

Digital Flipbook of Pugung Raharjo Archaeological Site : Development of Digital Learning Media Based on Local History

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ABSTRACT

Local history learning plays an important role in helping students understand their position as part of a diverse society. Thus, it makes them more sensitive to environmental conditions. However, local history learning has not been implemented appropriately by the stakeholder. This is due partly to the lack of learning resources and supportive learning media. This research aims to develop an interesting and interactive digital learning media based on local history, as a means of integrating local history in history learning at school. Research and development method was applied in this study with ADDIE model. The data were collected through interviews, observations, questionnaires, and tests. Data analysis was performed with an independent sample t-test. The test results showed that the significance value obtained (Sig. 2-tailed) was 0.004 < 0.05 with the mean values of the experimental class and control class was 76.1 and 64.7 respectively. The digital flipbook learning media of Pugung Raharjo archeological site was effective to enhance student's learning outcomes. Therefore, it was appropriate to be widely used.

Keywords : Digital Learning Media, Local History, History Learning, Research and Development

I. INTRODUCTION

History is the teacher of life; it was delivered by a Roman philosopher - Cicero - a few centuries ago. History teaches many positive things from the past to improve the future [1][2][3]. Throughout the history, students can take many lessons as today's life guide and future's planning reference. Moreover, the students can shape their knowledge, attitudes, values, and identity as members of society and citizens by learning the history [4][5][6].

History learning need to be holistically applied in school. Besides national history, history lesson also involves local history around students. Local history takes an important role in shaping the students'

personality, cultural, and social through the real values and experiences of their environment [7][8][9][10]. As a result, students understood their position in a diverse society. Thus, it makes them more sensitive to environmental conditions. Meanwhile, the students can understand the historical events and improve the learning quality by studying local history [11][12][13][14].

Unfortunately, local history learning has not been implemented appropriately by the stakeholder. Local history has not been integrated into history lesson. Generally, the existing textbooks focus only on the national historical material [15][16]. It is due to several factors, including the lack of learning resources and relevant learning media [9][17][18]. Therefore, the

alternative solution to overcome these problems is developing learning media based on local history.

The rapid development of technology in the digital era requires the developed learning media that is suitable to the current situation. The learning media are also developed in digital form to be more flexible and accessible anytime and anywhere [19][20][21]. The digital flipbook is selected because the composing process is relatively simple. Moreover, it can be operated on a computer or smartphone. Besides, it also has extensive functions. On the other hand, the selection of the Pugung Raharjo archeological site as material content is based on its compatibility with the curriculum. Moreover, the historical site is one of effective learning resource for students [22][23][24]. Based on these considerations, the researchers decides to develop the digital flipbook learning media based on Pugung Raharjo archaeological site.

II. METHOD

This research is development research. This research was done by the research and development method with ADDIE model. The research was performed in five phases, namely Analysis, Design, Development, Implementation, and Evaluation phases. The data were collected through interviews, observations, questionnaires, and tests. The research design used in the product implementation phase was the Pre-test - Post-test Control Group Design. Data analysis was done by using an independent sample t-test. The research was conducted at Senior High School in Religion (Madrasah Aliyah Negeri) 2 Bandar Lampung, Lampung Province, Indonesia. The population of this research was students from class X (ten). The samples taken were class X-A (as an experimental class) and class X-B (as a control class) with a total of 72 respondents.

III. RESULTS AND DISCUSSION

A. Analysis Phase

Initially, a need analysis was done in the study. The need analysis was done through observation and interviews. It was conducted to determine the appropriate learning media to solve the problems in the process of learning history in school. The results of the analysis indicated that the teaching history was done only focus on national history and tend to ignore local history. One of the main factors was the absence of learning media to support the process of learning local history in school. Therefore, to overcome these problems, the learning media was developed based on local history. Learning media was created in an interesting and interactive design to attract student learning interest. To be more flexible, the learning media was created in digital form so that it could be used anywhere and anytime depends on the students' needs. Thus, the researcher decided to develop a Digital Flipbook Learning Media of Pugung Raharjo Archaeological Site.

B. Design Phase

The design phase is the phase of creating the initial form of the digital flipbook learning media of Pugung Raharjo archaeological site. This phase was started by preparing the elements needed to create the learning media. The elements prepared were materials, images, video, animation, etc. Principally, the learning materials were adapted to the curriculum. In this case, the material is about the cultural product of the pre-literate societies in Indonesia, especially Pugung Raharjo sites.

After the preparation stage is complete and things needed are fulfilled, designing the display of the flipbook was done. The design of the flipbook display was created by using Coreldraw, Adobe Photoshop, and Adobe Illustrator application. Then, the next stage was to make the digital flipbook application using Flip

PDF Professional software to be a ready-to-use application.

C. Development Phase

The development phase represents the work that produces the final form of digital flipbook learning media of Pugung Raharjo archaeological site after following several stages of revision and improvement. The development phase was carried out in several stages as follows.

i. Media and Material Validation

The validation was carried out on digital flipbook learning media of Pugung Raharjo archaeological site and the learning material contained therein. The stage of media validation was done to assess the quality and advisability of learning media to be implemented broadly. Meanwhile, to minimize errors in the preparation of learning materials, material validation was conducted. The validation was carried out by four experts, two media experts and two historians. The validation results showed that the learning media was in the “excellent” category and suitable to be implemented in the learning process. Several inputs and advice provided by the experts subsequently become revision and improvement material.

ii. Limited Trials (Small Groups)

A limited trials was conducted in a small group of 10 students. They had the opportunity to try to use the digital flipbook learning media of Pugung Raharjo archaeological site. They were asked to respond to the learning media through the questionnaires. The assessment results showed that the learning media was in the “excellent” category. Several inputs and suggestions provided in this trial that was subsequently taken as revision and improvement material.

iii. Extensive Trials (Large Groups)

Extensive trials were conducted in a large group with 33 students. The stages that were done is the same as limited trials, but the number of respondents in extensive trials were higher. The assessment results showed that the learning media was in the “excellent” category. Some of inputs and suggestions provided in this trial were used for revision and improvement.



Figure 1. Digital Flipbook of Pugung Raharjo Archaeological Site

D. Implementation phase

The implementation phase is the stage to implement the digital flipbook learning media of Pugung Raharjo archaeological site in the real learning process. The implementation of learning media was conducted for three meetings. To see the effectiveness of learning media, the researcher conducts implementation phase by using two different classes, X-A and X-B. X-A was the experimental class, and X-B was the control class. The learning process in the experimental class was conducted by implementing the digital flipbook learning media of Pugung Raharjo archaeological site. Meanwhile, the learning process in the control class was done by using Microsoft Power Point.

E. Evaluation phase

The evaluation phase is the next phase of implementation phase that has been done before. In this phase, the test was done to see the effectiveness of the digital flipbook learning media of Pugung Raharjo

archaeological site. It was conducted by giving 40 multiple choice questions with pre-test and post-test system.

Analysis of equality test was conducted before the researcher conducted the analysis of effectiveness test.

The purpose of this analysis is to figure out the level of equality in students' initial ability of experimental and control class. The test was done by comparing pretest results of experimental and control class.

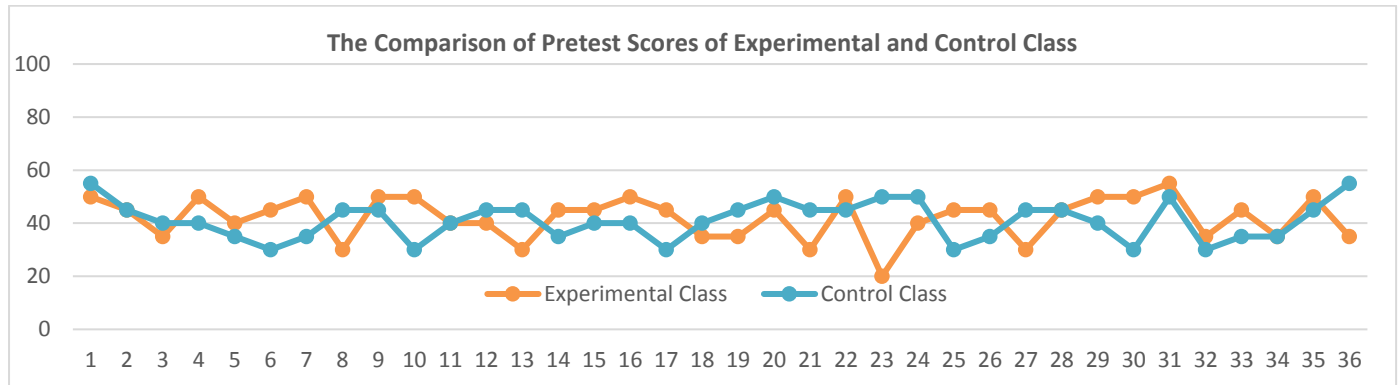


Figure 2. A Comparison Diagram of Pre-test Scores of Experimental and Control Class

The diagram above showed the comparison between students' pretest scores of experimental and control class. The result of equality test analysis by using Independent Sample T-test implied that the significant value (sig. 2-tailed) was $0.261 > 0.05$. It showed that the students' initial ability of experimental and control class was 'equal'.

After the analysis of equality test was completed, analysis of effectiveness test was then conducted. The purpose of this analysis was to find out the level of effectiveness of the learning media used in the classroom. The test was done by comparing posttest results of experimental and control class.

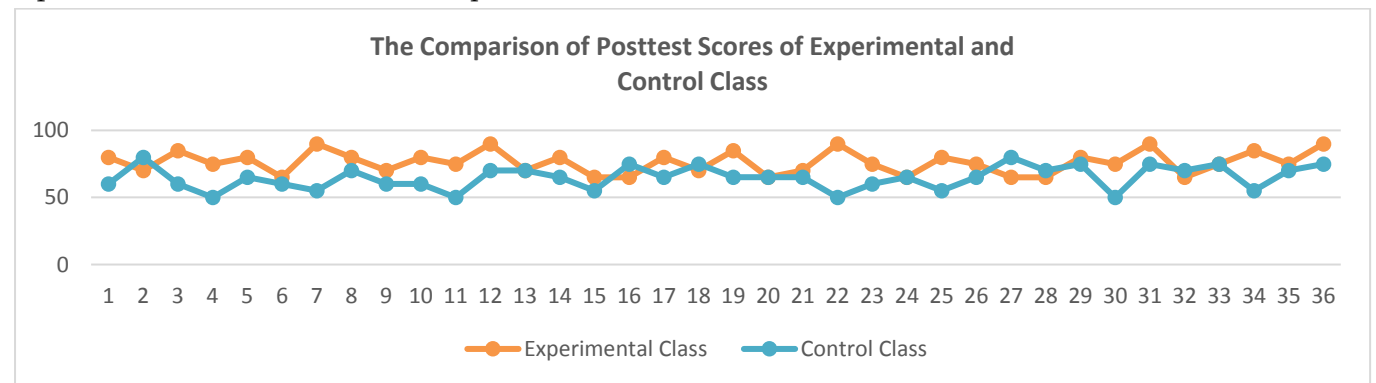


Figure 3. A Comparison Diagram of Post-test Scores of Experimental and Control Class

The diagram above presented the comparison between students' posttest scores of experimental and control class. The result of effectiveness test analysis by using Independent Sample T-test showed that the gained significant value (sig. 2-tailed) was $0.004 < 0.05$. It showed that there was a mean difference between experimental and control class, or there was a

difference in the improvement of learning outcomes between students of experimental and control class.

Based on the comparison of post-test scores for the experimental and the control class, it could be seen that the average score of the experimental (76.1) was higher than the average score of the control class

(64.7). These data indicated that the increase in learning outcomes in the experimental class was higher than the control class. It proved that the digital flipbook learning media of Pugung Raharjo archaeological site was effective to improve student learning outcomes.

The empirical research results were also in line with several other studies that have been done before. The use of digital learning media was proven to have a positive influence on the cognitive aspects of students [25][26]. These positive effects included the improvement of learning outcomes [27][28][29], and more specifically the improvement of outcomes of learning history [30][31][32][33]. Besides, digital learning media based on local history could also improve the quality of history learning in schools [34], as means of architecture heritage learning [35], and means of promoting the history and local culture [36].

IV. CONCLUSION

The digital flipbook learning media of Pugung Raharjo archaeological site has a positive influence on learning history in the schools. These learning media have been empirically proven effective to increase student learning outcomes. It shows that learning media is feasible to be used in a broad learning process.

The development of digital flipbook learning media of Pugung Raharjo archaeological site is a breakthrough and innovation to create local history learning media, particularly in digital form. Besides improving student learning outcomes, learning media can also be used as means to publicize local history and culture. It would be nice if the development of learning media based on local history can be complied so that history and local culture can be easier to be taught and introduced through the developed learning media.

V. REFERENCES

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