Development of History-Based Digital Book Based on the 19th Century Lampung’s People Army Struggle in Local History Lessons

Agus Mastrianto¹, Sariyatun², Nunuk Suryani³
¹Magister of History Education, Universitas Sebelas Maret, Surakarta, Indonesia
²,³Department of History Education, Graduate Program, Universitas Sebelas Maret, Surakarta, Indonesia
agus.mastrianto93@student.uns.ac.id

I. Introduction

Education is a form of conscious, planned and deliberate effort to foster and develop human resources at the same time. Education is very important for the continuity of human life itself. If someone gets a good education, they will automatically have good insight and knowledge. This shows how very important education is for human life and of course has various functions to support one’s future.

Education is considered to have a very important role in promoting the civilization of a nation. Good quality education can encourage the creation of a quality society, creative and productive until finally able to achieve welfare. Through this national education system, the government should be able to ensure equal distribution of educational opportunities, as well as the relevance and efficiency of education management to face challenges in line with the changing demands of local, national and global life. The budget allocation system for education in Indonesia is heavily influenced by government policies. (Saputra, 2018)

In the world of education, it is known as learning activities. Soetomo (1993, p. 68), states that "learning is the process of managing one's environment intentionally so as to enable him to learn to perform or display certain behaviors as well". Magasing (2012, p. 24), that learning has components consisting of: 1) learning resources, 2) learning media, 3) learning facilities, 4) learning objectives, 5) learning methods, 6) teachers, 7) the student. Based on this, it can be seen that the learning resource is one part of the learning component that must not be eliminated.
One of the lessons that can create behavior change is history learning. Because, history is a science that includes natural knowledge, research, records, and in other words includes past human activities in society and are unique. History is closely related to the identity and purpose of life to be achieved, moreover many lessons from the history of the human past are taken for the present (Pranoto, 2010: 2). The development of technology in the era of the industrial revolution 4.0 became a challenge for learning history in schools and universities. The principle of modernization in learning needs to be possessed by teachers in creating meaningful learning for students (Mulyasa, 2007: 51).

Teachers as an important component in a learning process are required to be more creative and innovative in providing a variety of learning resources. So that in this case the teacher can utilize and develop historical teaching materials more effectively. These teaching materials can be combined with information and communication technology so that they can display unique information media. In this case digital teaching materials must be able to display the audio visual learning media that is projected, namely a teaching material in the form of digital teaching materials. The reason for choosing this instructional media media is because the teaching material can later be used effectively by students, in addition to being used for group learning, the media can be used for independent learning.

The history of the struggle of the Lampung people's army will be an interesting local history learning material if it is packaged in the form of digital books. Digital books or electronic books are books in digital form, consisting of text, pictures, or both. Thus, it is necessary to develop a digital book of local history of the Lampung people's army, as an effort to realize the history of intellectual education (intellectual training), as well as national moral education and civil society. Local historical events contained in the environment of learners have the role of actualizing elements of learning and education. The first element is learning (instruction) and intellectual education (intellectual training) and the second element is the learning and education of the nation's morals and civil society which are democratic and accountable to the future of the nation.

The events of the struggle of the Lampung people's army in the 19th century was a form of the struggle of the people's army that existed in each of the temples in Lampung in fighting for and maintaining Indonesian independence in the Dutch military aggression II in the Lampung region. The historical events of the Lampung people's army struggle illustrate the values of nationalism, heroism, and patriotism carried out by the people of Lampung in maintaining and at the same time fighting for the territorial integrity of the Republic of Indonesia. But it is still not widely known by students. So that there needs to be clearer and more accurate information about the historical events of the Lampung people's army struggle in fighting for their territory from the invaders. This local history will be a very innovative solution if it is packaged in millennial or modern ways in the form of writings that can be shared through the internet, such as scientific work, digital books that can be accessed by every student or casual readings that can be distributed through social networks. In order to foster awareness of the history of students, and be able to increase student creativity in exploring various local wisdom found in their area. Submission of historical learning by utilizing innovative media in the form of digital media is expected to be able to create interesting learning.

The use of teaching materials can make it easier for lecturers and students to learn and increase knowledge and experience. Such knowledge and experience can come from other locations or from places around students studying. Dick & Carey (2009: 230), states that teaching material consists of written material, media or that is facilitated by a teacher that
Digital book, also called e-book, is a publication that consists of text, images, and sound and is published in digital form that can be read on computers or other electronic devices such as Android, or tablets (Andikaningrum et al. 2014). History digital textbooks are designed with the concept of digital books so that communicatively invites students to choose the main points of the subject they want to access. Digital books have the appearance of a book (with sheets that can be flipped) in digital technology that will make it easier for students to read historical material because the layout of this book takes into account students' reading ability even in the form of non-printed books. The selection of each element in the presentation of this digital book, colors, fonts, historical documentation, animated images and composition of the layout consider aspects of aesthetic and functional feasibility to make it easy for students to use it as a reading medium. This digital history textbook is expected to be one of the reference media for learning in tertiary institutions and is very appropriate for improving the quality of learning.

II. Research Method

This research uses research and development methods. Development research is a basic industrial development model where research findings are used to design new products and procedures that are systematic, evaluative, and filtered so that specific criteria are found that are effective, quality, or have the same standard Borg and Gall (1983: 589). The focus of this research is on the development of how to develop a product and how the effectiveness of a product that has been produced. This study uses the ADDIE development research model. The stages of development using the ADDIE model are (1) the needs analysis stage, namely analyzing the needs of teaching materials needed on the research object, (2) the design phase of the teaching material model, namely designing teaching materials in the form of a digital eBook, (3) the development stage, namely preparing the materials used in teaching (4) the implementation phase, and (5) the evaluation phase.

This research was conducted at one of the state universities in Lampung Province precisely in the city of Bandar Lampung. This research was conducted on history semester VII students in local history courses. The results of the data obtained in this study consisted of qualitative and quantitative data. Qualitative data were obtained through the needs analysis phase of teaching material development and at the stage of designing instructional materials design, which included interviews with supporting lecturers and distributing student needs analysis questionnaires. In quantitative data obtained from the stage of developing instructional materials, the implementation of teaching materials and also at the evaluation stage of teaching materials, which includes validation of material experts, validation of media experts, limited trials, and conducting extensive trials on students.
In this research development data analysis technique used is descriptive statistical analysis techniques. This analysis is used to process data obtained from the instrument in the form of a questionnaire average score, using the following formula:

\[
\bar{X} = \frac{\sum x}{N}
\]

Note: \( \bar{X} \) = Average score
\( \sum x \) = Total of items
\( N \) = Total of score giver

The quantitative data obtained will be interpreted to provide meaning in decision making, using the following conversion criteria assessment guideline guidelines.

<table>
<thead>
<tr>
<th>Interval</th>
<th>Score</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>( X \geq 4.21 )</td>
<td>5</td>
<td>Very Good</td>
</tr>
<tr>
<td>( 3.40 &lt; X \leq 4.21 )</td>
<td>4</td>
<td>Good</td>
</tr>
<tr>
<td>( 2.60 &lt; X \leq 3.40 )</td>
<td>3</td>
<td>Enough</td>
</tr>
<tr>
<td>( 1.79 &lt; X \leq 2.60 )</td>
<td>2</td>
<td>Deficient</td>
</tr>
<tr>
<td>( X \leq 1.79 )</td>
<td>1</td>
<td>Very Deficient</td>
</tr>
</tbody>
</table>

Source: (Sudijono, 2005: 132)

The stages of the more complete ADDIE model activities can be seen in the figure below:

![ADDIE model](image)

**Figure 1.** Stages of Development based on ADDIE model
(Source: Branch 2009)

### III. Discussion

The stages of this research use the ADDIE model which will be explained as follows.

#### 3.1 Requirements Analysis

At this stage of the needs analysis is done by observing at the same time interviewing lecturers about the need for teaching materials in local history courses and also distributing questionnaires analysis of historical learning needs to students. Information obtained at this
stage is about the history of class learning processes, student characteristics, learning media commonly used by lecturers, learning objectives, and other information that can support in the process of making digital EBook teaching materials. Based on observations and observations made in the field, the following information was found.

a. In the process of learning local history courses applied so far are still identical with the textbook provided by the lecturer only in the lecture process. Not many teaching materials can be used in local history courses and there is no development of Lampung local history teaching materials that can be used as a reference in the learning process.

b. The students' understanding of the material given by the lecturers regarding historical events that have occurred especially in the Lampung region in maintaining and fighting for Indonesian independence is still lacking. At the time of learning history takes place, the lecturer only explained a few subject matter, then the lecturer gave questions to students. In this case the material presented has not been fully conveyed due to the limitations of literature and there are several concepts of Lampung's local history that are still being studied and adapted by lecturers. The historical events of the struggle of the people of Lampung in maintaining the independence of their territory from the shackles of the invaders conveyed were still of national history. Meanwhile, Lampung is a part of Indonesia that is rich in local history, especially in the event of defending and fighting for Indonesian independence. One of them is the history of the struggle of the Lampung people of the 19th century which is the history of the Lampung people's resistance against the invaders.

c. Core activities in the learning process provided by the lecturer, namely providing explanations and sharing material in each group that has been formed to be discussed in the learning process. However, this discussion was actually not conducive due to the lack of structured group activity planning. Student activities tend to be passive, the lack of student motivation in participating in history learning that is too monotonous lacks innovation. This is due to the limited history of resources and historical teaching materials that are creative and innovative. While the development of digital-based teaching materials used by lecturers is still not optimal, because lecturers have limitations in developing digital-based media.

d. Availability of campus facilities that can support the teaching and learning process, namely in the form of LCD Projectors, sound systems, Laptops, Wifi / Internet Networks and others. So that this can support the process of learning history activities by using a digital ebook based on the struggle of Lampung people's army of the 19th century.

Based on the results of the data obtained above, it is necessary to develop digital eBook teaching materials based on the struggle of Lampung people's army of the 19th century in order to improve the process of learning history, especially Lampung's local history in the classroom. The next stage is by collecting resources to be used as references such as curriculum, lecture event units (SAP), Semester Learning Plans (RPS), competency standards, basic competencies, materials, and other references to support the development of this digital eBook teaching material. From the process of identification and analysis, it is found that the material will be used and loaded into learning media and arranged systematically to be presented in digital eBook teaching materials on the struggle of the Lampung people's army of the 19th century.
### 3.2 The Stages of Planning the Design

At the design planning stage a digital eBook teaching material design is displayed which will be developed later. This design became a benchmark and guideline in the development of a digital eBook of Lampung's local history. The following is an explanation of the design description of the development of digital eBook teaching materials based on the struggle of Lampung people's army of the 19th century.

![Diagram](image)

**Figure 2.** Figure of Ebook

From the explanation of the picture above, the developed digital Ebook product is still guided by SK&KD and does not come out of the learning objectives to be achieved. Display the flow of making a digital ebook based on the struggle of Lampung people's army of the 19th century will later be useful in making storyboards in the selection of a material, images, and videos at the product development stage.

### 3.3 Developmental Stage

At this stage of development, digital ebooks began to be produced using Flip PDF Professional software that combines material, images, music, and videos into one digital book application. Meanwhile in making learning videos using supporting software, namely filmora software. Whereas in the layout design of this digital ebook the software used is Corel Draw software. The video produced is adapted to the material of the struggle of the Lampung people's war in the 19th century by including video history narrative history, and supporting music. The development of a digital eBook based on the struggle of Lampung people's army in the 19th century was devoted to the use of laptops and computers. The development of digital ebook products is designed as easy as possible so that its use is not too difficult. In the
next stage, the digital ebook product based on the struggle of the Lampung people's war in the 19th century was tested by experts to determine the appropriateness of its use during the teaching and learning process.

### 3.4 Implementation Stage

At the implementation stage, experts are testing the feasibility of the product. The purpose of this expert validation is to determine the eligibility of the developed digital eBook product criteria. Validation done by experts consists of validation of material experts and validation of media experts. From each validation the experts consist of two validators who have competencies in their respective fields. The following displays the results of the assessment by material experts and media experts on the development of digital ebook teaching materials.

#### Table 2. Results of Expert Rating of the 5 Hour Battle Based Digital Flipbook Material in Kalianda

<table>
<thead>
<tr>
<th>No</th>
<th>Scoring Aspects</th>
<th>Average Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Format</td>
<td>4.1</td>
<td>Good</td>
</tr>
<tr>
<td>2</td>
<td>Language</td>
<td>4.4</td>
<td>Very Good</td>
</tr>
<tr>
<td>3</td>
<td>Illustration</td>
<td>4.5</td>
<td>Very Good</td>
</tr>
<tr>
<td>4</td>
<td>Content</td>
<td>4.75</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.4</td>
<td>Very Good</td>
</tr>
</tbody>
</table>

From the above table information, the results obtained by expert validation scores in the aspect of format with an average score of 4.1 (good), in the linguistic aspect get an average score of 4.4 (very good), in the illustration aspect obtained an average score of 4.5 (very good), and for the content aspect score 4.75 (very good). So that the total amount obtained from all aspects of the assessment obtained a score of 4.4 which means included in the excellent category. This shows that as a whole the material of the struggle of the Lampung people's army in the 19th century was very good and worthy of being tested at a later stage.

#### Table 3. Results of the Assessment of Digital EBook Media Experts Based on the 19th Century Lampung Army Struggle

<table>
<thead>
<tr>
<th>No</th>
<th>Scoring Aspects</th>
<th>Average Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Material</td>
<td>4.68</td>
<td>Very Good</td>
</tr>
<tr>
<td>2</td>
<td>Illustration</td>
<td>4.3</td>
<td>Very Good</td>
</tr>
<tr>
<td>3</td>
<td>Media Display</td>
<td>4.5</td>
<td>Very Good</td>
</tr>
<tr>
<td>4</td>
<td>Media Attractiveness</td>
<td>4.62</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.52</td>
<td>Very Good</td>
</tr>
</tbody>
</table>

Based on the validation table of the media experts above, the material assessment aspect obtained an average score of 4.68, which means (very good), on the illustrated aspect the average score obtained was 4.3 (very good), for the aspect of media display, it obtained an average score the average is 4.5 (very good), and in the aspect of attractiveness the average score obtained is 4.62 (very good). As for the total number of mean scores, all aspects of the assessment get a score of 4.52, which means it is included in the excellent category. This shows that the whole of the digital eBook teaching materials of the struggle of the 19th century people's army was already very good and at the same time worthy to be tested at a later stage.

The next stage to be carried out is the evaluation stage where this stage consists of small group limited trials, large group limited trials, and extensive trials. The product trial was conducted at one of the state universities in Lampung Province.
3.5 Evaluation Stage

In the evaluation phase, a teaching material product trial will be conducted to students. The purpose of this product trial is to assess the quality of the teaching material developed. In this product trial has three stages, namely the first to conduct small group limited trials, the second to conduct large group limited trials, and the third to conduct extensive trials. The following are the results of product trials conducted at the evaluation stage: In this small group limited trial, it was conducted to 5 homogeneous VII semester students. The results of the small group limited trial evaluation can be seen in the following table.

**Table 4. Data from Small Group Limited Trial Results**

<table>
<thead>
<tr>
<th>No</th>
<th>Scoring Aspect</th>
<th>Average Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Product Display</td>
<td>4.37</td>
<td>Very Good</td>
</tr>
<tr>
<td>2</td>
<td>Produk Usage</td>
<td>4.5</td>
<td>Very Good</td>
</tr>
<tr>
<td>3</td>
<td>Quality of Audio and Picture</td>
<td>4.6</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.5</td>
<td>Very Good</td>
</tr>
</tbody>
</table>

Based on the information in the above table, it is known that student responses regarding aspects of product appearance obtain a mean score of 4.37, which means (very good), on the aspect of product use the average score obtained is 4.5 (very good), and on the audio and image quality aspects get an average score 4.6 (very good). As for the total number of aspects of the overall assessment score of 4.5 which means that it is included in the excellent category. This means that the digital eBook teaching materials of the 19th century lampung people's struggle based on the results of the assessment of student responses in the trial phase is limited to small groups into very good categories. While the criticisms and suggestions given by students on this digital eBook teaching material are on improving the font so that it can be easily read and understood at the same time.

For the next stage, a limited group trial is carried out. Where the large group limited trials are given to 10 students in semester VII outside the small group limited trial students earlier. The following results from the evaluation of a large group limited trial can be seen in the following table.

**Table 5. Data from the Large Group Limited Trial Results**

<table>
<thead>
<tr>
<th>No</th>
<th>Scoring Aspect</th>
<th>Average Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Produk Display</td>
<td>4.5</td>
<td>Very Good</td>
</tr>
<tr>
<td>2</td>
<td>Product Usage</td>
<td>4.3</td>
<td>Very Good</td>
</tr>
<tr>
<td>3</td>
<td>Quality of Audio and Picture</td>
<td>4.5</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>4.4</td>
<td>Very Good</td>
</tr>
</tbody>
</table>

Based on the above table information, it is known that the responses of students on the product display aspect obtained an average score of 4.5, which means (very good), then on the aspect of product use, it obtained a mean score of 4.3 (very good), and for the aspect of image and video quality, it obtained an average score of 4.5. (Very good). As for the total number of overall scores on the aspects of the assessment obtained a score of 4.4 which means it is included in the excellent category. This shows that the digital teaching materials of the struggle of Lampung people's army in the 19th century belong to the excellent category based on the assessment responses of students in large group limited trials. While the criticisms and suggestions given by students on digital eBook teaching materials need to be improved on the cover design and concept map to make it look more attractive and perfect. For the next stage after the teaching material product has been revised or improved, it will enter the broad trial phase. This extensive trial was conducted on 25 VII semester students.
outside of small group limited trial students and large group limited trials. The results of this extensive trial evaluation can be seen in the table below.

<table>
<thead>
<tr>
<th>No</th>
<th>Scoring Aspect</th>
<th>Average Score</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Product Display</td>
<td>4.4</td>
<td>Very Good</td>
</tr>
<tr>
<td>2</td>
<td>Product Usage</td>
<td>4.6</td>
<td>Very Good</td>
</tr>
<tr>
<td>3</td>
<td>Quality of Audio and Picture</td>
<td>4.7</td>
<td>Very Good</td>
</tr>
<tr>
<td></td>
<td><strong>Total</strong></td>
<td><strong>4.5</strong></td>
<td><strong>Very Good</strong></td>
</tr>
</tbody>
</table>

From the information on the table above, it is known that the response of students on the aspect of product display obtained a mean score of 4.4, which means (very good), then on the aspect of product use obtained a mean score of 4.6 (very good), and on the aspect of image and video quality obtained an average score of 4.7 (very good). As for the overall total in the assessment aspect, a score of 4.5 is included in the excellent category. This shows that the digital eBook teaching material of the struggle of Lampung people's army in the 19th century entered into an excellent category based on the assessment of responses from students on extensive trials.

3.6 Digital Ebook Teaching Materials of 19 Century Lampung Army Struggle

The results of research into the development of digital ebook teaching materials on the history of the struggle of the Lampung people's war in the 19th century on local history courses for semester VII students are already very good and also suitable to be used as teaching materials that support the learning process in class. This is due to the fact that these teaching materials have been designed and arranged systematically in accordance with the development research procedures. In addition, this digital ebook teaching material can build creativity and be an innovation in learning history. In other words, it helps students easily accept learning material and for lecturers can help for planning and studying the implementation of learning.

One of the student learning media that implements the development of technology and communication with user interaction that is being developed now is digital books or known as e-books (Hartanti, 2013). Digital ebook teaching materials are teaching materials that are combined with information and communication technology so that they can display unique information media. In this case digital teaching materials must be able to display the audio visual learning media that is projected, namely a teaching material in the form of digital teaching materials. The purpose and function of e-books is an alternative source of learning, e-books are different from printed books because they can contain multimedia content in them so they can present more interesting teaching materials and make learning more fun (Sadiah, 2008). Syifaul Fuada, et al stated that digital history textbooks are designed with the concept of digital books so that communicatively invites students to choose the main points of the subject they want to access. Syifaul Fuada, et al (2017: 34). This digital ebook teaching material can be used effectively by students, in addition to being used for group learning, the media can be used for independent learning.

From various researches on the development of digital ebook teaching materials that have been previously developed, such as Toponimi-based Local History Digital Teaching Development in Vorstelanden Surakarta (Leo Agung S., & Muh Akhyar. 2019), Development of Ips-Digital History Teaching Book Middle School (Fuada S, Nainunis, AI, & Aditya NW 2017), Development of an Android-Based Digital Book to Stimulate Student Psychomotor (Syaffrudin. 2019), Development of E-Book Learning Media Based on 2-D Electrophoresis Research Results to Measure Students' Creative Thinking Abilities (Dwi
Mentari, et al.) 2018), and the Development of a Digital Book of Ips Changes and the Growth of Spirit during the Colonialism of Junior High School 1 Juwiring (Saputro Suryo T. 2019).

Through comparison of the results of research conducted with the results of previous studies, that the development of digital eBook history teaching materials by incorporating local history material of the struggle of the Lampung people's war in the 19th century can trigger the motivation and interest of students in carrying out the history learning process in class. The closeness of students to technology becomes an opportunity so that they can easily use this historical digital textbook. In addition, the development of this digital eBook can be a guideline for teaching history in universities in developing creative and innovative digital local history teaching materials. This is certainly a new breakthrough in learning history without leaving the educational side and the values contained therein. One of the innovative teaching materials that can be developed is digital eBook teaching material on the struggle of Lampung people's army in the 19th century.

IV. Conclusion

Through research and development (R & D) methods made the development of innovative historical teaching materials in accordance with technological advancements in 4.0 era, namely a digital history eBook based on the struggle of the 19th century Lampung people's army in local history courses. Then the results of observations, observations and learning processes identified the need for creative and innovative teaching materials to help students, and also lecturers. This digital teaching material product produces a prototype of a digital eBook through the Flip PDF Professional software application. The subject of knowledge is taken from the determination of material based on curriculum, RPS, SAP and does not come out of SK, KD that have been determined.

Based on the results of the analysis and discussion above, it can be concluded that the development of digital eBook teaching materials based on the struggle of the Lampung people's army of the 19th century is said to be valid and into the excellent category. This is based on the validation of material experts and media experts on the development of digital eBook teaching materials on the history of the struggle of Lampung people's army in the 19th century. Likewise on the results of small group limited trials, large group limited trials, and large group tests indicate that digital eBook teaching materials struggle Lampung people's army of the 19th century are included in the very good category, and are also in accordance with the needs of lecturers and students in achieving historical learning goals.

References


