expert evaluation of practitioners for the assessment component containing aspects of conformity, usefulness, security, and the implementation aspect obtained 97.86% of the total for the feasibility conclusion of the product. The final percentage of all experts is 81.58% and it can be interpreted that the design of Adobe Flash Player based hand baseball technique can be tested in the next step. Small group test results for the assessment component that contains aspects of conformity, usefulness, security, and aspects of implementation obtained 71.25% of the overall for the feasibility of the conclusion of the product. The results of the large group test for the assessment component that contains aspects of conformity, usefulness, security, and the implementation aspect obtained 87.92% of the overall for the feasibility conclusion of the product.

Conclusion: Based on the specified criteria it can be concluded that Adobe Flash Player's handmade basic ballast technique products are valid and usable. This is because the data results are stretched 80-100% for clarification of product feasibility percentage. Therefore this product is feasible and effective to develop the extracurricular handmade coaching in Demak Regency.

Keywords: Multimedia Learning, handball, adobe flash player

INTRODUCTION

The popularity of Ball Sport in Demak Regency is visible from the existing facilities and infrastructure as well as the hand-held ballast activities among students. Every player and handball coach certainly wants a high achievement, therefore from the popularity of handball sport in Demak Regency need to use the media training based on Adobe Flash Player where the media of this exercise contains about the

models of the basic technique of handball for helps the understanding for trainers and athletes in the process of training and exercising basic ball technique skills. Activities provided in teaching or training methods should be didactic touches, so that the activities performed can achieve the teaching objectives. Physical activity trains a skill not just like the teaching and learning activities that are in the classroom every day, but rather the fulfillment of student movement needs. Fulfilling this need is very important, because motion is the only stimulus for the physical development of students. In the above case it can be concluded that the guidance teacher or coach handling in the handmade extracurricular activities of Demak Regency has not been able to explore the models of basic technique exercises and provide models of exercises that get the didactic touches and pedagogical principles in the practice, and using media in the training process. Therefore the researchers took the initiative to provide development for basic ball technique training techniques to help the understanding of coaches or extracurricular trainers in training the basic techniques of handball. Handball games have basic techniques to be mastered by every Handball player to support his performance during the game.

The basic techniques of Handball are, passing, dribbling by bouncing to the floor (dribble), catching the ball upon receiving the catch, throwing the ball towards the goal (shooting), and blocking the opponent's attack with how to block the opponent's ball shot by hand, and blocking the movement of the opponent (block). With the development of media model of basic hand ball technique based on adobe flash player, it is expected that the students who follow in the handball extracurricular activity can improve their basic technique skill, and can create the candidates for the achieving young athlete.

MATERIAL AND METHODS

1. Study Design

This research method used is "Research and Development" approach. "This research is a research and development through preliminary stage, development of learning design, production, and product evaluation. After the production phase, then the initial product validation stage by media experts, academicians and practitioners. The population in this study were handball extracurricular coaches and junior high school students in Demak, Central Java, from August to October, 2018.

The development model used by researchers is the development and research model according to Borg and Gall (1983: 75). The selection of this model is due to compatibility with the researcher's

development with Borg and Gall's research and development model. The steps in this development model are as follows:

- a. Research and information collecting
- b. Planning
- c. Develop preliminary form of product
- d. Preliminary field testing
- e. Main product revision
- f. Main field testing
- g. Operational product revision
- h. Operational field testing
- i. Final Product Revision
- j. Dissemination and implementation

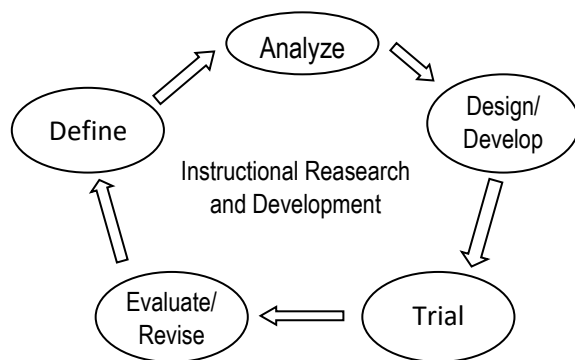


Figure 1. Development Model Cycle Borg and Gall (1989: 782)

From the ten steps of the development model proposed by Borg and Gall there are several stages that are partially modified by the researcher, with consideration of time, effort, and limited costs to produce a model development product of the basic technique of passing ball sports. To know the improvement of the product development, the researcher conducted experiments on the model of exercise product to improve the basic passing technique skills.

2. Population and Sample

The population in this study was handball extracurricular coaches and junior high school students in Demak Regency. The samples of the research amounted to 12 people that were obtained by using purposive sampling.

3. Study Variables

In this study there is only one variable, namely the basic handball training techniques based on Adobe Flash Player.

RESULT AND DISCUSSION

Physical education is a process of learning through physical activity designed to improve physical fitness, develop motor skills, knowledge, healthy living behavior, active, sportsmanship, and emotional intelligence (Suherman, 2000: 1). Research development begins with a preliminary stage of study which is an early stage in research that is problem or problem. Audio media is a medium whose use emphasizes the aspect of hearing. So the sense of hearing is central to the use of this medium. The use of this medium, the message delivered is poured into additive symbols, both verbal (spoken / verbal) and nonverbal (Angkowo, 2007: 13). Sports Handball is a team sport that played by two teams with each team amounted to 7 people. The goal inside the Handball game is to enter the ball into the opposing goal as much as possible and resist the opponent's attack so as not to put the ball into the net. How to play Handball Sport is to move the ball into one position to another using the hands, which intend to give the ball to a teammate to work together to move the ball from the game area itself, to the opposing game area in order to make points or score goals According Muhlisin (2016: 2). The preliminary study phase is the starting point for the problem to be solved. From this stage, we obtained information and direction of development goals that will be done. Problems that have been identified by the next researcher will be used as scope to limit the problems in the research process. The scope process has been formulated and then formulated the process to be implemented in the research process based on theoretical studies in accordance with the research. Furthermore, the researchers will carry out two stages: the literature study stage and data analysis of the preliminary results.

This stage is done aims to get a theoretical study that underlies about the problems obtained. The process of needs analysis is made one way to know, compile and solve the problems found. Literature study is the stage of strengthening the theoretical foundations that become material to be strengthened. The process of needs analysis includes several processes that will be implemented so ultimately get conclusions in this stage. The first stage of the research done in the early stages is to determine the subject matter that exists in the subject. The method used by researchers in obtaining the subject matter that occurs is by the method of interviews with related parties such as trainer / coach extracurricular handball in the environment of Junior high school in Demak Regency. The interview process undertaken by the researcher was preceded by the observation process of several meetings. From the process of observation is determined meeting schedule with several related parties, including coaches and some hand ball athletes. Interview conducted during routine exercise so that researchers can obtain complete information. Questions in the interview process start from the purpose of coaching, the training process, the obstacles in the field, and the training program.

The results of the interviews resulted in several conclusions such as the exercise program process has been running well, this can be seen from the activities of the exercise process that is physical exercise and technical training. Variations in the training of basic techniques have been given to the athlete to give pleasure in the exercise so that athletes are not easily bored in the training process. The use of innovations that have never done exercise to make the training process less interesting and difficult to understand by students

The obstacles that are often encountered in the field by the extracurricular handball coach is the lack of facilities and infrastructure become one of the barrier of the training process, for example the lack of balls so less effective in the process of training. In addition, students have not understood how to play or basic techniques of the game, so the need to create a video-based media to facilitate the trainer / coach extracurricular handball in carrying out routine exercise activities so that students can easily understand and the objectives of the exercise program can be achieved well.

The underlying conclusion of the researcher is to make a decision to use this type of development research to solve the problems that occur. In addition, research development is used by researchers because the process in developing the product is based on studies of several parties such as trainers and academicians. Expected from the process, researchers are able to develop an appropriate product to

overcome and provide a breakthrough that is able to become one of the benchmarks for further development.

Researchers hope that the resulting product can bring innovative workouts, and the creation of a fun workout process that can motivate students to have more opportunity to explore the basic techniques of handmade exercises and can move widely and freely in accordance with the level of ability they have, is expected to improve basic ball technique skills on students. The resulting product is also expected to assist the coach / coach extracurricular handball in providing various training materials using these produced products.

After going through the process of design and production, then produced the initial product development of Basic Technique Sport Handball Hand ball Based Adobe Flash Player. In accordance with the steps in the process of training the initial product draft of the development of Basic Techniques of Sports Ball Design Based on Adobe Flash Player as follows:

- a). General Materials of Handball Ball Knowledge.
- b). Handball Stretching Material.
- c). Exercise Material Basic Hand Passing Handball Technique.
- d). Basic Hand Catch Handwriting Techniques.
- e). Basic Hand Dribbling Technique Training Material Handball.
- f). Basic Handball Technique Material Handball Blocking.
- g). Basic Hand Training Techniques Shooting Handball.
- h). Handball Goalkeeping Exercise Materials.
- i). Rules of Game Handball and Situational Game.

A. Data Analysis and Study Results Introduction

After the researcher undertook the preliminary study phase, the researcher followed up with some notes from each coach/coach extracurricular handball in the junior/equivalent school environment in Demak Regency. In essence, most coaches / handball coaches have never used interactive media in the training process, so most students still find it difficult to understand the basic technical movements that are good and correct, as well as how they play. In the interview session, the trainers explained that there were difficulties to develop the basic techniques of handmade exercises due to the limited facilities and infrastructure, besides the students were difficult to practice and understand the basic techniques of

handmade because there is no media training to facilitate or assist students in practicing and improving the basic techniques of handball movement, so that in the routine exercise process becomes less maximal.

B. Product Development

1. Theory Study

The product development stage consists of an assessment of supporting theories about exercise media and basic ball exercises as well as the initial drafting stage of product development. Theoretical assessment is needed to underlie the preparation of products which in this case is a product of the development of Basic Flash Sports Techniques Training Handball Based Adobe Flash Player. The theories used are the general theory of Handball knowledge and the theory of basic engineering exercises, and the supporting aspects of the theory of practice.

2. Initial Product Design

After going through the process of design and production, then produced the initial product development of Basic Technique Sport Handball Hand ball Based Adobe Flash Player. In accordance with the steps in the process of training the initial product draft of the development of Basic Techniques of Sports Ball Design Based on Adobe Flash Player as follows:

- a). General Materials of Handball Ball Knowledge
- b). Handball Stretching Material
- c). Exercise Material Basic Hand Passing Handball Technique
- d). Basic Hand Catch Handwriting Techniques
- e). Basic Hand Dribbling Technique Training Material Handball
- f). Basic Handball Technique Material Handball Blocking
- g). Technical Training Material
- h). Hand
- i). Rules of Game Handball and Situational Game.

The following will be presented in the draft of the initial product development of Basic Flash Sports Techniques Training Handball Based Adobe Flash Player for students in Junior High School/ equivalent environment before being validated by media experts and material experts:

Table1. Evaluation Results of Media Experts

No	Assessment Components	Results Score	Maximum Score	Percentage	Category
1	Text	12	20	60%	Enough Valid
2	Picture / Image	15	25	60%	Enough Valid
3	Audio Sound	7	10	70%	Enough Valid
4	Video	18	30	60%	Enough Valid
Total		52	85	61%	Enough Valid

Table2. Evaluation Results of Academicians

No	Assessment Components	Results Score	Maximum Score	Percentage	Category
1	Aspect of Conformity	32	35	91.43%	Valid
2	Aspects of Utilization	27	35	77%	Valid
3	Security Aspects	33	35	94.29%	Valid
4	Aspects of Discretion	28	35	80.00%	Valid
Total		120	140	85.71%	Valid

Researchers using a pre-writer aim to increase the quality of the developed product.

Table 3. Evaluation Results of Practitioners

No	Assessment Components	Results Score	Maximum Score	Percentage	Category
1	Aspect of Conformity	34	35	97.14%	Valid
2	Aspects of Utilization	35	35	100%	Valid
3	Security Aspects	34	35	97.14%	Valid
4	Aspects of Discretion	34	35	97.14%	Valid
Total		137	140	97.86%	Valid

The overall data obtained from the expert evaluation can be concluded that the product is valid and feasible to be tested at the stage of product effectiveness. Of course before applied, previous researchers pay attention to the input of the expert handball so that the product better. In Table 3. it can be presented quantitative data from the evaluation results of the three expert hand mills:

Table 4. Recapitulation of Expert Test Results

No	Expert	Results Score	Maximum Score	Percentage
1	Media Expert	52	85	61.18%
2	Expert Academics	120	140	85.71%
3	Practitioner Expert	137	140	71,15%
Total		309	365	81,58 %

Based on the data on table3 obtained by the end of the percentage is 81.58% and can be interpreted that the product design of basic techniques of ball technique based on Adobe Flash Player can be tested in the next step. This is based on the classification of Maksum (2009: 57).

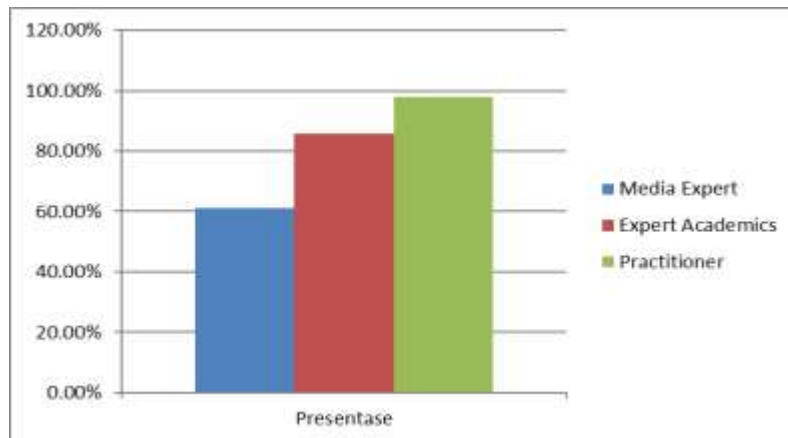


Figure 3. Recapitulation Chart of Expert Test Score Results

Table 5. Percentage of Evaluation Results (Maksum, 2009: 57)

Percentage Description	Percentage Description
80 % - 100 %	Valid / use
60 % - 79 %	Self Valid / use
50 % - 59 %	Less Valid / replaced
< 50 %	Invalid / diagnostic

The result of the analysis was conducted by researchers in the form of qualitative and quantitative data. From these two data can be concluded that the design of products that have been designed can be

continued next step. Suggestions and inputs obtained from experts are points that are considered and followed up so that the product design is more appropriate.

C. Implementation of Field Trial

The revised product design is followed up by the next stage of the field trial. This stage is the core of the preparation of product development design in this research. In addition, in this stage the researcher will get an assessment of the teachers of Junior High School / Equal in Demak Regency who became the subject. The subject of this research is located in MTSN Karang Tengah Demak Regency, each of which amounts to 4 teachers. The following will explain the results of field trials of Adobe Flash Player based hand baseball technique development media products through limited trials and extensive trials.

1. Small Group Test

At this stage, the researcher uses subjects of junior high school teachers / equivalents in Demak Regency, which are 4 teachers. Implementation of small group trials in the first week of November 2017 at MTSN Karang Tengah Demak Regency. Implementation of small group testing begins the researchers from explaining the mechanisms in the explanation of the objectives of the activity and filling the questionnaire.

Table 4.6 Quantitative Data Presentation of Small Group Test Results

No	Aspect of Evaluation	($\sum X$) N = 4	($\sum X_i$)	Percentage (%)
1.	The aspect of ease is understood	43	60	71.67 %
2.	Aspects of ease of doing	42	60	70.00 %
3.	Aspect of attractiveness	45	60	75.00%
4.	Aspect of benefit	41	60	68.33 %
Total		171	240	71,25%

Information:

N : Number of Subjects

($\sum X$) : Results Score

($\sum X_i$) : Maximum Score

(%) : Percentage of Results

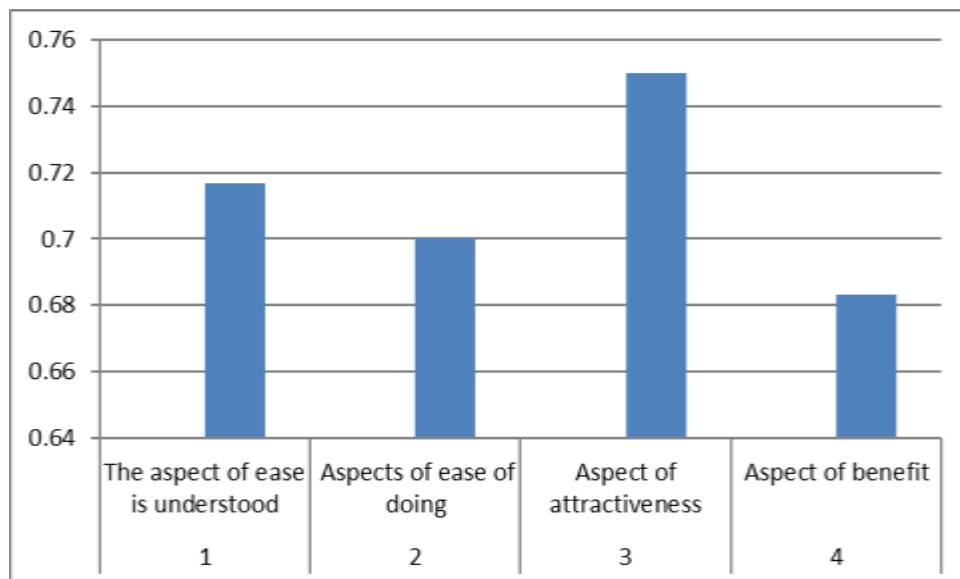


Figure 4. Recapitulation results of small group Test

In Table 4.6 it can be explained that the results of small group testing in this development study can be categorized as valid and usable. Obviously it refers to the criteria used by researchers. So that the conclusion that has been done at this stage based on theory and valid data. After the researchers get the data and inputs from the subject and the trainer, the next researcher revised the products that have been designed.

2. Big Group Test

Evaluation conducted from the previous test results serve as a reference for the next stage. The implementation of this phase was carried out in December 2017 at MTSN Karang Tengah, Demak Regency. The number of subjects used in this phase is 8 teachers of junior / equivalent in Demak Regency. As in the small group test phase, the researcher gives an explanation to the subject about filling the questionnaire.

Table 4.7 Presentation of Quantitative Data of Large Group Test Results

No	Aspect of Evaluation	(ΣX) N = 8	(ΣX_i)	Percentage (%)
1.	The aspect of ease is understood	97	120	80.83%
2.	Aspects of ease of doing	105	120	87.50%
3.	Aspect of attractiveness	110	120	91.67%
4.	Aspect of benefit	110	120	91.67%
Total		422	480	87.92%

Information:

N : Number of Subjects

(ΣX) : Results Score

(ΣX_i) : Maximum Score

(%) : Percentage of Results

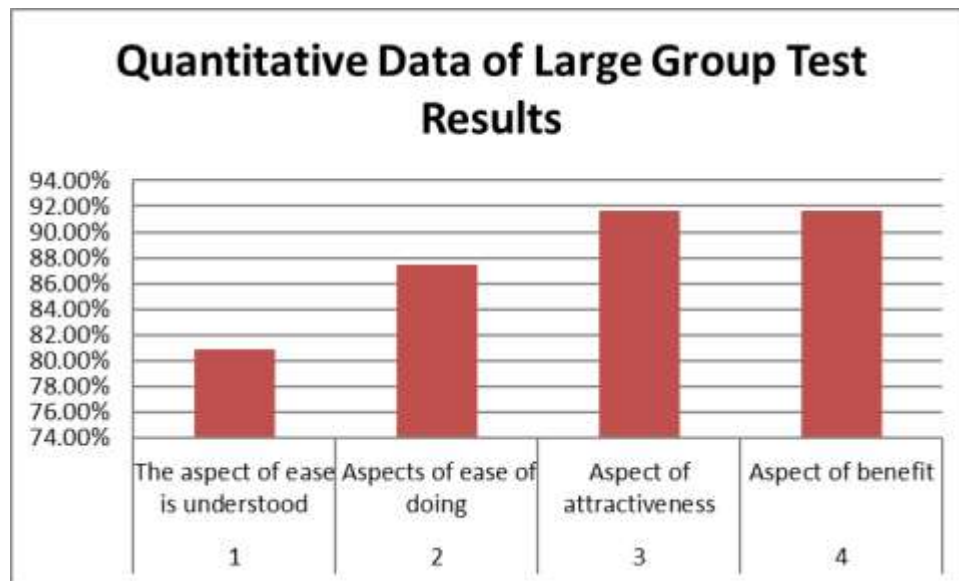


Figure4. Recapitulation results of large group Test

Table 4.8 Percentage of Evaluation Results (Maksum, 2009: 57)

Percentage	Percentage Description
80 % - 100 %	Valid / use
60 % - 79 %	Self Valid / use
50 % - 59 %	Less Valid / replaced
< 50 %	Invalid / diagnostic

In Table 4.7 it can be concluded that the designed product can proceed to the next stage. The percentage obtained indicates that the entry in the category is valid and usable. However, in this stage the researcher also receives inputs from the subject and the trainer. The results of data and inputs are accommodated by researcher before performing the effectiveness test phase of the product so it is expected that the product is really capable to be done and understood by the subject.

Characteristic of the sample is something that can't be separated from the researcher's attention. So researchers really should make an interesting product for the subject. The developed product should contain the element of the basic right technique training so that all aspects can be achieved.

3. Final Product Revision

Results of responses from the subjects after the implementation of extensive testing can be concluded that the design of products prepared by researchers can be accepted and then can be continued to effectiveness test. The conclusion is derived from the overall stages of evaluation and analysis conducted by researchers. In addition, responses from experts are data that support the conclusion of the product design.

CONCLUSIONS AND RECOMMENDATIONS

Preliminary stage is to determine the course, identify the needs, then determine the material to be incorporated into multimedia learning products. The second stage is to develop a learning design by identifying competency standards and basic competencies, identifying student behavior and characteristics, developing materials, developing test items and learning strategies, then developing evaluation. Furthermore, the production stage that is, create a flow chart, compile the script, collect materials that will be incorporated into the multimedia learning, then continued the process of developing multimedia learning soccer game course. In the process of developing this learning

multimedia also includes the making of its application and the process of making video learning basic handball skills. The last stage is, evaluation or validation process by material experts, media experts and sports teachers. Then in the end produce the end product in the form of multimedia learning hand ball game for students in Demak Regency.

The results of the expert assessment of the material about the quality of multimedia learning Media Training Basic Techniques Handball Ball Based Adobe Flash Player in Demak Regency is included in the criteria of "very good", according to media experts on the quality of multimedia learning is the evaluation of media experts for the assessment component that contains aspects text, images / photos, audio sound, video obtained 61% of the total for the conclusion of the feasibility of the product. The results of the evaluation of academicians for the assessment component containing aspects of conformity, usefulness, security, and aspects of implementation are 85.71% of the total for the feasibility conclusion of the product. The results of the expert evaluation of practitioners for the assessment component containing aspects of conformity, usefulness, security, and the implementation aspect obtained 97.86% of the total for the feasibility conclusion of the product. Final result data was 81.58% and it can be interpreted that the design of Adobe Flash Player based hand baseball technique can be tested in the next step.

Small group test results for the assessment component that contains aspects of conformity, usefulness, security, and aspects of implementation obtained 71.25% of the overall for the feasibility of the conclusion of the product. The results of the large group test for the assessment component that contains aspects of conformity, usefulness, security, and the implementation aspect obtained 87.92% of the overall for the feasibility conclusion of the product. Based on the specified criteria it can be concluded that Adobe Flash Player's handmade basic ballast technique products are valid and usable. This is because the result of data is stretched 80 - 100% for classification of product feasibility percentage.

For the next researcher who will develop Basic Flash Sports Technique Techniques Handball Based Adobe Flash Player in Demak Regency can be developed: 1) improve the visual appearance of the media becomes more interesting with the new layout, and 2) can be added material by using video about the application of taught material such as motion errors about various techniques in the game of handball as evaluation of basic technique movements in the handball.

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