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Development of E-Modules Using Smart Apps Creator to Improve Learning Outcomes of Islamic Cultural History Grade V

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Abstract:

This study aims to develop digital teaching materials in the form of E-modules using Smart Apps Creator in learning Islamic Cultural History that are valid and effective, and can improve student learning outcomes on the material of the exemplary story of Abu Bakar Ash-Shiddiq as a friend and caliph. The development of android-based E-modules follows the Rowntree model which is integrated with the FDD (Feature Driven Development) model which has five stages of the process (Build an Overall Model, Build a Feature List Plan by Feature, Design by Feature and Build by Feature). The research subjects were material experts, instructional design experts, and learning media experts as well as MIT Salsabila students. The sample in this study was class V A. The effectiveness test was carried out by comparing the pretest and posttest scores. The results showed that the quality of the E-module developed was classified as very valid (9302%), very good in the one to one trial (93.96%) very good for small groups (94.29%) and very good for large groups (94.86%). While the t_count value is 6.4915 and the t_table value at a significant level of 5% is 2.0859 then t_count>t_table or 6.4915>2.0859, so h_a is accepted and h_0 is rejected, thus there is a significant difference in the ability between students after being given treatment in the form of using E-Modules. This shows that this E-module is feasible and effective and can facilitate students in analyzing the exemplary story of Abu Bakar Ash-Shiddiq as a friend and caliph.

Keywords: E-Modul, FDD, History of Islam, Rowntree, Smart Apps Creator

1. INTRODUCTION

Education is an important aspect in shaping students' understanding of cultural and historical values (Mamurov et al., 2020). In an effort to improve the quality of education, information and communication technology (ICT) has become an important factor in improving the quality of education (Goh & Sigala, 2020). The use of mobile applications in educational contexts has proven to be an effective tool to enhance learning.

Along with the development of technology, many mobile applications have been developed to support the learning of various subjects (Criollo-C et al., 2021). However, in relation to the subject of Islamic Cultural History, there is a need to develop a mobile application that is specifically about the exemplary stories of the khulafaur Rashidin.

The problem that became the source of the researcher's needs analysis was the need for more optimal efforts in providing learning materials in the classroom (Mursyida et al., 2024). Another problem is the difference in students' reading power such as in reading and understanding texts. Based on the results of the 2018 Program for International Student Assessment (PISA) released by the Ministry of Education and Culture (Kemendikbud), that the achievement of the ability of Indonesian students aged 15 years for reading literacy, mathematics and science is below the average OECD country (Ekowati et al., 2023). Of the three areas of literacy measured, the development of reading literacy is quite alarming. Weak reading skills continue to occur so that more than 55% of 15-year-old children in the PISA test are categorized as functionally illiterate, that is, they can read the text but are unable to answer questions according to the text (Graham, 2020). Ideally, students who are in high grades already have sufficient ability to understand reading as a follow-up to beginning reading. However, in reality there are still many students in grades 4-6 SD / MI who experience reading problems by not being able to understand reading (Nurkhasanah et al., 2023).

A more specific obstacle found from the results of teacher supervision is the lack of variety of methods, media, and learning resources used. In fact, to overcome boredom in students and create a new

effect in the learning process of Islamic Cultural History (SKI), teachers in delivering material should try to be creative or make new innovations in the teaching and learning process, such as integrating innovative learning methods assisted by learning media. The lack of a variety of methods, media, and learning resources used makes it difficult for students to understand material that requires visualization in learning related to events, figures, and places which results in students only being able to imagine abstractly. Whereas by using learning media tools, such as the use of comics, students can only imagine abstractly (Widyawati et al., 2024), use of interactive multimedia (Safira & Batubara, 2021) and interactive e-modules (Wulandari et al., 2022) then SKI learning will be more able to visualize historical contexts or events that are very old to be more acceptable in the form of visualization or other forms of media that are easily understood or easily accepted in the logic of students.

2. MATERIAL AND METHOD

This research uses a development research model or known as R & D (Research and Development). This research is intended to produce a product that has scientific value and then test the feasibility of the product that has been developed. The effectiveness test is carried out after the feasibility test is completed with the aim of knowing the effectiveness of the product on the learning process (Octaviana et al., 2022).

The collaboration of these two models is expected to minimize the shortcomings and weaknesses during the development procedure until the evaluation process is completed.
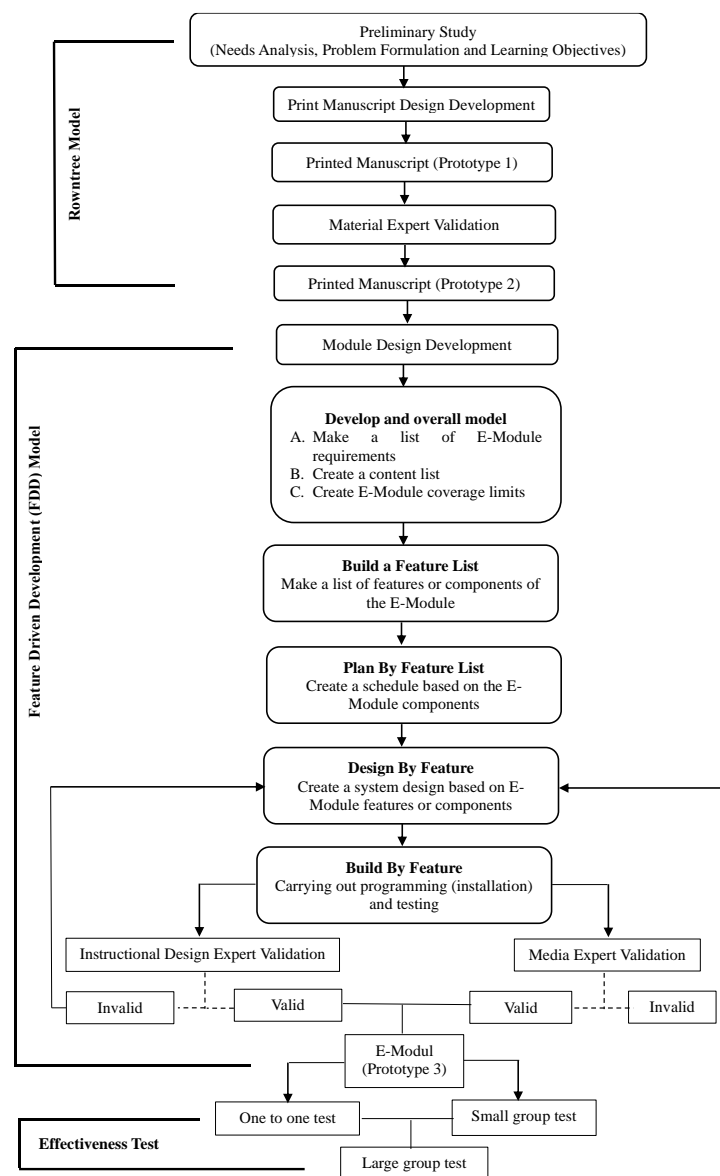

Figure 1. Research Flow Diagram

This research produces final products in the form of printed modules and E-modules. Module development was carried out in the Class V Islamic Cultural History subject on the material of the Exemplary Story of Abu Bakar Ash-Shiddiq as a friend and caliph using a model designed by Rowntree Herawati et al. (2023) which was collaborated with the FDD (Feature Driven Development) development model using Smart Apps Creator. The Feature Driven Development model can be used to develop models in the form of digital products (software).

FDD is a development process that is interactive and voluminous used in practical industry. This Feature Driven Development model consists of five simple processes (develop model, build feature list, plan, design and build by feature) and provide a good structure and overview of the E-Module creation project. It is hoped that the collaboration of these two models will minimize deficiencies and weaknesses during the development procedure until the evaluation process is completed.

In its development model, Rowntree has three levels. The first level is planning. Planning begins with the first stage, namely the analysis of students who will use the product being developed. The analysis that needs to be carried out is about demographic factors, student background, motivation, resource factors, and learning factors. The second stage is to formulate general and specific objectives by writing general objectives about the product to be developed in short sentences. The third stage is to prepare a content outline in the form of a rough description of the product to be developed. The fourth stage is determining the media that will be used to develop the selected material. The fifth stage is to consider existing teaching materials.

The second level in developing Rowntree's model is writing preparation. The first is to consider resources and constraints. The second is to sort writing ideas. Third is developing activities and feedback. Fourth is to determine examples related to the material discussed. The final stage is formulating the existing physical form.

The third level in Rowntree's development model is writing and editing. The first step is to start making a draft by paying attention to the readability level of the material that has been written so that students can easily understand the material being discussed. The second step is to complete and edit the initial draft. The third step is to write a learning assessment.

Learning assessment is carried out by giving questionnaires to students.

The next stage is a development step in creating an E-Module using the FDD (Featuring Driven Development) model. The first stage is Develop and overall model (developing the overall model). This analysis stage is carried out by analyzing the needs of E-Module users and other stakeholders, creating a list of content (information) that will be conveyed and establishing boundaries for the scope of the E-Module (Li et al., 2022). The second stage is Build a Features List (building a list of features). At this stage, a list of features or components of the E-Module is compiled. The third stage is Plan by Features (building a plan based on features). This stage is carried out by preparing a time schedule based on the E-Module components and compiling an E-Module flowchat. The fourth stage is Design by Features (designing based on features) Creating a system design based on features or components of the E-Module. The fifth stage is Buld By Features Carrying out programming (Installation) and testing.

The assessment of the E-Module is carried out by experts who are competent in the fields of media and instructional design and are able to provide criticism and suggestions for better media preparation. After carrying out the assessment, then carry out the testing phase and improve the learning materials. At this stage, one-to-one trials and small group tests are carried out and students are asked for help to find deficiencies or difficulties in the product being developed. Then notes are made on things that need to be improved and suggestions given by students. Make repairs if anything needs to be repaired. After the product has been repaired, carry out a large group test. In the large group test, it was carried out on 21 students to assess the product being developed and give questionnaires to the students. Analysis of feedback provided by students from the results of interviews and questionnaires given. The effectiveness test is carried out by comparing the pretest and posttest scores.

3. RESULT AND DISCUSSION

The development of E-modules using Smart Apps Creator to improve learning outcomes in the History of Islamic Culture subject at MIT Salsabila is based on the results of observations in the field. Based on the results of observations, it was found that it was difficult for students to understand the material on the History of Islamic Culture, which had an impact on student learning outcomes that were unsatisfactory. Students look bored and lack interest in learning

because the learning strategies are less varied in conveying Islamic Cultural History material. Students' need for learning resources that encourage independent learning activities where there is visualization of material related to events, characters and places makes some learning materials less than optimal even though the facilities at the school are quite adequate. The initial step taken by the author in developing E-module based learning was to analyze needs and objectives (Herlambang et al., 2022).

The next step is instructional analysis which is the overall process stage of explaining how designers determine the main components of instructional objectives through the use of objective analysis and how each step in the objective can be analyzed to identify subordinate skills or prerequisite skills (Bowman et al., 2022).

The results of the instructional analysis of E-module development using Smart Apps Creator to improve learning outcomes in the subject matter of Abu Bakar Ash-Siddiq's exemplary story are explained as follows: (1). Students are able to use the E-Module, (2). Students understand key words from the learning material, (3). Students are able to explain the genealogy, personality and struggles of Abu Bakar Ash-Siddiq ra. (4). Students are able to mention examples of positive values from the exemplary story of Abu Bakar Ash-Siddiq ra. as a friend. (5). Students are able to mention examples of positive values from the exemplary story of Abu Bakar Ash-Siddiq ra. as

Caliph. (6). Students are able to solve questions related to the exemplary story of Abu Bakar Ash-Siddiq as a friend and Caliph. (7). Students are able to achieve general instructional objectives. Students are able to analyze the exemplary story of Abu Bakar as-Siddiq as a friend and caliph and find the implied meaning of the exemplary story of Abu Bakar as-Siddiq as a friend and caliph.

Before the E-module on the History of Islamic Culture was implemented, an expert review was first carried out by experts. This trial by experts aims to assess the feasibility of learning development products from the aspects of material, media and learning design using assessment instruments based on guidelines for implementing learning media evaluation (Darmayanti, 2023).

The results of learning material expert testing obtained a percentage of 95.05%. For testing by learning media experts, a percentage of 91% was obtained. Testing by instructional design experts obtained a percentage of 93%. Based on the test results of the three experts, the Islamic Cultural History E-Module uses Smart Apps Creator to improve the learning outcomes of class V MIT Salsabila students and is categorized as 'very good' so it is suitable for use in studying the History of Islamic Culture Class V MIT Salsabila. The following validation results by learning design experts, media experts and material experts can be seen in Table 1, Table 2 and Table 3.

Table 1. Validity Results by Learning Material Experts

No	Validity Variables	Validity Value	Criteria
1	Didactic Terms	93.33%	Very Valid
2	Construction Requirements	96.36%	Very Valid
	Overall Ideal Percentage	**95.05%**	**Very Valid**

This trial by experts also aims to provide an assessment of the material in the E-module, based on the results of the expert test, revisions are made to the material. Before expert validation is carried out, the material in the E-module is more concise and the content of the material needs to be refined. Apart from that, the E-Module material source has been

improved where the material before the Expert test is based on the Ministry of Religion Curriculum Implementation Guidelines No. 184 of 2019 which was then revised so that the E-module material was adjusted to the Decree of the Director General of Islamic Education No. 3211 of 2022 concerning Islamic Religious Education learning outcomes in Madrasas.

Table 2. Validation of Instructional Design Experts

No	Validity Assessment Indicators	Validity Value	Criteria
1	Aspects of needs analysis	90.00%	Very Valid
2	Learning design aspects	97.00%	Very Valid
3	Product development aspects	89.00%	Valid
4	Usage aspects	95.00%	Very Valid

No	Validity Assessment Indicators	Validity Value	Criteria
5	Assessment aspect	94.00%	Very Valid
	Overall Ideal Percentage	**93%**	**Very Valid**

Table 3. Media Expert Validation

No	Validity Assessment Indicators	Validity Value	Criteria
1	Media display	92.00%	Very valid
2	Product quality	91.11%	Very valid
3	Media clue layout	80.00%	Valid
	Overall Ideal Percentage	**91%**	**Very Valid**

This trial by experts also aims to provide an assessment of the media in the E-module, based on the results of the expert test, revisions are made to the material. Before expert validation was carried out, the font types used on both the front page and the contents were different and after the revision the font types were standardized. Apart from that, before the media expert test was carried out on the application, there was no "help me" tool which functioned to help students when they experienced problems related to using the E-Module, then after the revision was carried out there was a "ask the teacher" tool on the menu page.

Before The Expert Test

After Expert Testing

Figure 2. Revision Based On Media Experts

Based on the results of the expert validity assessment, overall the E-module on the History of Islamic Culture that was developed was declared very valid with an average validity value of 93.02%. However, comments and suggestions from each expert will be used as material for improving the E-module being developed.

Figure 3. Display of The E-Module In Application Form

The History of Islamic Culture E-Module uses Smart Apps Creator to improve student learning outcomes on the exemplary story material of Abu Bakar Ash-Siddiq as a friend and caliph who was declared very good in the one-to-one trial with a percentage result of 93.96%. The results of the small group trial were with an ideal percentage of 94.29% and in the very good category, while in the large group trial the ideal percentage was 94.86% in the very good category. This shows that the History of Islamic Culture Class

V developed can attract students' interest and is easy to use in the learning process.

The Islamic Cultural History E-Module uses Smart Apps Creator to improve student learning outcomes based on the exemplary story of Abu Bakar Ash-Siddiq as a friend and caliph. This was demonstrated after taking part in learning using the Islamic Cultural History E-Module using Smart Apps Creator to improve student learning outcomes on the material of

4. CONCLUSION

This research has produced teaching materials in the form of printed modules using the Rowntree model and E-Modules using the FDD (Feature Driven Development) model. The selection of this model is based on considerations of a flexible, complete and systematic process that is integrated with the FDD (Feature Driven Development) model for system-based products.

The results of learning material expert testing obtained a percentage of 95.05%. For testing by learning media experts, a percentage of 91% was obtained. Testing by instructional design experts obtained a percentage of 93%. Based on the test results of the three experts, the Islamic Cultural History E-Module uses Smart Apps Creator to improve the learning outcomes of class V MIT Salsabila students and is categorized as 'very good' so it is suitable for use in studying the History of Islamic Culture Class V MIT Salsabila.

E-Module to improve student learning outcomes based on the exemplary story of Abu Bakar Ash-Siddiq as a friend and caliph was declared very good in one to one trials with a percentage result of 93.96%. The results of the small group trial were with an ideal percentage of 94.29% and in the very good category, while in the large group trial the ideal percentage was 94.86% in the very good category. This shows that the History of Islamic Culture Class V developed can attract students' interest and is easy to use in the learning process.

The E-Module on the History of Islamic Culture uses Smart Apps Creator to improve student learning outcomes on material about the exemplary story of Abu Bakar Ash-Siddiq as a friend and caliph, declared effective based on the results of the t test at a significance level of 5% or 0.05, obtained tcount = 6.4915 and ttable = 2.0859. It is known that tcount > ttable is 6.4915 > 2.0859. It was concluded that there was a significant difference after taking part in learning using the Islamic Cultural History E-Module on material about the exemplary story of Abu Bakar

the exemplary story of Abu Bakar Ash-Siddiq, the t test results were obtained at a significant level of 5% or 0.05, so tcount was obtained = 6.4915 and ttable = 2.0859.

This shows that the E-module is effective and can improve student learning outcomes in achieving learning objectives, namely analyzing the exemplary story of Abu Bakar as-Siddiq as a friend and caliph.

Ash-Siddiq as a friend and caliph, the average test score for the ability to analyze exemplary stories was higher compared to conventional learning. This shows that the E-module is effective and can improve student learning outcomes in achieving learning objectives, namely analyzing the exemplary story of Abu Bakar as-Siddiq as a friend and caliph.

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