

Design of E-Learning Media Modules Based on FlipBook Maker Pro in Basic Computer Networking Subjects at SMKN 1 Tanjung Raya Even Semester Academic Year 2021/2022

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Abstract

This research and design aim to produce an E-Module based on FlipBook Maker Pro for class X TKJ students at SMK Negeri 1 Tanjung Raya. This study uses research and development methods (Research & Development). The design of this study used the model (ADDIE). By design the development steps are as follows (1) Analyze, (2) Design, (3) Development, (4) Implementation (5) Evaluate. The results of the validity test by the experts as a whole amounted to 86.85% so the level of validity can be interpreted as valid to use. The result of the overall practicality test assessment is 82.83% so the practicality level can be interpreted as practical to use. The results of the assessment of the overall effectiveness of the test items are 85.57% so that level of effectiveness can be interpreted as being effectively used. In conclusion, based on the assessment along with expert input and the results of the field trial, the E-Module based on FlipBook Maker Pro has been tested to be valid, practical, and also effective in being used in the learning process on Basic Network Computer subjects for class X TKJ at SMKN 1 Tanjung Raya.

Keywords: learning media, E-module, Computer, and Basic Network

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Introduction

Teaching and learning are an interaction or reciprocal relationship between educators and

students in educational situations (Clarindo et al., 2020); (Claessens et al., 2017); (Mafarja et al., 2023). Therefore, education in teaching requires patience, tenacity, and an open attitude in addition to the ability to be in a more active teaching and learning situation (Chen et al., 2020). Students are formed to be more creative, independent, and innovative in developing themselves, abilities, and skills through mastery learning, as well as the methods used by teachers (Ovbiagbonhia et al., 2019); (Mróz & Ocetkiewicz, 2021); (Voskamp et al., 2022). Therefore, teachers use media in the teaching and learning process (Sudarsana et al., 2019); (Kristin & Setyawan, 2021). All forms of physical equipment designed in a planned manner to convey information and build interaction are called learning media (Dwivedi et al., 2023). Original objects, printed, visual, audio, audio-visual, multimedia, and web materials are the physical equipment in question. The advantages of e-module learning media are that they can learn independently anywhere and anytime using a laptop/PC or smartphone. The advantages of the E-Module Learning Media include allowing students to learn independently with the learning materials provided in it and exercises, so the researcher's question is whether the E-Module learning media using FlipBook Maker Pro which is designed is valid for use in Basic Network Computer subjects for Class X TKJ at SMKN 1 Tanjung Raya. Is the E-Module learning media using FlipBook Maker Pro which is designed to be practical for use in Basic Network Computer subjects for Class X TKJ at SMKN 1 Tanjung Raya? Is the E-Module learning media using FlipBook Maker Pro which is designed to be effectively used in the Basic Network Computer subject for Class X TKJ at SMKN 1 Tanjung Raya? The research conducted will provide output in the form of E-Module learning media products that students use for independent study and access to learning materials.

Methodology

The research method used is the R&D (research and development) method, namely research and development, which is a method that produces certain products and tests their effectiveness of these products (Aji et al., 2023); (Kumullah & Tayibu, 2021); (Setyowati* et al., 2022). To produce a product, it is necessary to conduct research that is a needs analysis because it is to test the effectiveness of the product so that it can be useful in the learning process. There are ten steps in the research and development method which are shown in the chart in Figure 1.

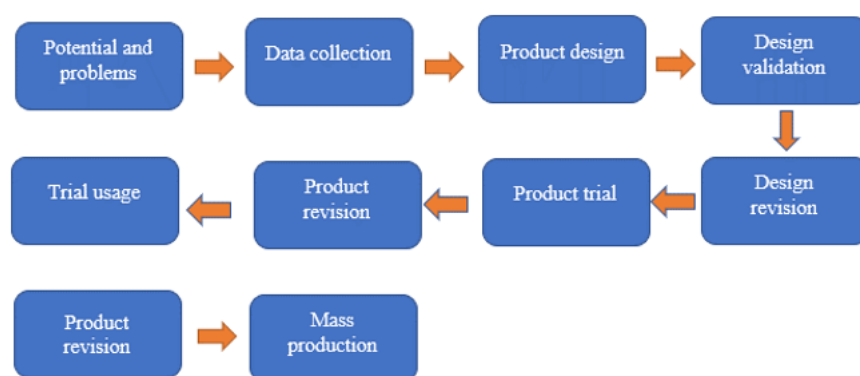


Figure 1. Steps of R&D research methods

Based on Figure 1 the research steps start from identifying the problem, analyzing the problem by collecting data related to product design and making the product optimally, then testing and revising under the suggestions obtained at the time of the research, then testing and distributing the product. Based on Figure 1 Research steps 2. 1. Development Model The development model in this study uses the Analysis-Design-Development-Implementation-Evaluation (ADDIE) model. The ADDIE model is a model that serves as a guide in building

training program tools and infrastructure that is effective, dynamic, and supports the performance of the training itself. Often used to describe a systematic approach to instructional development and also provide opportunities for continuous evaluation and revision in the stages that are passed so that the resulting learning media will become valid learning media to use. ADDIE Research Flow can be seen in Figure 2.

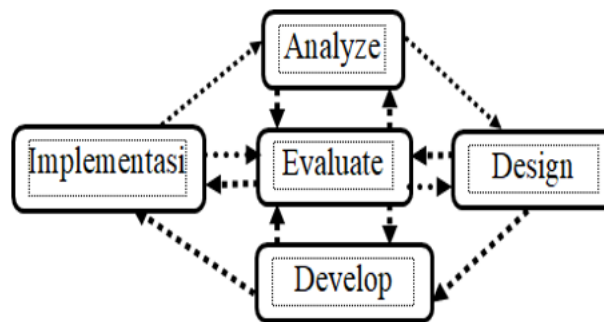


Figure 2. ADDIE development model

Development Stage

The learning design scheme using the ADDIE model forms a cycle consisting of 5 stages, namely: the analysis stage, the design stage, the development stage, the implementation stage, and the evaluation stage (Irvy, 2020).

1. Analysis

The first step in producing or creating e-module learning media products with the ADDIE model is to analyze the required product specifications.

2. Design (Design)

In this design stage, the researcher begins to design the product that will or wants to be made. The e-module learning media using sigil is designed according to the analysis that has been carried out in the previous stage.

3. Development

This development stage is the stage where a revised validity test will be carried out based on the input provided by the validator. The validity test aims to determine the feasibility of using e-module learning media using sigil.

4. Implementation

After testing the validity of the product, the next step is to do a practical test. The practicality test is the stage of testing the learning media carried out by students.

5. Evaluation

The last stage is the evaluation stage. This evaluation stage is carried out by obtaining assessments and responses from the tests that have been collected.

Results

The E-Module learning media using FlipBook is designed to make it easier for teachers in the teaching and learning process and make it easier for students to understand basic Computer and Network learning materials (Surahman et al., 2023); (Shahid et al., 2021). The components of the learning media are as follows:

Cover Page

The cover is the initial display when opening the e-module. On this cover page, there are names of subjects and e-modules.



Figure 3. Cover page



Figure 4. Picture of exercise pages learning activities 1

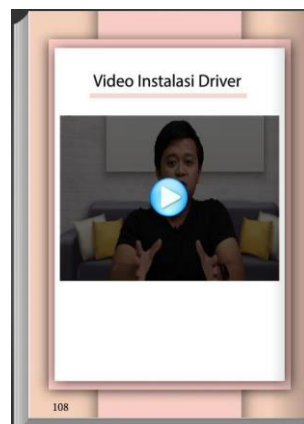


Figure 5. Video image of learning activity page 6

Discuss

Based on the results of research from E-module learning media products in the subjects of Computer and Basic Network X TKJ at SMKN 1 Tanjung Raya. The Design of E-Module Learning Media Based on Flipbook Maker Pro on Basic Networking Computer Subjects at SMKN 1 Tanjung Raya Even Semester of the 2021/2022 Academic Year is valid because it has been tested by three validators with the average results on validator testing, namely 85,57%. The distribution of respondents can be seen in Figure 6 (Daud et al., 2022); (Triwahyuningtyas et al., 2020).

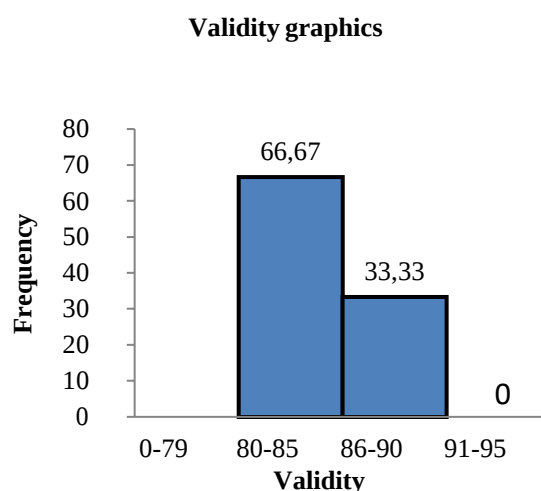


Figure 6. Validity questionnaire histogram

The results of the overall study of the practicality test assessment of E-Modules in computer and basic network learning media were 82.83% so that the level of practicality could be implemented practically and used and the overall research results for the distribution of respondents can be seen in Figure 7 (Spilt et al., 2011); (Ibrahim & El Zaatari, 2020).

Conclusion

This research and design aim to produce an E-Module based on FlipBook Maker Pro for class X TKJ students at SMK Negeri 1 Tanjung Raya. The results of the assessment of the overall effectiveness of the test items are 85.57% so that level of effectiveness can be interpreted as being effectively used. In conclusion, based on the assessment along with expert input and the results of the field trial, the E-Module based on FlipBook Maker Pro has been tested to be valid, practical, and also effective in being used in the learning process on Basic Network Computer subjects for class X TKJ at SMKN 1 Tanjung Raya.

Conflicts of Interest

The authors declare no conflict of interest

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