Development of Crate Jump Gymnastics Learning Media for Physical Education and Health Students

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ABSTRACT
This research conducted to develop video learning material for crate jump gymnastics subjects. The method used in this study referred to the development of models of Borg & Gall. The learning material validated by the experts and tested in small & large groups. The result from gymnast expert validation showed that the learning material was very valid (91.91%). The score obtained from the learning expert is also not much different (89.71%). The learning material was very valid regarding its content. The trial result, both in small and large groups, showed that the learning material developed was valid. Developing an attractive learning material could help and motivate the students in mastering the learning subjects.

Keywords: *Learning, floor gymnastics, Crates jump.*

1. INTRODUCTION

Learning innovation considered to be very important in creating active, effective, and efficient learning models. It needed to meet student's needs in achieving learning goals. Limited availability of interactive media learnings is often becoming a barrier for students to learn independently. The quality of education can be improved by increasing the performance and quality of teachers, students, and curriculum following the development of science and technology.

Various studies stated that education is an indicator of the nation's glory. Teachers play an important role in the success of the learning process. Entering the twenty-first century, the teacher is no longer adequate as the main source of learning. It must be integrated with other learning resources. The development of critical thinking skills of students in learning to depend on the expertise of teachers. Expertise in selecting appropriate learning media is one skill needed by teachers [1].

Learning media is both hardware and software that use to convey a message of the material content to students. It stimulates the mind, feelings, interests, and concerns of students so that the learning process runs more effectively [2]. Learning media is a tool or means or device that serves as an intermediary or channel bridge in communication activities between communicators (messenger) and communicant (recipient of the message) [3].

Gymnastics is a basic sport that relies on the activities of all parts of the body [4]. Gymnastics combines strength, speed, balance, agility, and accuracy. Gymnastics is a good physical activity undertaken as sports alone or as an exercise for other sports [4].

In practice gymnastics apparatus with a crate of this jump, a student must have the confidence and courage that high in practice. Mastering the techniques should be done as quickly as possible to obtain good results more movement. For that, we need a teacher's ability to design learning programs that are varied, interesting, and safe to be done by the students.

At present, crate jump gymnastic learning materials are limited and have not utilized technology optimally. In this era, the use of technology in improving the ability of students must implemented. Therefore, this study conducted to develop video learning material for crate jump gymnastics subjects.

2. METHOD

The subjects participated in the trials were 34 students of Physical and Health Education, Universitas Negeri Malang (UM). At first phase of trial, 10 students selected using purposive sampling. At second phase of trial, 30 students participated as study subjects. Product of learning material evaluated by two experts, namely learning expert and gymnast.

Research and development in this study using a model of development Research & Development (R & D), which consists of ten steps [5]. The study consisted of three phases, with steps description design explanation has been modified and aligned with the purpose and conditions of the actual research, as illustrated clearly in Table I.

Table 2. Phase and development research steps

Stage	Step	Activity
Pre-development	1	a. Initial data collection b. Preparation of research proposals c. Analysis of needs
	2	Product design
Development	3	Develop preliminary form of product
	4	Validation product First trial : Validation from the collegues
	5	Second trial: Validation from the expert (gymnastics specialist, learning specialist, and media expert)
		Try the media to a small group of students (10 studenst)
	6	Field trial: Try the media to a large group (40 students)
	7	Initial repair
	8	Test the effectiveness of the learning material
Application	9	Product revision
	10	Report

Data analysis used descriptive statistical analysis. The measurement technique used in data collection was a Likert scale. Likert Scale used to measure attitudes, opinions, and perceptions of a person or group of people on social phenomena [7].

The validity score resulted from dividing the Total Empirical Score Validator (TSEV) with the Maximum score Expected (S-max) [8]. The results of the data classified according to the percentage. For the classification of the percentage to be used can be seen in the following table.

Table 2. Criteria for product quality

Percentage	Category	
86-100%	Very valid	Used without revised
70-85%	Quite valid	Used with minor revision
60-69%	Less valid	Less decent used/Advised not used
0-50%	Invalid	Can not be used

3. RESULTS AND DISCUSSION

Based on the analysis the expert evaluation of gymnastics, an unknown amount of the total score of respondents (ΣF) is 125 and the total number of respondents overall score (ΣN) was 136 with the percentage 91.91% categorized as very valid.

Based on the analysis the expert evaluation of learning, an unknown amount of the total score of respondents (ΣF) is 61 and the total number expected score (ΣN) is 68 by the percentageobtained at 89.71% with a very valid category.

Based on the results of the small group trial, the result showed an unknown number of total score of respondents (ΣX) is 325 and the total amount of the overall score (ΣXi) was 400 with a total percentage of 81,25% of the prescribed criteria and it can be said that the development of learning models using the crate jump of floor gymnastics for students Physical and Health Education (PJK), State University of Malang (UM)Valid Enough satisfies criteria (70% -85%) that can be used and practiced on field trials/large group to perform minor revisions.

Based on the results of a large group trial, an unknown number of total score (ΣX) is 1058 and the total number of respondents overall score (ΣXi) is 2000 with a percentage of 88.16%. of the prescribed criteria and it can be said that the development of learning models using the crate jump floor gymnastics for students meets the criteria “very valid”.

Learning media is anything that is used as a communication or to convey messages, information / learning materials so as to stimulate attention, interests, thoughts and feelings of students in learning activities to

achieve specific learning objectives, one of which is video [9]. The use of video media in learning is very helpful for upgrading skills of floor gymnastics of the crate down, there are four functions of media are as follows: a) Changing the focus of formal education, which means the media that was abstract into concrete, of learning that had theoretically become functional practical, b) Generating motivation to learn, in this case the media is a motivation for learners, because the use of a medium of learning more interesting and focused learners, (c) to provide clarity, so that the knowledge and experience of learners can be more clear and easy to understand the media can clarify it, (d) Providing stimulus to learn, especially the curiosity of learners [3].

Learning media can enhance learning outcomes, among others, are as follows. 1) Learning to be more attractive for learners so as to motivate learning. 2) Learning materials will be quite vague so it can be better understood by learners and allows learners to master better learning objectives. 3) The learning method will be more varied, not solely verbal communication by teachers, so that students do not get bored and teachers do not run out of steam, especially if the teachers teach to every lesson. 4) Students learn a lot more activities, because not only listen to the description of the teacher, but also other activities such as observing, doing, demonstrate, and others. 5) The use of instructional media is closely related to the stage of thinking learners

4. CONCLUSION

This study produced a video learning media for crate jump gymnastics subject that has been validated by experts and has passed the trials, both in small and large groups. It expected to facilitate teachers in creating a more active, effective, and efficient learning process. It also can facilitate students to understand the learning subjects easily

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