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Learning Outcomes for Students Junior High School: Entrepreneurship-Based Learning Video

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ABSTRACT

Purpose of the study: This study aims to develop entrepreneurship-based learning video media on environmental pollution material and its application in science learning in junior high school.

Methodology: This research is classified as research and development using the ADDIE model, which consists of the stages of analysis, design, development, implementation, and evaluation. The subjects used were 24 students and 2 teachers to see responses to entrepreneurship-based learning videos using purposive sampling. Data analysis used descriptive statistics (Category, Min, and Max) and inferential (One paired t-test).

Main findings: In this study, the results of validation by material experts and validation by media experts were very feasible. The results of the science teacher's responses and student trials in one-on-one, small, and large group trials were obtained in the very good category. And there are significant differences for students in using Entrepreneurship-based learning videos

Novelty/Originality of this study: In the era of the industrial revolution and social revolution, human resources are needed to go through this. Therefore, especially in junior high schools, teachers must carry out innovations, one of which is to innovate in the learning media used, namely using entrepreneurship-based learning videos. Today's students must have an entrepreneurial spirit or attitude to compete in the present.

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1. INTRODUCTION

Learning is a process of interaction between students and educators and learning resources. Learning has an important role in achieving educational goals. In the learning process, the media is one of the factors that can support the success of learning. Students are expected to actively achieve learning objectives to make learning more meaningful [1]-[3]. Learning media is a tool used to support the success of the teaching and learning process. The contribution of learning media is directly able to build its own dynamics for students.

Learning media is also a tool used to facilitate teaching and learning activities. Media are materials, tools, and people positioned as communication channels that give students knowledge, skills, and attitudes. The media is important in determining the success of transferring information between two or more people [4], [5]. Learning media is divided into three types: visual, audio, and audio-visual. Audio-visual media or video is a form of learning media that effectively supports the learning process for mass, individual, and group learning. The learning process is concrete because it can reach all students [6].

The video also plays an effective role as a learning medium because of its nature that can be reproduced, watched, and can be displayed repeatedly [7], [8]. Video learning is one medium with elements of audio (sound) and visual motion (moving images). Video functions as an intermediary for information from teachers to students. The ease of playing back videos and how information is displayed in a structured manner makes video a medium that can stimulate students' ability to understand a concept. Using video media as a learning reference material for students is very important as an option that supports teaching and learning activities [9]-[11].

Based on the results of observations at Tanjung Jabung Timur 4 Public Middle School through face-to-face interviews with VII grade science teachers, information was obtained that science learning at Tanjung Jabung Timur 4 Middle School used the 2013 curriculum. There were several obstacles in the learning process, including limited learning media. These problems cause learning to be monotonous. Meanwhile, only PowerPoint, printed books, and student worksheets are the learning media used. Interviews also revealed that teachers need learning media that can stimulate students' creativity. One of the materials that can be used to increase student creativity is environmental pollution material. Environmental pollution material is material that discusses the problem of environmental damage caused by waste contained in soil, water, and air. So far, students have not carried out practicals on this material, such as the use of waste which can increase the use value of these wastes. Practical activities in waste utilization can encourage students' entrepreneurial spirit.

According to Van der Meij & Van Der Meij [12], explaining the results of research on the use of video media to provide effective and significant results, these results are better than previous methods such as print media. Other research has also been carried out by Irsyad, Abas, and Ana [13], which revealed that video could be used and can provide entertainment for students with the effects used so that students do not feel bored during learning. From this, the novelty of this research is the application of video media as a learning tool in delivering environmental pollution material based on entrepreneurship values that can help to learn.

Therefore, this study aims to develop learning media using entrepreneurship-based videos and see how comparisons or differences in student learning outcomes using entrepreneurship-based learning videos with traditional learning.

2. RESEARCH METHOD

This research is research development (Research and Development). The development research model used in this research is the ADDIE development model. Branch [14] this model consists of 5 parts namely: analysis (analysis), design (design), development (development), implementation (implementation) and evaluation (evaluation). This model is included in the procedural model so that its descriptive nature indicates more specific and accurate stages in producing a product. Therefore, the researcher chose to use this model.

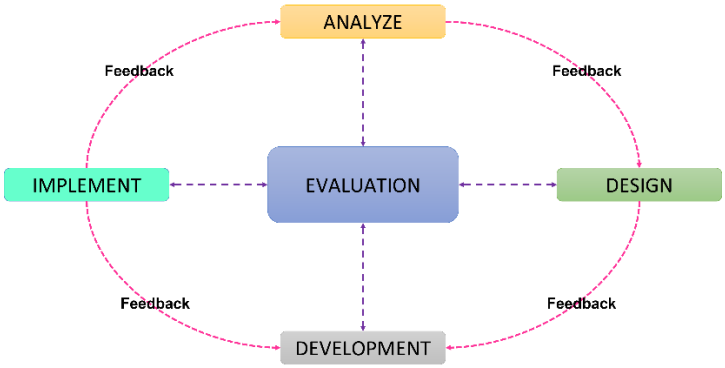

Figure 1. The steps of the ADDIE development model according to Branch.

1. Analysis Phase

Analysis of product development needs is important to ensure that the product to be developed is in accordance with user needs [15]. The analysis phase consists of needs, student characteristics, and curriculum analysis. A needs analysis was carried out through interviews with biology teachers and analysis of the needs of students by filling out questionnaires by students. Analysis of the characteristics of students was carried out by interviewing the deputy head of the student division at the school to see the condition of the students to support the success of development in accordance with the conditions of the users. Curriculum analysis is carried out to determine the competencies of the teaching materials to be developed.

2. Design Stage

The design stage consists of determining the development team, compiling a development schedule and collecting included materials such as material descriptions, pictures, videos, questions, and learning activity steps, and making storyboards as initial product designs which aim to make it easier for researchers to develop learning video media based on environmental pollution material entrepreneurship.

3. Development Stage

The development stage is achieved by realizing entrepreneurship-based learning video media on environmental pollution material designed to be developed. Furthermore, validation is carried out on the developed product. Validation was carried out by material experts and media experts. Suryani [16] explains that media experts play a role in providing suggestions and criticisms of the media that have been developed. After getting the validation results, improvements were made to the developed video media. This improvement or revision was carried out until the learning media product in the form of a learning video based on entrepreneurship on environmental pollution material was declared feasible by material experts and media experts to be implemented.

4. Implementation Stage

The implementation stage is the stage of implementing entrepreneurship-based learning video products on environmental pollution material that has been declared feasible by a team of experts. The product was tested on 2 science teachers, as well as trials on students consisting of one-on-one trials consisting of 2 students, small group trials of 6 students, and large group trials of 24 students to get data to determine the feasibility of using the product and the response to the product based on a questionnaire that will be filled out by teachers and students as trial subjects. Furthermore, an effectiveness test was carried out on 24 students to see the products' effectiveness on learning outcomes.

5. Evaluation Stage

The evaluation stage is carried out to see and measure the achievement of learning media in the form of entrepreneurship-based learning videos on environmental pollution material that has been developed. In this study, the evaluation was carried out in two stages: formative and summative. In formative evaluation, the assessment results and suggestions provided by the team of experts are used as material for consideration in formative evaluations. In summative evaluation, the results of student assessments of the products used are used as material in carrying out summative evaluations. The results of this evaluation aim to find out whether the entrepreneurship-based learning video products that have been developed are feasible to be used in learning about environmental pollution material.

The subjects in this study consisted of students and teachers, where the sample in the study was obtained using a purposive sampling technique with the criteria being grade 8 high school students and science teachers. With the criteria mentioned above, 24 students and 2 teachers were sampled in this study [17].

The instruments used in this study consisted of questionnaires and questions. The questionnaire in this study consisted of expert validation questionnaires [18], student response questionnaires [19], and teacher response questionnaires [19], where all questionnaires were adopted and used a Likert scale, and the instrument consisted of multiple-choice questions that focus on seeing student learning outcomes, consisting of 20 valid questions with a Cronbach alpha of 0.849C. The categories of the expert validation questionnaire are used as follows:

Table 1. Categories of Eligibility for Learning Videos

Interval	Category
81.25 – 100.0	Very Feasible
62.5 – 81.24	Feasible
43.75 – 62.49	Feasible
25.0 – 43.74	Very not Feasible

As for the categories of teacher responses, student responses can be seen in Table 2 and student learning outcomes in Table 3 below.

Table 2. Categories of teacher and student responses to entrepreneurship-based learning videos

Interval	Category
31.1 – 40.0	Very Good
22.1 – 31.0	Good
13.1 – 22.0	Not Good
4.0 – 13.0	Very Not Good

Table 3. Categories of student learning outcomes using entrepreneurship-based learning videos

Interval	Category
18.8 – 25.0	Very Good
12.6 – 18.7	Good
6.3 – 12.5	Not Good
0.0 – 6.25	Very Not Good

This research starts by validating entrepreneurial-based learning videos and seeing whether the learning videos are appropriate for use based on experts in their fields. After the experts state that the learning video is feasible, it will be implemented for students to see the responses from students and teachers regarding the entrepreneurship-based learning videos, and see if there are differences in learning outcomes using learning videos with traditional learning media.

The data analysis in this study uses descriptive and inferential statistical analysis, where the description uses categories, min, and max. As well as for inferential statistics using one paired t-test.

3. RESULTS AND DISCUSSION

The results of product development are assessed by the material expert validator and media expert validator to assess their feasibility. The aspects assessed in the development of entrepreneurship-based learning videos consist of material and media aspects.

a. Material Validation

The Material Validation process is carried out in two stages. The following is a graph of the material expert's assessment.

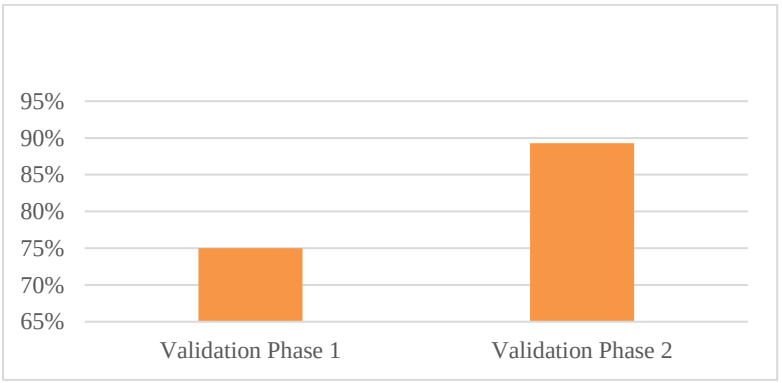

Figure 2. Evaluation of learning videos by material experts.

The results of the percentage validation by material experts showed that there was an increase in scores from the first validation and the second validation. In the first validation stage, a score of 42 was obtained with a percentage of 75% in the feasible category. In this validation, there are several suggestions from the validator that need to be corrected by the author. After being corrected, in the second validation there was an increase in the score to 50 with a percentage of 89.28% in the very decent category.

b. Media Validation

The media validation process is carried out in two stages. The following is a graph of the media expert's assessment.

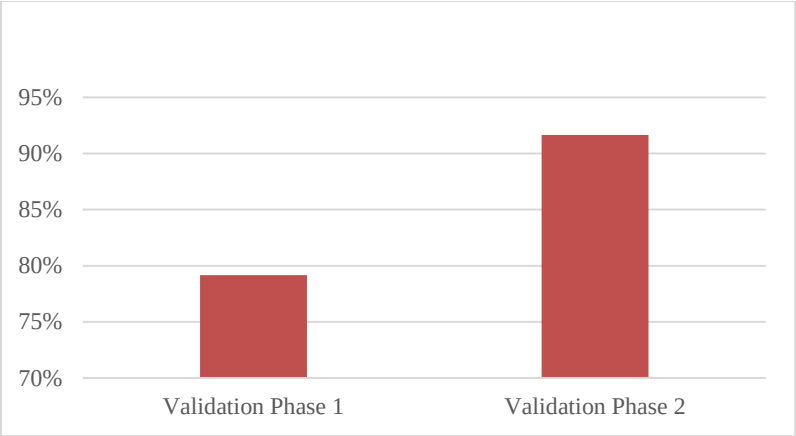

Figure 3. Assessment of learning videos by media experts.

The results of the percentage validation by media experts showed an increase in scores from the first validation and the second validation. In the first validation stage, a score of 38 was obtained with a percentage of 79.16%, including the very good category. However, in this validation, several suggestions from the validator need to be corrected by the author. After being corrected, in the second validation, there was an increase in the score to 44, with a percentage of 91.66% included in the very decent category. According to Irawan [20], the results of the validation of media experts and the material entitled Development of biology instructional video media for making tempeh and yogurt obtain an average percentage of 100%, and the validation of media experts obtains an average percentage of 100%.

After the entrepreneurship-based learning video media material for environmental pollution was declared feasible by material and media experts, a trial was conducted on two science teachers to see the teacher's assessment of the product being developed. environmental pollution that was developed obtained a percentage of 91.25% with a very good category. After being declared eligible for the learning video, the researchers immediately conducted research and collected data regarding student and teacher responses to the learning video. The results are as follows

Table 4. Teacher's Response to entrepreneurship-based learning Videos

Interval	Category	Total	%	Min	Max
31.1 – 40.0	Very Good	0	0	18	29
22.1 – 31.0	Good	2	100		
13.1 – 22.0	Not Good	0	0		
4.0 – 13.0	Very Not Good	0	0		
Total		2	100		

Table 4 shows that the teacher's response to learning using entrepreneurship-based learning videos is in a good category 100% (2 of 2 teachers). This interprets that the application of learning media in the form of entrepreneurship-based learning videos is very good.

Table 5. Student Responses to Entrepreneurship-Based Learning Videos

Interval	Category	Total	%	Min	Max
31.1 – 40.0	Very Good	2	8.3	12	35
22.1 – 31.0	Good	15	62.5		
13.1 – 22.0	Not Good	6	25.0		
4.0 – 13.0	Very Not Good	1	4.2		
Total		24	100		

From Table 5, which came from 24 respondents from the junior high school 4 Tanjung Jabung Timur after they were obtained and the results obtained using the SPSS 21 application program, the student responses regarding learning videos had the dominant result is good, with a percentage of 62.5% for 15 students out of a total of 24 students, very good at 8.3% for 2 students out of a total of 24 students, not good 25.0% for 6 students out of a total of 24 students, and very bad at 4.2% for 1 student out of a total of 24 students. Of the 24 students, the maximum score was 35, and the minimum score was 12.

Table 6. Student learning outcomes using entrepreneurship-based learning videos

Interval	Category	Total	%	Min	Max
18.8 – 25.0	Very Good	2	8.3	7	23
12.6 – 18.7	Good	17	70.8		
6.3 – 12.5	Not Good	5	20.9		
0.0 – 6.25	Very Not Good	0	0.0		
Total		24	100		

From Table 6, which came from 24 respondents from the junior high school 4 Tanjung Jabung Timur after they obtained the results obtained using the SPSS 21 application program, the student learning outcomes regarding learning videos had a dominant result that was good, with a percentage of 70.8 % for 17 students out of a total of 24 students, very good at 8.3% for 2 students out of a total of 24 students, and not good 20.9% for 5 students out of a total of 24 students. Of the 24 students, the maximum score was 23, and the minimum score was 7

Differences in student learning outcomes using learning video media with traditional learning media can be seen in the following table.

Table 7. Comparison of student learning outcomes using entrepreneurship-based learning videos

	T	Sig. (2-tailed)	Df	Mean
PreTest-PostTest	2.453	.008	24	3.4033

Table 7 shows that the sig value <0.05 means that it can be concluded that H1 is accepted, which means that there is a comparison between the pre-test and post-test of student learning outcomes using entrepreneurship-based learning videos. Apart from that, it can also be seen from the t value, where t count > t table, and in this study, the t table used is 1,710 (using 2-tailed). It can be concluded that t count (2,453) > t table (1,710); this means that there is a comparison between the pre-test and post-test of student learning outcomes using learning media in the form of entrepreneurship-based learning videos rather than traditional learning media.

Entrepreneurship-based learning video products on environmental pollution material are practically feasible because the results are in very good categories after being tested on science teachers and students. This is also in line with research on using learning videos conducted by Handziko and Suyanto [21], explaining the use of ecosystem succession learning videos to increase learning motivation and mastery of biology students' concepts. This shows that the use of video gets results in very good categories. The same result was also obtained by Arimadona [22]; animated video media met the very practical criteria by teachers with 81% and was considered very practical by students with 87% who met the practicality criteria. This shows that the animated video produced has very good quality as a learning medium, making students interested in taking part in learning using animated video media. That way, this research is in line with research that has been done before, where in this study, researchers got student responses that used learning videos in the good category.

According to Rahmawati [23], Video media is an audio-visual medium that has the ability to broaden students' insights and knowledge by displaying new information and knowledge and learning experiences that are difficult for students to obtain directly. Through the video program, students can see objects and events that take place elsewhere. Video media can also motivate and stimulate students' interest in learning by presenting interesting pictures and information. The use of video media in the learning process will be able to direct certain responses or actions from students according to the expected goals. Winardi [24] explains that entrepreneurship is someone who can create a new business or product from the opportunity to combine the resources needed to create an economic value product. In learning about environmental pollution material, students are given the opportunity to actualize their abilities in entrepreneur-based learning activities on waste treatment material that causes environmental pollution.

This also aligns with Hapsari and Zulherman's research [25]; this study showed increased student learning outcomes. If student learning outcomes have increased, then the animated video media based on the Canva application is said to be effective. Using entrepreneurship-based learning video learning media on environmental pollution material that has been developed can increase students' understanding. This can be seen from the effectiveness test, which shows an effect of using entrepreneurship-based learning videos on environmental pollution material on student learning outcomes. The video can encourage students to participate in learning activities, making the learning process more meaningful. Through entrepreneurship-based learning videos on environmental pollution material developed by the teacher, it provides opportunities for students to discover or build their own knowledge [26]-[28]. The use of learning video media is one of the interesting media because it displays various images and is accompanied by sound, so it is expected to improve student learning outcomes. Video is one of the audio-visual media that can improve student learning outcomes; through video

shows, students can be attracted from a visual point of view through the presentation presented and from the audio side through the accompanying sound [29]-[32].

4. CONCLUSION

The product of entrepreneurship-based learning video learning media on environmental pollution material was developed using the ADDIE model, which consists of the analysis, design, development, implementation, and evaluation stages. The types of data in this study are qualitative data and quantitative data. The validation results by material experts obtained a percentage of 89.28% with a very feasible category, and the validation results by media experts obtained a percentage of 91.66% with a very feasible category. The results of the science teacher assessment obtained a percentage of 91.25% in the very good category; test results to see the responses of students in one-on-one trials obtained 87.5% in the very good category, small group trials obtained a percentage of 92.5% in the very category good, and trials in large groups obtained a percentage of 95.73% in the very good category. On the results of the effectiveness test using the N-gain test, a g value of 0.6 was obtained to conclude that there is effectiveness in using entrepreneurship-based learning videos on environmental pollution material in improving learning outcomes. Teachers and students are advised to be able to use entrepreneurship-based learning videos on environmental pollution material as an alternative learning media in studying environmental pollution material to improve learning outcomes.

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