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The usage of e-book as learning media through the sigil application in history

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This paper aims to: (1) obtain learning media products using the Sigil application as a learning media for history in the first year high school with a validated 4D model, and (2) learning the application of digital books using the Sigil application as a medium for learning history. The problem presented in this paper is the learning motivation of students in learning history. This is because students are not practical enough to carry and also read thick history books. Another problem is that history learning is known as a lesson issued because of the attractiveness of interactive learning media used in historical learning. Observations made by the authors make learning learning interesting, namely: developing digital books (e-books) using the Sigil application, while students do not need to carry historical reading books. Students can open digital books (e-books) via cellphones (smartphones) or their respective laptops related to historical learning. So that students are expected to be able to improve learning outcomes and help learn history and students are expected to reach a high level by using literacy after using E-book learning media through the Sigil application in learning history. The type of research used is development research with a 4D model.

1. Introduction

In the 21st century, educators and students is required to be able to adjust to the challenges of the globalization era. Challenges in the era of globalization in the field of education will give birth to qualified individuals who are able to compete in globally. Students need to be equipped with various competencies needed in this globalization era such as communication skills, critical thinking skills, and creativity.

Education is a continuous process that aims to change the identity of a student to be more advanced and developing in science. With the development of the times, the world of education continues to change significantly so that many change the mindset of many people, from a simple mindset to become more modern. This is very influential on the progress of education in Indonesia.

The 2013 Curriculum implementation in the learning process requires students to be more active, creative and innovative, in order to have life skills that are believed to be able to be used to face life's challenges independently, intelligently, critically, rationally and creatively, the application of the 2013 curriculum also requires learning in basically not only learn about concepts, theories and facts, but also the application of skills in everyday life [1].

In learning history, the 2013 curriculum provides positive benefits for students. Learners will be accustomed to exploring actively as adding to the confidence of students in learning history. In this case, changes to the 2013 curriculum emphasize the development aspects of each individual's potential.

In general, the learning process at schools is still centered on educators (teacher centered learning) so that students become passive and the nature of learning is oriented towards textbooks that dominate educators in the process of learning with lectures [2]. In this case, the author designed history learning in using learning media. The platform to facilitate students in learning outside of school that implements technological developments and communication with user interactions that are being developed at this time is a digital book or known as e-book.

Digital books, or also called e-books, are publications consisting of text, images, and sounds and are published in digital form that can be read on computers or other electronic devices. A digital book is usually an electronic version of a printed book, but not infrequently a book is only published in digital form without a printed version. The format of digital books varies, ranging from formats supported by



large companies (Adobe and Microsoft) and various other formats supported by devices and readers of certain digital books. In 1990 also developed an open e-book format that allows publishers and software developers to use one format that can be read on any device and use various digital book reader software.

“*Electronic publication* (Epub) is one of the digital book formats agreed upon by the International Digital Publishing Forum (IDPF) in October 2011. Epub replaced the role of Open eBook as an open book format. Epub consists of multimedia files, html5, css, xhtml, xml which are packaged in one file. (Southeast Asian Ministers of Education Organization Regional Open Learning Center [3]).”

Electronic books (e-books) are gaining popularity for personal reading. Options for access to a large selection of book titles and reading "anytime or anywhere" options have added to the increased use of *E-book* [4]. The use of *E-book* as a media for learning history can be done through computers, laptops or smartphones. Therefore, computers, laptops or smartphones are reasons as sophisticated technology to help students learn. Instead of using computers, laptops or smartphones that are wrong and can damage the nation's generation. Better computers, laptops or smartphones are given educational content and as learning resources through the Sigil application in the development of current learning. The Sigil is an Open Source software editor, sigil can be downloaded on the website <https://code.google.com/p/sigil/>.

Stated by Walker and Hess on Azhar [5], a good learning media must balance the quality of product development. There are several descriptions of quality that must be fulfilled, namely quality of content and purpose, quality of instruction and technical quality (liveliness, effectiveness, suitability, balance and freedom from bias). In addition, developing learning media, it takes a form of development model that functions to provide clear procedures in developing learning media, in this case the author chooses a 4D development model consisting of 4 steps of action which includes 1) Define (definition); 2) Design (design); 3) Develop (development), and 4) Disseminate (spread).

Based on this background the author is interested in writing about “The Usage of *E-Book* As Learning Media Through The Sigil Application In History”, the problems examined on this paper, namely:

1. What is the result of expert validation on *E-book* learning media through the Sigil application for the first year of high school's lesson with the 4D model?
2. How is the effectiveness of *E-book* through the Sigil application as a media to learn history for the first year of high school?

2. Method

This research is development research because researchers want to develop through *E-book* as learning media using the Sigil application in History. The model used is the development of the 4D model. This model was developed by S. Thiagarajan, Dorothy S. Semmel, and Melvyn I. Semmel [6]. The 4D development model consists of 4 main, namely: Define (Defining), Design (Design), Develop (Development), Disseminate (Deployment).

3. Results and Discussion

3.1 Validation Test Results of *E-book* as Learning Media Through the Sigil Application

The results developed in this development research are as in the model that has been adapted from the development research model developed by Thiagarajan, Semmel D.S, and Semmel M.I [6] namely Define, Design, Develop, Disseminate. These approved results are reviewed in the exposure below:

Stage 1: Define (defining)

These learning objectives analyze the curriculum, the potential of students, school studies and educational case studies based on E-book learning media through the sigil application. In Thiagarajan [6] steps in preliminary analysis (front-end analysis), concept analysis (concept analysis), task analysis (task analysis), and specification of learning objectives (determining learning objectives).

1) Initial-end analysis (front-end analysis)

Front-end analysis is done by interviewing educators and students to bring up and deal with the fundamental problems in learning. The researcher conducted an initial analysis through interviews with educators and students to obtain the facts of the learning process in the class intended for historical learning media. After conducting interviews for educators and students, researchers can take the right

solution to improve learning achievement for students. Researchers use E-book through sigil application to improve student learning achievement.

2) Analysis of concepts (concept analysis)

The analysis of this concept is done by interviewing to identify the main concepts to be taught, arranging them in the form of hierarchies, and detailing individual concepts into critical and irrelevant matters. Concept analysis identifies important and main parts to be studied and systematically compiles relevant submissions that will be included in teaching materials based on Front-end Analysis, namely Prerequisites, Instructions for Use, Competency Standards (SK), Basic Competencies (KD), Success Criteria and Concept Maps, which are teaching materials for Islamic kingdoms on Java.

3) Analysis of tasks (task analysis)

This task analysis is carried out by interview which aims to identify the main skills that will be studied and analyze them into additional skill sets. This analysis ensures a thorough review of assignments in the learning material. Furthermore, after analyzing the concept (concept analysis), it is continued with task analysis. At this stage, researchers will get an overview of the tasks needed in learning in accordance with competency standards.

4) Specifications of learning objectives (specifying instructional objectives)

The formulation of learning objectives is summarizing the results of concept analysis and task analysis to determine the behavior of the research object. The collection of objects becomes the basis for compiling tests and designing teaching materials which are then integrated into teaching material. At this stage, the researcher will obtain learning goals that will be achieved in the teaching material of the Islamic kingdom in Java that will be developed.

Stage 2: Design

The purpose of this stage is to arrange *E-book* as learning media through the sigil application. Activities carried out at this stage according to Thiagarajan [6] consist of four steps, namely the preparation of learning outcomes tests, media selection, format selection, and initial design of learning devices.

1) Compilation of reference tests (constructing criterion-referenced test)

The preparation of benchmark reference tests is a step that connects between the stages of defining and designing. The preparation of benchmark reference tests is prepared based on the question grid, scoring guidelines for each item, and answer keys.

2) Selection of media (media selection)

The researcher chooses e-book as through sigil application which aims to facilitate the history learning process, because E-book through sigil application is very relevant at this time. It is expected that the selection of E-book will support the history learning process and improve student learning achievement.

3) Format selection (format selection)

The choice of format in the development of *E-book* as learning media through the sigil application is intended to design or design learning content. Criteria in the selection of formats are interesting, increasing the attractiveness of participants in the process of learning history, and improving student learning achievement.

4) Initial design

The initial design aims to design all E-book through sigil application before validation is carried out in the development stage. The initial design was intended to produce a prototype product design in accordance with the results of curriculum and material analysis. This also includes a variety of structured learning activities such as reading texts, interviewing, and practicing different learning abilities through teaching practice. Through the initial design, draft I will be obtained, namely the design of all learning tools, namely teaching materials and media that must be done before the trial is conducted.

Stage 3: Develop (Development)

The purpose of this stage is to produce E-book through the revised sigil application based on expert input. These stages include; 1) Expert Validation (Expert Appraisal), the design of E-book through sigil application which has been compiled at the design stage, then validated by experts (validators). Experts who carry out validation include: (1) Expert Syllabus and RPP, to determine the suitability of the syllabus and lesson plans by using the 2013 curriculum; (2) Material Expert, to find out the suitability

of the material compiled in E-book through the application of sigil with the purpose of learning and the truth of the material concepts to be delivered to students; (3) Media experts, to find out the utilization of *E-book* facilities through this Sigil application.

Data from the development of teaching materials for stage 3 are presented in table 1 below:

Table 1. Results of Expert Design Validity Data

No.	Expert	Total	Average	Criteria
1.	Expert 1	141	3,83	Valid
2.	Expert 2	175	4,74	Very Valid
3.	Expert 3	132	3,59	Valid
Expert's average validation			4,06	
Expert's criteria				

Based on table 1 above is the result of teaching material validation from the three validators, it can be concluded that the average validation result is 4.06 from scale 5. From these results it is concluded that the *E-book* using the Sigil application is very valid.

The assessment of students in small study groups on E-Book learning media using the Sigil application is presented in the following table 2:

Table 2. Summary of Trial Results Practicality

Students	Total	Average	Criteria
1.	70	3,5	Good
2.	81	4,05	Very Good
3.	78	3,9	Good
4.	69	3,45	Good
5.	76	3,8	Good
Average		3,74	
Criteria		Good	

From the assessment, the average score was 3.74 from scale 5. From this value it can be concluded that the practicality of *E-book* using the Sigil application is classified as good, so that the learning media *E-book* using the Sigil application is good for use in the history learning process.

After the prerequisite test using the normality test and homogeneity test, the next step is to test the hypothesis using the t-test. This test aims to know the difference in mean pre test and post test. Based on the results of the normality and homogeneity test that the data of the two classes are normally distributed and the variance of the two classes is homogeneous, it can be continued on the difference test on the average pre test and post test using paired sample t-test.

The average test results of the pre test and post test average are known that the Sig. (1-tailed) which is 0.00 less than the value of $\alpha = 0.05$, so H_0 is rejected. This result means that the two classes have significantly different learning outcomes, so it can be concluded that there is a very significant influence on the use of *E-book* using the Sigil application on learning outcomes. In other words, *E-book* using the Sigil application is very effective for use in the process of learning history.

Stage 4: Disseminate (Spread)

The dissemination process is a final stage of development. The dissemination stage is carried out to promote development products so that they can be accepted by users, both individuals, groups, or systems. In this deployment stage, it is done by sharing E-book through sigil application to several schools to get the final input before being spread on a larger scale.

3.2 Overview of the Use of Sigil Software

Electronic books or commonly called E-books are one alternative that can be chosen to improve student learning. E-books are more modern and attract students because in the E-book features that can

be filled with text, images can be filled with sounds to help facilitate the delivery of the contents of the book and facilitate the understanding of the reader.

Sigil is an editor software that is an open source editor for epub. Epub (electronic publication) is one of the digital formats which is a standardized form format introduced by the International Digital Publishing Forum (IDPF) in 2011. Epub is a replacement software for Open E-book that serves as an open book format. Epub is a multimedia file that can be accessed from the file type html, xhtml, css, which is united with the epub extension file. Next is the E-book display through Sigil.

4. Conclusion

Through the use of the 4D development model E-book as learning media through the Sigil application helps the process of learning history, because learning media are a means of communication between educators and students. Supporters of historical learning media in this paper use E-book through the Sigil application. The development of E-book through the Sigil application can overcome the shortcomings in historical learning. This media will provide effectiveness in learning history, where educators and students no longer rely on textbooks. This media uses computer technology, laptops or smartphones to carry out historical learning. Submission of material in E-book through the Sigil application will be more interesting because it is also accompanied by learning videos. This media can also be a source of students to study at home in addition to textbooks.

Based on the development of learning media through the Sigil application, the validation results from the three validators obtained that the average validation results were 4.06 from a scale of 5, the results of which were concluded that E-book through the Sigil application was very valid. Furthermore, from the assessment of the results of the product effectiveness tests carried out obtained an average value of 3.74 from the scale of 5, so it can be concluded that the practicality of E-book as learning media through the Sigil application is classified as good criteria.

In the development stage to determine the effectiveness of E-Book using the Sigil application, the results of data analysis obtained Sig. = 0,000 where the value of $\alpha = 0.05$, because of the value of Sig. $< \alpha$ so that it can be concluded that there is a very significant influence on the use of E-Book using the Sigil application on learning outcomes. In other words, the E-Book as learning media using the Sigil application is very effective to be used in historical learning.

Based on E-book as learning media through the Sigil application that has been made, it is recommended to educators, to be able to utilize the development of current information and communication technology such as mobile phones to be used as the use of learning media. So that it will be very useful and interesting for students, especially with high flexibility so that historical learning material can be opened anywhere and anytime by students. In addition, further development of E-Book as learning media needs to be carried out using the Sigil application with a contextual approach to complement the flaws in this media.

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