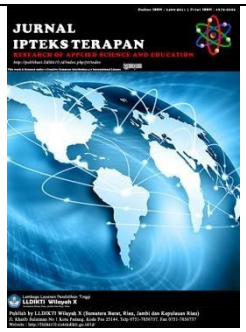

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VALIDITY OF ANDROID-BASED DIGITAL COMIC MEDIA IN LEARNING PRINTING GRAPHIC DESIGN FOR VOCATIONAL STUDENTS

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Abstract

The learning process is an effort made by a teacher to teach students to achieve learning goals. The attractiveness of the learning media used by teachers is one of the things that can increase students' interest in learning. This research aims to determine the validity of the development of Android-based digital comics in the Print Graphic Design subject at SMKN 1 Gunung Talang. The research method used is quantitative descriptive. The research instrument includes validator sheets from media experts and material experts. The validity analysis of digital comics was validated by 1 media expert and 1 material expert. The results of media validation from the media expert aspect obtained a value of 91% and the results of data analysis from instruments that had been filled in by material experts obtained a value of 87%. From these two results, the media developed is declared valid. So it can be concluded that digital comics in the Print Graphic Design subject are valid as learning media. However, further research stages must still be carried out so that this learning media can be used in the teaching and learning process by looking at the user aspect.

Keywords: Instructional Media, Digital Comics, Android. Graphic Design, Vocational

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INTRODUCTION

The development of technology and information has a significant influence on human learning patterns. One of the impacts that can be felt from the development of technology and information is developments in the world of education. In the learning process, teacher and student skills are needed to face the impact of technological developments (Amilenita Islam Nuriza, 2022). The development of technology and information in the world of education has resulted in a transition in the interaction process (Aziz et al., 2022), especially after it has been developed. The development of education has succeeded in digitalizing all aspects. But in reality technological advances are still not utilized optimally in the learning process, especially in the use of learning media (Syahmi et al., 2022).

Learning media is one of the tools that a teacher must have in the teaching process in order to increase interest in learning. According to(Suryadi, 2015) revealed that learning media is one of the supporting factors for the development of the education system which can be utilized using technology. The existence of media can help increase students' interest in reading, understanding, make learning easier, and the form of presenting information is also more interesting (Abd Muis et al., 2021). Learning media also has an influence on the process of conveying information or learning in schools (Fitri et al., 2023).

In increasing students' interest in reading, understanding, making it easier to provide information, of course by creating interesting media is one of the things that must be done in the learning process. There are several learning media that we can use that are not only dominant from text but must collaborate with audio, video and images so that it can be fun and there is variation in the media that is experienced by students (Anwar & Anistyasari, 2019).

One example of learning media that can support audio, visual, text, image and video aspects is digital comics. According to (Anwar & Anistyasari, 2019)several advantages of visual teaching media, namely, firstly, it is able to be interactive with users so that it increases students' interest in learning, secondly, it can increase students' independence in learning, meaning that by using this media, students will of course be able to use it anywhere and at any time with easy explanations of the contents of the media. to understand.

Based on observations conducted by researchers at SMKN 1 Gunung Talang, Solok Regency, researchers conducted interviews with teachers of the Printing Graphic Design subject who stated that there was no effective learning media for teachers in delivering material regarding drawing perspective shapes using CorelDraw. Teachers tend to deliver material using the lecture method, resulting in students tending to get bored quickly and doing many other activities besides listening to the teacher. The teacher also stated that if given assignments related to searching for materials or cases using Android, students tend to be enthusiastic and quick in working on the cases given. Based on this data, the researcher chose to develop digital comic media as a learning medium

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because digital comics in Printing Graphic Design subjects are not yet widely used. According to(Mukti Rahayu et al., 2023) Digital comics were chosen because they have advantages that are suitable for use as learning media, such as creating student interest, more interesting material and helping students understand abstract concepts, as well as through a storyline that covers the entire material using CorelDraw. The material presented is packaged into an illustrated storyline so that students can learn independently without instructions from the teacher (Triwulandari, 2021).

RESEARCH METHODS

The research method used is carrying out validation tests on the products being developed. At the research stage, the step taken is to define the product to be developed using information obtained from teachers who teach the Printing Graphic Design (DGP) subject. After knowing the information related to the media that will be developed, proceed with designing the Android-based digital comic. After the product is produced, a validation test is carried out to determine the validity of the media developed. The instrument used in this research is a digital comic validation instrument consisting of a media validation questionnaire and a material validation questionnaire.

Data analysis techniques for instruments filled in by validators use descriptive statistical analysis. For the valid category of media, 2 measurement scales are used, namely the Guttam scale with answer choices YES (valid) and NO (invalid). The value conversion on the Guttam measurement scale is that if the assessor answers YES then they are given a score of 1 and if the assessor answers NO then the score obtained is 0.

From the score tabulation, a value will be obtained which will later be used for calculations in the following steps: 1) determine the number of interval classes, namely valid and invalid; 2) determine the maximum score obtained from multiplying the number of indicator items multiplied by the highest scale, and the minimum score is obtained by multiplying the number of indicator items by the lowest value scale; 3) determine the length of the class interval obtained by dividing the score range by the number of classes and 4) convert the score obtained into a value. We can see the validity criteria in table 1. This is in accordance with research conducted by :

Valid Criteria for a Learning Media/Product	
Assessment Category	Value Interval
Valid	$(S_{min} + p) \leq S \leq S_{max}$
Invalid	$S_{min} \leq S \leq (S_{min} + p - 1)$

Table 1. Media Validity Criteria by Validator

RESULTS AND DISCUSSION

This research produces a product to be tested for its validity through the product validation aspect. Product validation is seen from validators who are experts in the field of learning media and material validators to adapt the themes raised in Android-based digital comics to the content of the material created by researchers. The results of the media design can be seen in the following image:

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Figure 1. Front view of digital comics

In Figure 1, you can see the design of the front page of the digital comic according to the comic actors chosen to be included in the comic content.

Figure 2. Character Information in Digital Comics

Figure 3. Instructions for using the application

Figure 4. Digital Comic Content

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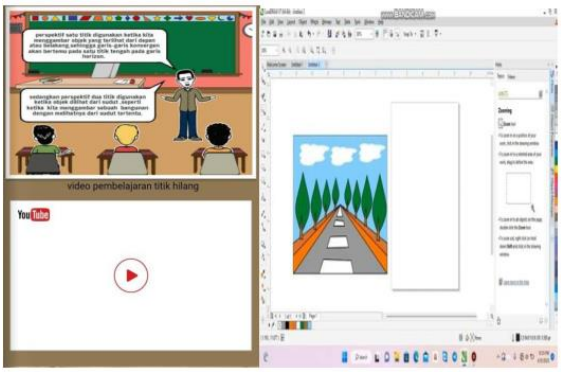

Figure 5. Video Display and Video Content in Digital Comics

The display of the comic content in Figure 4 is made with the concept of learning carried out in front of the class. The storyline is made according to comics in general, but this digital comic is equipped with a video containing DGP learning material. The video is designed and uploaded via YouTube so that when opening the video the user must be connected to the internet network. This can be seen in figure 5. After the design stage is carried out, the next step is to carry out the development stage of the learning media being developed. At this stage, two product validations are carried out, namely media validation and material validation. Results obtained from media validation carried out by validators who are experts in the media field.

Improvements were made in accordance with the validator's suggestions, namely by adding descriptions of subjects and classes that use digital comics as well as the name of the developer of the comic being designed. Next, the validator fills in the product validation instrument for media and material aspects. Below are displayed the assessment results from two validators.

No	Validator	Score	Validation Value	Information
1	Media Expert	66	91%	Valid
2	Materials Expert	35	87%	Valid

Table 3. Media and Material Expert Validation Results

Digital comics from the two validators states that the media developed is valid. From these results, the product developed meets the requirements both in terms of media and material aspects.

Android-based digital comic learning media in DPG subjects for vocational school students which has been researched by looking at design aspects and testing the validity of learning media through aspects of media validity and material validity. The media developed begins with defining, followed by design and finally development of Android-based digital comic media. The results of the definition were carried out by conducting observations and interviews with teachers who taught the DGP course at SMKN 1 Gunung Talang. From the results of observations, the problem was found that the media used by teachers did not yet use learning media in the form of Android-based digital comics. Teachers still tend to use books or printed modules as learning media. Teachers need a variety of learning media in learning in order to increase students' interest in learning. The teacher also stated that in the learning process students are allowed to use Android cellphones. From the results of the observations made, the next step was to develop learning media in the form of Android-based digital comics by creating storyboards . Researchers also prepare material related to DGP subjects which will be presented in comic form. In

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designing Android-based digital comics, use the help of the PDF flipbook application and the flip builder application.

The steps in creating a digital comic design according to (Ulfa et al., 2022), consist of several stages. First, you must determine the theme of the comic that will be developed. Second, determine the core and basic competencies as well as the objectives of the learning that will be created in the comic. Third, choose/create actors or actors in comics. Fourth, create a scenario or storyline that is adapted to the material you have chosen. Fifth, namely making a storyboard consisting of a cover, background, and interesting comic coloring.

Developing learning media must be adjusted to the goals that must be achieved in the learning material. According to (Abidin, 2017)there are two types of media consisting of by ultilization with the intention that existing media can be used and adapted to learning objectives; Digital comic media is a product by design , namely learning media prepared from the start by researchers taking into account certain learning objectives and materials. This is also in accordance with the opinion that (Surahmi et al., 2022)in designing learning media teachers must adapt it to the learning material created. According (Aeni et al., 2022)to the basis for making a comic that will be applied in learning, of course you have to consider the colors, the attractiveness of the design, the comic theme chosen with the aim of making students interested in using comics as one of their learning materials.

To determine the suitability between the data that has been obtained from the research object and the data obtained is often referred to as validity. A data is said to be valid if the data does not deviate from the data collected. The stages carried out in this research were testing by experts on the Android-based digital comics that the researchers had developed. At the development stage, Android-based digital comics on DGP subjects were validated by two experts, namely media and materials. According to (Puspita et al., 2022)the research carried out, it must be based on existing facts by including responses or responses both verbally and in writing related to media interest and material written through the product assessment instrument sheet. The validation results by media experts produced a score of 91% in the Valid Android-based digital comic media category. Validation by material experts resulted in a percentage of 87% with valid criteria. From this data, of course the product in the form of Android-based digital comic media that has been designed is declared valid and can be used for the learning process

CONCLUSION

Based on the results of the validation, an Android-based digital comic learning media has been produced for DGP students for vocational school students which was declared valid by the Validator. The media developed was tested by two validators, namely a media expert validator and a material expert validator. The media validation results obtained by these two validators were categorized as valid with the resulting data analysis value being 91% for the media aspect and 87% for the material aspect. So it can be interpreted that the media that has been developed is valid. In the development of

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Android-based digital comics, research was only carried out limited to looking at the validity of the media. So from these results it is recommended that future researchers can develop it to a further stage so that the media developed can be used in accordance with suggestions from users to see its effectiveness.

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