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PRACTICALITY OF MATHEMATICS LEARNING MEDIA USING APPLICATIONS POWTOON

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ABSTRACT

Learning mathematics has criteria that not everyone can easily understand. Mathematical formulas that some people find difficult to understand make students bored while studying. Suitable learning media such as animation and pictures will make the process more enjoyable. This research aims to determine the practicality of mathematics learning media created using the PowToon application for class XI Clothing students at SMK Negeri 6 Padang. This research will reveal the level of practicality of using learning media using the PowToon application from both teachers and students after using this learning media in the learning process. The learning media that has been developed and the questionnaire sheets have previously been validated by validators. Based on the research results, it shows that the learning media that has been developed is practical as seen from the practicality test results obtained from teacher responses and student responses. The practicality test results obtained were 81.73% for teacher responses and 77.03% for student responses. From the practical results that have been carried out, the learning media is in the practical category, so it is suitable for use in the mathematics learning process.

Keywords: *PowToon, Learning Media, Practicality, Mathematics*

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INTRODUCTION

Mathematics is a science that uses scientific methods in its process. The process of learning mathematics is not only understanding mathematical concepts, but also teaching students to think constructively, so that students' understanding of the nature of mathematics becomes complete, both as a process and as a product. Seeing the importance of the objectives of mathematics learning, learning requires learning media that can help students learn. Learning media is one of the elements that influences the quality of education implementation. The learning process will run well if the learning media is chosen correctly.

One application that can be used to create learning media in the form of animated videos is an application PowToon. PowToon was produced in January 2012. PowToon has advantages in animation features, for example handwritten animation, cartoons, transition effects, and ease of use timeline. The practicality of learning tools refers to the convenience obtained when using learning tools. In the general Indonesian dictionary (1994: 1085) practical means easy and easy to use, suitable because the implementation is easy. Practicality is related to the use of learning tools by students and teachers. Devices can be said to be practical, if teachers and students can use these devices to carry out learning logically and continuously, without many problems. According to Sukardi (Fidelis A. Dakhi and Dina N. Perdana, 2021:43) states that practicality considerations can be seen in the following aspects:

a. Ease of use, including easy to set up, store and can be used at any time.
b. The time needed for implementation should be short, fast and precise.
c. The attractiveness of the device to student interest.
d. Easy to interpret by expert teachers and other teachers.
and. It has the same equivalent so it can be used as a substitute or variation.

Practicality can also be interpreted as the use of learning media that has been developed. Based on the background above, the author is interested in conducting research entitled: "Practicality of Mathematics Learning Media Using Applications PowToon "For Class XI Clothing Students at SMK Negeri 6 Padang." Based on the existing problems, there is a need for theoretical studies related to the selected title. The following is a theoretical study discussed:

PowToon

PowToon is an internet connected application that can provide presentations or presentations of material. One of the prominent advantages of animated videos PowToon is able to provide a better and more attractive overall visual appearance. Animated videos PowToon able to provide various unique and very interesting cartoon animation displays, so with these advantages the media PowToon better able to attract students' attention.
Animated video media PowToon also appears to have fulfilled the function of a learning medium. As explained by Nurseto (Evi Delviana 2017: 4), there are 5 functions of learning media that must be fulfilled when a teacher chooses a teaching media. These five functions are:

a. As a means of helping to create a more effective learning situation.
b. As one component that is interconnected with other components in order to create the expected learning situation.
c. Speed up the learning process.
d. Improving the quality of the teaching and learning process.
and. Concretizing the abstract can reduce the occurrence of verbalism.

Practical training

The practicality of learning tools refers to the convenience obtained when using learning tools. In the general Indonesian dictionary (1994: 1085) practical means easy and easy to use, suitable because it is easy to implement. Practicality is related to the usability of learning tools by students and teachers. Devices can be said to be practical, if teachers and students can use these devices to carry out learning logically and continuously, without many problems. According to Sukardi (Fidelis A. Dakhi and Dina N. Perdana, 2021:43) states that practicality considerations can be seen in the following aspects:

a. Ease of use, including easy to set up, store and can be used at any time.
b. The time that needs to be used for implementation should be short, fast and precise.
c. The attractiveness of the device to student interest.
d. Easy to interpret by expert teachers and other teachers.
and. It has the same equivalent so it can be used as a substitute or variation.

The practical aspects seen in this research include implementation, constraints and time. To measure practicality related to the development of instruments in the form of learning materials, Nieveen Oktaviandy (2012: 8) believes that to measure practicality by looking at whether teachers (and other experts) consider that the material is easy and can be used by teachers and students. Thus, practicality is related to the ease of teachers and students using the products that have been developed. Usually, researchers observe the activities carried out by teachers in implementing learning and obtain the level of practicality from the responses of teachers and students through questionnaires distributed.

METHODS

This type of research is development research which consists of five stages, namely: the analysis stage (*Analyze*), planning level (*Design*), development stage (*Developent*), implementation level (*Implementation*), and evaluation stage (*Evaluation*).

Technical Data Analysis
a) Data analysis of learning media validation results

The data analysis technique used in this research is quantitative data analysis technique. Product assessment is based on a questionnaire that has been filled out by 4 validators (experts) consisting of 2 mathematics lecturers, 1 language lecturer and 1 mathematics teacher at SMK Negeri 6 Padang. then analysed to determine the level of validity of the product being developed. Validity analysis using scales *Likert*, which consists of five categories and questionnaire statements are positive and negative. Positive statements in the strongly agree category have the highest weight or score and the strongly disagree category have the lowest weight or score. Conversely, negative statements in the strongly disagree category have the highest weight or score and the strongly agree category have the lowest weight or score. (Baso Intang Sappaile, 2007:2). In determining the categories of a scale *Likert*, can be in the form of: Strongly disagree, disagree, unsure, agree, strongly agree; or never, rarely, sometimes,

often, always, depending on the concept to be measured (Baso Intang Sappaile, 2007: 5).

RESULT AND DISCUSSION

The results of the research and development carried out by the author are mathematics learning media using applications PowToon to improve the learning outcomes of class XI Clothing students at SMK Negeri 6 Padang in the form of videos.

Level of Analysis

This analysis stage was carried out on class XI Clothing students at SMK Negeri 6 Padang. The analysis stage consists of three steps, namely, beginning-to-end analysis, curriculum analysis, student analysis (language development, academic abilities, students' way of learning). From these three steps the author obtained a preliminary to final analysis, namely, students' disinterest in learning mathematics, lazy learning mathematics, students' learning outcomes are still low, there is no use of media in learning (only books and modules), so students need variety. media in learning, namely media that can be used anytime and anywhere. In curriculum analysis, the author knows the most important parts of the material to be studied which are arranged systematically in learning media.

In analyzing the students, the author found that the language used in learning should be Indonesian which is appropriate to the students' level of understanding and is easy for students to understand. On average, only a few students have low-medium abilities with high abilities. Meanwhile, from this analysis stage, it is also known that students have different ways of learning. Ways of learning or also called learning styles, according to De Poter and Hernacki in (Jeanete Ophilia P and Neleke Huliselan, 2016: 58 and 59) learning styles are divided into three groups, namely, visual, auditory and kinesthetic learning styles. From the results of the analysis carried out by the author, it is known that the learning methods/styles of class XI Busana SMK Negeri 6 students have different learning methods/styles. However, most students have a way of learning that is classified as visual

Planning Level

This product analysis is carried out to analyze existing products that are applied in schools in the learning process. The purpose of this analysis is so that the products developed do not have similarities with existing teaching materials/learning media. The learning media designed is an 11-minute learning video.

Development Stage

After the learning media design stage is carried out, validation is then carried out to obtain valid learning media. Validation of this learning media was carried out by four validators by filling in a validation sheet. Validation of this learning media consisted of positive statements and negative statements with five aspects, namely (1) Design, (2) Pedagogy (3) Content, (4) Ease of Use, (5) Language.

Implementation Stage

After the media and instrument sheets are validated, the next step is to test the learning media developed. This learning media is tested in class XI Clothing at SMK Negeri 6 Padang.

Evaluation Stage

After the learning media was tested in the research class, the practicality of the learning media was tested by distributing questionnaires to subject teachers and students. The questionnaire contains positive statements and negative statements consisting of five aspects, including (1) Ease of use, (2) Time, (3) Attractiveness, (4) Easy to interpret, (5) Having the same equivalence. The results of the learning media practicality test can be seen in the table below.

Learning Media Practicality Test Results According to Teacher Responses

Practicality questionnaires were given to teachers after the learning process had been carried out up to the third meeting. The results of the practicality test according to teacher responses can be seen in the table below.

Table 1. Average Learning Media Practicality Test Results According to Teacher Responses (Positive Statements).

Rated aspect	Percentage (%)	Category
Ease of Use	87,5	Very Practical
Time	75	Practical
Attractiveness	75	Practical
Easy to interpret	83	Very Practical
Have the Same Equivalence	91,6	Very Practical
Rate-rate	82,42	Very Practical

In Table 1, it can be seen that the practicality test (positive statement) using the practicality questionnaire according to teacher responses was 82.42% with very practical criteria. This is in accordance with Riduwan's opinion in (Raudhatul Jannah 2017:433), that on average all aspects of the practicality of learning media with an interval of 81-100% are included in the very practical category. Thus, learning media uses applications powtoon stated to be very practical because this media can make it easier for teachers to present learning in a simple way, the time used is very effective, and the energy needed by teachers to complete learning is also not too large.

Table 2. Learning Media Practicality Test Results According to Teacher Responses (Negative Statements)

Rated aspect	Percentage (%)	Category
Ease of Use	87,5	Very Practical
Time	75	Practical
Attractiveness	87,5	Very Practical
Easy to interpret	100	Very Practical
Have the Same Equivalence	75	Practical

Rate-rate	85	Very Practical

In Table 2, it can be seen that the results of the practicality test (negative statement) using the practicality questionnaire according to the teacher's response were 85% with very practical criteria. This is in accordance with Riduwan's opinion in (Raudhatul Jannah 2017: 433), that on average all aspects of the practicality of learning media with an interval of 81-100% including the very practical category. So it can be concluded that the practicality questionnaire according to teacher responses to learning media is easy to use, easy to present and easy to understand.

Overall, the assessment of the practicality of learning media from student responses to positive statements can be seen in the table below.

Table 3. Learning Media Practicality Test Results According to Overall Teacher Responses

No	Aspect	Percentage (%)	Category
1	Ease of use	87,5	Very practical
2	Time	75	Practical
3	Attractiveness	81,25	Very practical
4	Easy to interpret	91,5	Very Practical
5	Have the same equivalence	83,3	Very practical
	Rate-rate	83,71	Very practical

Based on Table 3, it can be seen that the results of assessing the practicality of learning media from overall teacher responses, for positive and negative statements, were 83.71% in the very practical category.

Learning Media Practicality Test Results According to Student Responses

Practicality questionnaires were given to students after following the learning process using learning media for three meetings. The following are the results of the learning media practicality test according to student responses, which can be seen in the table below.

Table 4. Media Practicality Test Results

Rated aspect	Percentage (%)	Category
Ease of Use	81,2	Very Practical
Time	75,69	Practical
Attractiveness	96,6	Very Practical
Easy to interpret	78	Practical
Have the Same Equivalence	86,80	Very Practical
Rate-rate	83,64	Very Practical

In Table 4, it can be seen that the average score for the questionnaire assessment of the practicality of students' responses to learning media in the form of videos with positive statements for each aspect is at 75.69% to 96.6% in the practical and very practical categories. This is in accordance with Riduwan's opinion in (Raudhatul Jannah

2017:433), that on average all aspects of the practicality of learning media with an interval of 81-100% include very practical categories. Thus the results of validating learning media are very practical.

Table 5. Learning Media Practicality Test Results According to Student Responses (Negative Statements)

Rated aspect	Percentage (%)	Category
Ease of Use	70	Practical
Time	66	Practical
Attractiveness	80	Practical
Easy to interpret	72	Practical
Have the Same Equivalence	64	Practical
Rate-rate	70,4	Practical

In Table 5, it can be seen that the average score for the questionnaire assessment of the practicality of students' responses to learning media in the form of videos with negative statements for each aspect is at 64% to 80% in the practical and very practical categories. This is in accordance with Riduwan's opinion in (Raudhatul Jannah 2017:433), that on average all aspects of the practicality of learning media with an interval of 61-80% are included in the practical category. Thus the results of validating learning media are very practical.

Overall, the assessment of the practicality of learning media from students' responses to negative statements can be seen in the table below.

Table 6. Learning Media Practicality Test Results According to Overall Student Responses

Rated aspect	Percentage (%)	Category
Ease of Use	75,6	Practical
Time	70,85	Practical
Attractiveness	88,3	Very Practical
Easy to interpret	75	Practical
Have the Same Equivalence	75,4	Practical
Rate-rate	77,03	Practical

Based on Table 6, it can be seen that the results of assessing the practicality of learning media from overall student responses, for positive and negative statements, are 77.03% in the practical category.

CONCLUSION

The research carried out is development research using a development model *ADDIE* The material used in this learning media is opportunity. The conclusions from the research that has been carried out are the results of testing the practicality of learning media using applications *PowToon* The practicality test results obtained were 83.71% for teacher responses and 77.03% for student responses. Based on the test results of

teacher and student responses, it was stated that the learning media developed was practical and suitable for use.

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