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Development of Discovery Learning-Based History E-Modules in Class XI History Learning at the Senior High School Level

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Abstrak

Penelitian ini bertujuan untuk mengembangkan sebuah media pembelajaran berupa e-modul sejarah berbasis *discovery learning* pada pembelajaran sejarah kelas XI di tingkat SMA. Jenis penelitian ini adalah *Research and Development* (penelitian dan pengembangan). Model pengembangan yang digunakan adalah model pengembangan ADDIE (Analysis, Design, Development, Implementation, Evaluation). Hasil penelitian ini menunjukkan bahwasanya e-modul yang dikembangkan valid dan praktis dengan rincian: Pertama, materi di dalam e-modul yang dikembangkan berkategori sangat valid dengan persentase 95,2%. Pada aspek media mendapatkan kategori sangat valid dengan persentase kevalidan mencapai 93,6% dan validitas dari aspek bahasa juga mendapatkan kategori sangat valid dengan persentase kevalidan 94,6%. Kedua, e-modul sejarah yang dikembangkan berada pada kategori sangat praktis dengan persentase nilai akhir 85,33% dan 89,80% yang masing-masing didapatkan dari analisis data angket praktikalitas guru dan peserta didik. Berdasarkan pemaparan di atas, maka dapat disimpulkan bahwa e- modul sejarah berbasis *discovery learning* pada pembelajaran sejarah kelas XI di tingkat SMA yang dikembangkan sudah layak digunakan dalam proses pembelajaran.

Kata kunci: pengembangan, e-modul, *discovery learning*.

Abstract

This research aims to develop a learning media in the form of a discovery learning-based history e- module in grade XI history learning at the high school level. This type of research is Research and Development (research and development). The development model used is the ADDIE development model (Analysis, Design, Development, Implementation, Evaluation). The results of this study indicate that the e-modules developed are valid and practical with details: First, the material in the e-module developed is categorized as very valid with a percentage of 95.2%. In the media aspect, it got a very valid category with a percentage of validity reaching 93.6% and the validity of the language aspect also got a very valid category with a percentage of validity of 94.6%. Second, the developed history e-module is in the very practical category with a final score percentage of 85.33% and 89.80%, respectively obtained from the analysis of teacher and learner practicality questionnaire data. Based on the explanation above, it can be concluded that the discovery learning-based history e-module in class XI history learning at the high school level developed is feasible to use in the learning process.

***Keywords**: development, e-module, discovery learning.*

INTRODUCTION

Education is one of the basic needs in the life of humans who think about how to live in this world in order to survive and carry out the duties of the Creator to worship. Humans as creatures given advantages by Allah Subhanahuwata'alla with a form of reason in humans that other creatures of God do not have in their lives, that to process their minds an educational pattern is needed through a learning process, (Husnita et al., 2021).

Educational activities can be in the form of training, guidance and teaching. In order for educational goals to be achieved properly, education is required to always innovate according to the needs of the times. One of the innovations that can be applied is the use of technology in education.

The use of technology in education is very important. Technology must be used as optimally as possible in order to meet the teaching and learning needs of the current generation of students. The current generation has different characteristics than the previous generation and the influence of the times is the main reason for the difference in characteristics. The characteristics of the current generation are technology literacy and enjoy all activities related to technology, think practically and tend to like to do many things at the same time. For this reason, it is very important for educators to be able to design learning designs that are in accordance with current developments so that they can be a solution for students in facing the challenges of development itself.

One of the applications of technology in education can be done in the form of e-module development. The e-module design is considered very creative and suitable for the current generation of students. The development of this e-module is also adjusted to the habits of students who tend to spend more time using gadgets or smartphones. This e-module is expected to be able to bring students closer to their learning materials, where the material can be accessed directly through smartphones, computers, or other gadgets in the form of electronic modules.

Some studies that are relevant to this research include: *First*, a study entitled "Development of History E-module-Based Teaching Materials to Improve the Student Learning Process in Class XI MIPA 4 SMAN 3 Padang" by Della Fuji Astuti (2018) which concluded that the development of E-module-based teaching materials in History learning produced was valid with a percentage of 87.6% and feasible to use as one of the learning resources for class XI students at SMAN 3 Padang. The relevance of research conducted by Della Fuji Astuti (2018) with this research lies in the similarity of the type of research, namely Development research. The difference is that the research conducted by Della Fuji Astuti (2018) developed teaching materials in the form of e -modules, while this study aims to develop discovery learning-based history e-modules.

Second, a study entitled "Validity of E-Modules Based on Problem Based Learning on Environmental Change Material for Class X SMA/MA" by Meldrawati, et al (2023). This study succeeded in developing problem-based learning-based e-modules categorized as

very valid and feasible with an average score obtained of 98.5%. The relevance of the research conducted by Meldrawati, et al (2023) with this study also lies in the similarity of the type of research, namely development research. The difference is that the e-module developed by Meldrawati, et al (2023) is based on Problem Based Learning which is carried out on grade X environmental change material, while this research develops Discovery Learning-based history e-modules for grade XI students on the material of the proclamation of Indonesian independence.

Third, a study entitled "Development of Digital Comic Media in Learning History Class X SMAN 2 Tilatang Kamang on Early Civilizations in the Indonesian archipelago" by Randa Ferdiansyah, et al (2023). This study successfully developed digital comic media categorized as very valid and very good with an average validity score of 83.4%. The relevance of research conducted by Randa Ferdiansyah, et al (2023) with this research lies in the similarity of the type of research, namely development research. The difference is that the research developed by Randa Ferdiansyah, et al (2023) is related to the development of digital comic media, while this research develops discovery learning-based historical e-modules for grade XI students on the material of the proclamation of Indonesian independence.

The difference between this discovery learning-based history e-module and other modules is in the application used. This e-module was created using the Canva application. This e-module is designed with more features, such as quizzes, simulations, material explanation videos that facilitate a deeper and more interesting understanding of the material. The e-module is equipped with an automatic evaluation feature, which allows users to immediately know the results of the exercises or quizzes they do, so that the learning process becomes more effective and efficient.

Referring to the initial observations made on July 24, 2023-September 2, 2023 at SMAN 8 Sijunjung, it appears that there are several problems in the learning process in class XI IPS in history subjects. One of them is still using instructional teaching methods where learning resources only focus on the teacher, so that students are less active in learning.

Because of the number of students in class XI IPS 2 who did not respond when the teacher gave history lessons due to the lack of interest of students in learning history, the researchers saw that class XI IPS 2 needed a creative and innovative learning media so that students were not bored in following the history learning process.

METHODS

This type of research is development research (Research and Development). Development research is a research method used in order to produce a certain product and test the effectiveness of the product. In this study, researchers chose the ADDIE model as a research model because it was felt to be very in accordance with this research, namely the development of discovery learning-based history e-modules in grade XI history learning at the high school level.

The population in this study was taken from all XI classes of SMAN 8 Sijunjung which amounted to 3 classes, namely XI IPS 1, XI IPS 2, and XI IPA with a total of 58 students. Because those who will do the trial e- historical module based on discovery learning is class XI IPS 2 then the sample is the students of class XI IPS 2 which amounted to 17 people.

The instrument used for data collection in this study was a questionnaire. In this study, three instruments were made in the validation aspect, namely the validation of material experts, media experts, and linguists whose rating scale used a Likert scale with details of answers strongly agree, agree, doubt, disagree, strongly disagree (SS, S, RG, TS, STS).

Data analysis used in this development research is data processing previously obtained through research instruments that are carried out in accordance with the procedure. The data analyzed in this study are quantitative data, namely in the form of analysis of validity tests by experts and analysis of the practicality of e-modules. At the stage of the validity test analysis by experts using the following formula:

$$\text{V-ah} = \frac{\text{TSe}}{\text{TSh}} \times 100\ \%$$

The level of validity of the development research product is identified with the score presentation. The greater the score obtained, the better the product development. The criteria for decision making in expert validation can be seen in table 1 below:

Table 1. Validation Rating Scale

No	Criteria	Percentage (%)
1.	Very Valid	81-100
2.	Valid	61-80
3.	Valid Enough	41-60
4.	Less Valid	21-40
5.	Invalid	0-20

Source: (Sa'dun, 2017)

The developed product was tested in the learning process after going through the validation stage to determine the level of practicality. Analysis of the practicality of this e-module is supported by data analysis of the practicality questionnaire components from teachers and students. From all item scores obtained, they were tabulated and the percentage was sought using the following formula:

$$P\ value = \frac{the\ number\ of\ scores\ obtained}{the\ maximum\ number\ of\ scores} \times 100\%$$

RESULTS AND DISCUSSION

This research was conducted at SMAN 8 Sijunjung which is located at JL. Tanjung Bonai Aur Monument, Sumpur Kudus District, Sijunjung Regency. SMAN 8 Sijunjung was established in 2003 and began operating in 2004. The research time took place in the even semester of the 2023/2024 school year.

The product produced from this research is a discovery learning-based history e-module for grade XI history learning at the high school level. This e-module was created and designed with the aim of being an instrument that can be used to teach about historical learning materials regarding the proclamation of Indonesian independence. The development of this e-module uses the ADDIE development model. The ADDIE model has 5 stages including Analysis, Design, Development, Implementation, and Evaluation. These stages are explained as below:

First, analyze. At the analysis stage, the methods used by researchers are observation and interviews. The data obtained from this initial research includes an analysis of the curriculum used, the conditions of learning activities, and the use of teaching materials so as to obtain an overview of product development that is tailored to conditions and needs.

Second, Design. In the design stage, a detailed product concept design is made, this activity starts from compiling the outline of the e-module content, compiling the e-module framework, and compiling the e-module Learning content.

Third, development. At this stage, researchers make learning e-modules in accordance with the plans that have been made previously. In the development process, researchers used the Canva application in making e-modules. The e-module contains material, learning videos, quizzes, and assignment questions. After the application is completed, then validate it by material, media, and language experts. Material expert validation includes aspects of content feasibility, language feasibility, and presentation feasibility. The result of the material expert validation assessment is 119 which is included in the "very valid" category with a percentage reaching 95.2%. Media expert validation includes aspects of screen design appearance, ease of use, usefulness, and graphical aspects. The result of the media expert validation assessment is 117 which is included in the "very valid" category with a percentage reaching 93.6%. Meanwhile, linguist validation includes linguistic aspects by obtaining an assessment result of 71 which is included in the "very valid" category with a percentage reaching 94.6%. A recapitulation of the results of expert validation can be seen in table 2 below:

Table 2. Recapitulation of Expert Validation Results

No	Indicator	Score	Percentage (%)	Categorized
1.	Material Feasibility	119	95.2 %	Very Valid
2.	Media Feasibility	117	93.6 %	Very Valid
3.	Language Feasibility	71	94.6 %	Very Valid
	Total	307	94.46 %	Very Valid

Fourth, Implementation. At this stage, the e-module that has been improved according to the suggestions of media experts and linguists is tested on one history teacher and students. after students have finished testing and working on quizzes, practice questions and evaluation of learning activities, students fill out a response questionnaire to the e-module that has been used. The result of the practicality assessment by the teacher is 64 which is included in the "very practical" category with a percentage of 85.33%. While the results of the practicality assessment by students were 1.145 which included the category "very practical" with a percentage of 89.80%. A recapitulation of the acquisition of practicality results by students can be seen in table 3 below:

Table 3. Data on Practicality Questionnaire Results by Students

No	Statement	Score	Percentage (%)	Categorized
1.	Response value of student's practicality	1.145	89.80%	Very Practicality

Fifth, evaluation. After going through the process of the previous stages, the e-module development received some improvements that must be made based on the results of the assessment of material experts, media experts, linguists and teacher and student responses to the e-module. Based on the results of the assessment of the e-module, it can be concluded that the discovery learning-based history e-module in class XI history learning at the high school level is valid and practical to use.

The learning e-module is based on the discovery learning model. In English, the term discovery means discovery and learning means learning. Therefore, discovery learning means discovery learning. The steps in the discovery learning model are as follows:

First, providing stimulation (Stimulation). At this stage, learners are given problems that have no solution so as to motivate them to investigate and solve these problems. At this stage learners actively make observations of the data, images, or videos displayed.

Second, problem identification (Problem statement). At this stage learners are given the widest possible opportunity to identify problems from various sources, then one of them is chosen to formulate a hypothesis. Educators provide questions and learners are given the opportunity to identify as

many problems as possible related to the Proclamation of Indonesian Independence.

Third, data collection. After exploration takes place, learners are given the opportunity to collect as much relevant information as possible to prove whether or not the hypothesis is correct. This stage serves to answer the question or prove whether the hypothesis is true or not.

Fourth, data processing. The next step is that students are directed to process data, students discuss processing data by analyzing or summarizing the information obtained, as well as by answering questions on the material of the Proclamation of Indonesian Independence.

Fifth, verification. Learners are guided to examine and prove the hypothesis that has been compiled, by connecting to the results of data processing. This proof aims to provide a meaningful learning experience, because students are given the widest possible opportunity to find theoretical concepts, rules, understanding, through examples found in life.

Sixth, drawing conclusions (Generalization). The last stage is the process of drawing conclusions that can be used as general principles and apply to all the same events or problems, taking into account the results of verification. Based on the results of verification, the principles underlying generalization are formulated.

With the existence of discovery learning-based history e-modules in class XI history learning at the high school level, it is hoped that it will be able to help teachers and students in the learning process, especially helping to increase student learning motivation. In addition, it is also expected that this e-module can be used as an example of teaching material that can be used as a reference for making other teaching materials in the future. Thus e-modules can be useful for teachers, students, and the wider community.

CONCLUSION

Based on the research data and discussion above, it is concluded that the development of e-modules in history learning includes validation from experts, namely material experts, media experts, and linguists. So that the e-module validation data is obtained after it is processed. The e-module media was declared very feasible after validation with data processing reaching 94.46% with the predicate "Very valid". The e-module was declared practical after processing the research data obtained from the questionnaire, and the practicality test by the teacher on the use of the media obtained 85.33% with the category "very practical while the practicality of students obtained a total score of 1.145 with a percentage level worth 89.80% with the category "very practical".

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