| PAPER NAME | AUTHOR |
|---|---|
| Development of the Pugungraharjo Archaelogical.pdf | Risma Sinaga |

| WORD COUNT | CHARACTER COUNT |
|---|---|
| 6713 Words | 36978 Characters |

| PAGE COUNT | FILE SIZE |
|---|---|
| 9 Pages | 213.4KB |

| SUBMISSION DATE | REPORT DATE |
|---|---|
| Sep 18, 2022 12:48 PM GMT+7 | Sep 18, 2022 12:49 PM GMT+7 |

● **19% Overall Similarity**

The combined total of all matches, including overlapping sources, for each database.

- 12% Internet database
- Crossref database
- 12% Submitted Works database

- 14% Publications database
- Crossref Posted Content database

● **Excluded from Similarity Report**

- Bibliographic material
- Manually excluded text blocks

- Manually excluded sources

# Development of the Pugungraharjo Archaelogical Site-Based Encyclopedia to Improve Understanding of Local History

## Ni Made Prastiti Murtiarina[1], Risma Margaretha Sinaga[2], Pujiati[3]

Master of Social Science, Faculty of Teacher Training and Education, University of Lampung, Indonesia[1,2,3]

**Abstract**: This study aims to develop teaching materials for the Pugungraharjo Archaeological Site Encyclopedia to improve the understanding of local history for the tenth graders of Social Sciences. The type of research is the R&D model of Borg & Gall which is modified into 3 stages, namely: research and information gathering, planning for making local history teaching materials and developing local history teaching materials. The trial subjects consisted of teaching materials experts, learning media experts, and large group trials involving 30 students and field trials were carried out in class X IPS 1 as the class that was treated using teaching materials from the Pugungraharjo Archaeological Site Encyclopedia. Data collection techniques using questionnaires, observations, and interviews. Data analysis using qualitative and quantitative analysis. The results of the study: (1) The teaching materials of the Pugungraharjo Archaeological Site Encyclopedia were developed using a modified Borg & Gal model. (2) Pugungraharjo Archaeological Site Encyclopedia teaching materials can improve understanding of local history, after using development products with a difference in learning outcomes of 0.50 with moderate criteria, which means that the product development is effective in increasing understanding of local history. (3) Learning activities for class X IPS 1 that use the Pugungraharjo Archaeological Site Encyclopedia teaching materials are more effective than class X IPS 2 which does not use Pugungraharjo Archaeological Site Encyclopedia teaching materials.

**Keywords**: teaching materials, encyclopedias, local history, archaeological sites pigungraharjo

## I. INTRODUCTION

History is currently an interesting topic to talk about, especially with the government's efforts to instill the important values of the history of the Indonesian nation to all Indonesian people [1]–[3]. This is stated in Permendikbud 59 of 2014 curriculum 2013 regarding the objectives of history subjects at the high school (SMA) level. The government continues to try to remind and reintroduce how the history of this nation can become a unity to achieve independence. From these efforts, it is hoped that every community can feel that history has an important value to build a better future than before.

History has a use-value in human life [4], so history needs to be introduced to every level of society in one way through formal education, whether it is at the elementary, secondary to higher education levels [5].

Understanding history itself is defined as a process, action, and way of understanding a person's history. Understanding history itself turns out to have been inherent in humans. Just as a person learns from every experience that has been experienced during his life. That way, a person has experienced a process to understand the history that he experienced himself [6], [7].

Indeed, history is important to study, especially local history which explains history within certain regional boundaries [8]–[10]. However, until now there are still obstacles for educators in improving students' understanding of local history materials. One indicator that becomes an obstacle is the lack of teaching materials that contain local history [11], [12].

Learning local history that is learned is also very important for students because each student must know how the process of forming the area they inhabit. Teachers face challenges in learning history, especially local history. Historical sources in the form of written and oral sources regarding local historical developments have limitations [13], [14].

History learning, especially at the secondary school level, still does not have learning resources that can support local history learning. The results of research conducted on the Indonesian History textbook for SMA Class X Revised 2017, have been developed based on the Basic Competence of History curriculum 2013. The book used by history teachers at SMAN 4 Metro was written by Sardiman AM & Amurwani Dwi Lestari. The material presented in this textbook uses an approach to Indonesian national history. This requires teachers to explore and provide materials in the form of learning resources that come from the environment around the school and students [15]–[17].

Based on the assumptions above, the researcher uses the Pugung Raharjo Archaeological Site as historical teaching material by considering historical and ancient relics in the form of objects, and buildings from period to period that are owned by students as Indonesian people, therefore students need to understand local history concerning the Pugung Raharjo Archaeological Site as one of the heritage sites that have the potential to be used as teaching materials for local history [18]–[20].

In this case, the teaching material in the form of an encyclopedia is one of the teaching materials chosen as a solution to strengthen students' understanding of local history [21], [22]. The encyclopedia allows students to study past events in local history in relation to the development of pre-literate life in Indonesia. The teaching materials to be developed are in the form of an encyclopedia. Encyclopedias are several writings that contain explanations that store information comprehensively and quickly understood and understood the whole [23]. Encyclopedias allow students to find out about events and relics in the past, especially when it comes to the surrounding environment which is easier to understand [24]–[26].

Based on the results of a preliminary study at SMAN 4 Metro where there are no teaching materials that contain local history material optimally in the development of teaching materials and considering the research that has been done on the use of historical encyclopedia teaching materials, this becomes the basis for researchers' thinking in utilizing local historical materials at Archaeological Sites. Pugungraharjo to contribute in an effort to strengthen students' understanding of local history in the form of local history encyclopedia teaching materials so that researchers try to conduct research on the development of the Pugungraharjo archaeological site-based Encyclopedia to improve students' understanding of local historical sites in 2022.

## II. RESEARCH METHOD

This research uses a research & development method which is often called R&D. The method used to produce a particular product, and test the effectiveness of the product [27]. This study aims to develop a product that can be used in learning. The resulting product is an encyclopedia based on the Pugungraharjo archaeological site to improve students' understanding of local history at SMAN 4 Metro.

In the design and development research method Richey & Client also stated that broadly there are two categories of research, namely: (1) Product and tool research (research products and tools), (2) Model research (research model). In this research, the categories used are product and tool research, as well as using development models and procedures according to Borg & Gall.

The product developed in this study is an archaeological site-based encyclopedia of Pugungraharjo to improve students' understanding of local history at SMAN 4 Metro [28]. These teaching materials are expected to be effective teaching materials to increase teacher and student references. The development of this teaching material is based on the development (R&D) of Borg & Gall with modifications. The development procedure used by the researcher follows the ten steps of development proposed by Borg & Gall and is simplified into three steps [29]–[31]. The simplification of steps is carried out on the grounds of cost, time, and energy limitations. In addition, these three steps have covered all the steps for developing Borg & Gall, namely research and information gathering, planning for making local history teaching materials, and developing local history teaching materials.

The average high and low scores of students' historical understanding scores using the guidelines according to Hake the amount of increase is calculated by the normalized average gain formula (*Average normalized gain*) [32] namely:

$$N\,Gain = \frac{posttest\ score - pretest\ score}{maximum\ value - pretest\ score}$$

The results of the gain calculation are then interpreted using Hake's classification as shown in Table 1 below:

TABLE 1. GAIN CLASSIFICATION

| Average normalized gain | Classification |
|---|---|
| <g> ≥ 0,70 | High |
| 0,30 ≤ <g>> 0,70 | Medium |
| <g>< 0,30 | Low |

Source: [32]

Before it is concluded that the *Pugungraharjo Archaeological Site Encyclopedia* has an effect on increasing students' historical understanding, the data is tested for accuracy. The hypothesis testing used in this research is the similarity test of two averages and the two-average difference test. The similarity test of the two averages was carried out on the initial ability (pretest), while the different test of the two averages was carried out on the *n-Gain*. Before testing the similarities and differences between the two averages, there are prerequisite tests that must be carried out, namely the normality test and the homogeneity test to determine the form of the next test.

Ho : $\mu_{1x} \neq \mu_{2x}$

Information:

$\mu_1$ = pretest result (x) in the experimental class.

$\mu_2$ = pretest result (x) in the control class.

x = students' historical thinking ability.

Test criteria: accept Ho if $-t_{1-1/2\alpha} < t < t_{1-1/2\alpha}$ with degrees of freedom $d(k) = n_1 + n_2 - 2$ and reject Ho for other t values. By determining the significance level $\alpha = 5$ % probability $(1-\frac{1}{2}\alpha)$. The test of the similarity of the student's ability data between the control class and the treatment class using this teaching material was carried out using an *independent simple t-test* analysis contained in statistical software. The test was carried out based on the tendency of the similarity of the pretest scores obtained by the students so that the two classes were worthy of being research subjects. Conclusions are drawn based on the value of Prob/Significance/P-value < $\alpha$, then Ho is rejected and if the value of Prob/Significance/P-value is $\geq \alpha$, then Ho is accepted.

## III. RESULT AND DISCUSSION

### A. Result

Based on the conditions in the field, information was obtained that history learning at SMAN 4 Metro was going well, but not optimally. In learning history, teachers usually use teaching materials published by the Ministry of Education and Culture and several other supporting books, including theory books and worksheets. Teaching materials are needed in learning history, especially local history. However, the teaching materials used are very limited.

The first step in this research is a preliminary study with research and information gathering. Research and information collection were conducted by interviewing two history teachers at SMAN 4 Metro. The purpose of this interview is to find out the initial description of the use of local history teaching materials at SMAN 4 Metro.

Based on the results of the interview, it can be seen that the history learning process has not been maximized. One of the reasons is the limited reference used by the teacher. Teaching materials published by the Ministry of Education and Culture are still the main learning resources. The teacher has never used special teaching materials for local history.

After conducting a preliminary study, the next step in developing local history teaching materials is planning for making teaching materials. The activities carried out in planning the manufacture of teaching materials are determining objectives, selecting materials, compiling the framework, and selecting materials. The first step is to determine the goal. In this case, the intended purpose is the learning objective in each material point. Determination of learning objectives is done so that it is known what material is needed. Each subject matter point has five learning objectives that are integrated with local history learning.

The second step is material selection. The materials in question are all information related to topics and materials in local history learning. The information is in the form of local history materials, examples of relics, and pictures/illustrations related to pre-literacy materials in class X Social Sciences in SMA. The material was collected from various sources such as books, articles, journals, the internet, and visits to historical sites.

The third step is to create a framework of teaching materials. The framework is made to facilitate the preparation of teaching materials. The next step is to select the material. The materials that have been collected are selected according to the material that will be used in the preparation of teaching materials for local history at the Pugungraharjo Archaeological Site.

The contents of the teaching materials contain the subject matter of historical heritage traces which are inserted core competencies, basic competencies, and learning indicators.

TABLE 2 MAPPING KI AND KD HISTORY COURSES FOR CLASS X SMA STUDENTS IMPLEMENTED IN DEVELOPED PRODUCTS

| KI | Basic Competence |
|---|---|
| KI 3. understand, apply, analyze factual, conceptual, and procedural knowledge based on their curiosity about science, technology, art, culture, and humanities with insight into humanity, nationality, state, and civilization related to the causes of phenomena and events, and apply procedural knowledge in a specific field of study according to their talents and interests to solve problems. | 3.4 Understanding the results and cultural values of the Indonesian pre-literate community and their influence on the life of the immediate environment. |
| | 3.6 Analyzing the development of community life, government, and culture during the Hindu and Buddhist kingdoms in Indonesia and showing examples of evidence that still apply to the lives of Indonesian people today. |
| | 3.8 Analyzing the development of community life, government, and culture during the Islamic kingdoms in Indonesia and showing |

| | examples of evidence that still applies to the lives of Indonesian people today |
|---|---|

Source: Class X High School Syllabus

Local history teaching materials consist of 18 relics found in the Pugungraharjo archaeological site complex, namely (1) Pugungraharjo archaeological sites; (2) Polynesian type statues; (3) Humpback inscription; (4) Dalung inscription; (5) Palas pasemah inscription; (6) Chinese Currency/Exchange Instruments; (7) Bodhisattva Statues; (8) Scratched Stone; (9) Perforated Stone; (10) Scraper; (11) Fort Earth; (12) Stone Ax/pickaxe; (13) Ceramics; (14) Megalithic Pond/Sorcerer's Water; (15) Corpse Stone/Cage Stone Complex; (16) Stone mortar; (17) Spearhead; (18) Punden Stairs/Terrace Stairs [33].

Each site will contain a description and accompanying images with core competencies, basic competencies, and learning indicators. Complete details of historical sites in the Pugungraharjo archaeological site complex are as follows. The teaching material developed were validated by expert lecturers, namely Dr. Johan Setiawan, S.Pd., M.Pd. The lecturer is a lecturer in the History Education Study Program at the University of Muhammadiyah Metro and was asked to become a validator because he has more ability in the field of assessment of teaching materials.

The results of the validation test by material and language experts obtained a total score of 173 with a percentage of 96% so the score achieved was included in the category "Very suitable for use in the field without revision". Based on the validation test by material and language experts, the category was very feasible without revision, so the researcher did not make revisions or product improvements.

As for the input or suggestions on the validation stage 1 given related to the improved spelling for more attention and the bibliography added with international journal sources.

In addition to material experts, the teaching materials developed were also validated by language and learning media experts. The validation test was carried out by Dr. Sudarman, M.Pd. The lecturer is a lecturer in the Postgraduate Program at the University of Muhammadiyah Metro and was asked to become a validator because he has more ability in the field of assessment of teaching materials.

This validation test is carried out in one stage. Validation is done by assessing three indicators, namely Book Size, Book Cover Design (Cover), and Book Content Design. In the following, the data from the material expert validation test results are presented. Based on the results of the validation test by media experts, the total score obtained is 112 with a percentage of 93%. Based on the percentage obtained, the product is declared "Very suitable for use in the field without any revision". Based on the validation test by media experts, it was found that the category was very feasible without revision, so the researchers did not make revisions or product improvements.

The results of the large group trial assessment have three assessment aspects, namely the appearance aspect, the material presentation aspect, and the benefit aspect. In the aspect of appearance in Table 4.5, the total score is 21.23 from the six items with an overall average score of 3.54 which is categorized as "very feasible to use". The image suitability item obtained the highest average score of 3.57 with the "very feasible" category. Aspects of presentation of material in table 3 obtained a total score of 46.08 with a mean score of 3.54 with the category "very suitable for use". In the aspect of benefits in table 3, it gets a score of 20.21 with an average of 3.37 which is categorized as "very feasible to use". The recapitulation table of small group trial assessments on the three aspects of the assessment is shown below:

TABLE 3 RECAPITULATION OF LARGE GROUP TRIAL ASSESSMENT RESULTS ON THREE ASPECTS

| Aspect | Average Score |
|---|---|
| Material Presentation | 3,54 |
| Display | 3,54 |
| Benefit | 3,37 |
| Total Amount | 10,45 |
| Average Overall Score | 3,48 |
| Category | Very Eligible |

Source: 2022 Research Results

The results of the large group trial assessment on three aspects can be seen visually in the diagram below (Figure).
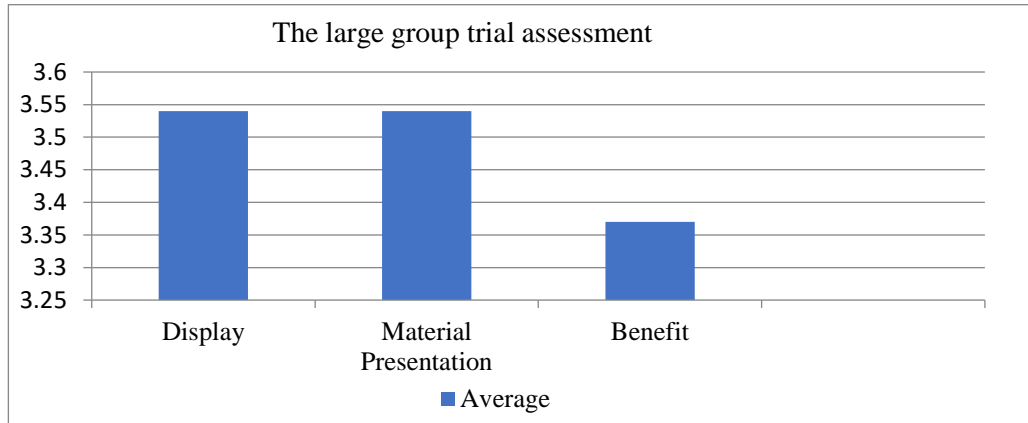
Figure 1 Diagram of Large Group Trial Results

Based on the diagram above, in the aspect of display and presentation of the material, the average score is higher than the other two aspects. This is because in the aspect of presenting this material, the average score obtained qualitatively is categorized as "very suitable for use", while the appearance and benefits aspects also get the overall average score is still in the high category, namely 3.54 and 3.54.

In an effort to analyze the increase in students' understanding of local history, prerequisite tests were carried out first, namely normality tests and homogeneity tests. If the data is normal and homogeneous then the next test uses a parametric test. The pretest and posttest learning outcomes in the experimental class (Class X IPS 1) are described in the table below:

TABLE 4 DATA DESCRIPTION OF STUDENT LEARNING OUTCOMES IN EXPERIMENT CLASS (X IPS 1)

| Type of test | Number of students | KKM | Mean | Standard Deviation | Minimum score | Maximum score |
|---|---|---|---|---|---|---|
| *Pretest* | 30 | 70 | 56,6 | 7,52 | 40 | 70 |
| *Posttest* | 30 | 70 | 90,8 | 9,52 | 80 | 100 |

Source: 2022 Research Results

TABLE 5 PRETEST AND POSTTEST NORMALITY TEST RESULTS

| Class | Test Type | Kolmogrorov-Smirnov[a] | | |
|---|---|---|---|---|
| | | **Statistics** | **df** | **Sig.** |
| Class Experiment | *Pretest* | 0,127 | 28 | 0,131 |
| | *Posttest* | 0,169 | 28 | 0,335 |
| Control Class | *Pretest* | 0,168 | 27 | 0,205 |
| | *Posttest* | 0,175 | 27 | 0,229 |

Source. 2022 Research Results

Based on the data on cognitive learning outcomes of experimental class students (X IPS 1), it is known that the average cognitive learning outcomes of students before learning is applied is 56.6 with a standard deviation of 7.52 and the minimum value obtained is 40, and the maximum value is 70. The average obtained based on students' cognitive learning outcomes after learning activities is 90.8 with a standard deviation of 9.52 and the minimum value is 80, and the maximum value is 100. Based on the results of the pretest and posttest scores in the experimental class (X IPS 1), then it can be used to determine the effectiveness of learning using the teaching materials of the Pugungraharjo Archaeological Site Encyclopedia with the normalized N-gain formula. The results of the normalized N-gain students' cognitive learning outcomes obtained an average of 0.79. According to Hake's criteria, the achievement of these scores indicates that students' cognitive learning outcomes are categorized as "high"[32].

TABLE 6 DATA DESCRIPTION OF STUDENT LEARNING OUTCOMES IN CONTROL CLASS (X IPS 2)

| Type of test | Number of students | KKM | Mean | Standard Deviation | Minimum score | Maximum score |
|---|---|---|---|---|---|---|
| *Pretest* | 30 | 70 | 56,8 | 7,53 | 40 | 72 |
| *Posttest* | 30 | 70 | 88,1 | 9,38 | 78 | 100 |

Source: 2022 Research Results

Based on the data on cognitive learning outcomes of control class students (X IPS 2), it is known that the average cognitive learning outcomes of students before learning is applied is 56.8 with a standard deviation of 7.53 and the minimum value obtained is 40, and the maximum value is 72. The average obtained based on students' cognitive learning outcomes after learning activities was 88.1 with a standard deviation of 9.38 and obtained a minimum value of 78, and a maximum value of 100. Based on the results of the pretest and posttest scores in the control class, then it can be used to determine the effectiveness of learning using the use of teaching materials for the Pugungraharjo Archaeological Site Encyclopedia with the normalized N-gain formula. The results of the normalized N-gain of students' cognitive learning outcomes obtained an average of 0.71. According to Hake's criteria, the achievement of these scores indicates that students' cognitive learning outcomes are categorized as "High".

To analyze the strengthening of students' understanding of local history, pre-requisite tests were conducted, namely the normality test, homogeneity test, and t test. If the data is normal and homogeneous, then the next test uses a parametric test. can be seen in the table below:

TABLE 7 SUMMARY OF PRETEST AND POSTTEST VALUE ANALYSIS RESULTS

| Test | Type Test | Result | Decision | Conclusion |
|---|---|---|---|---|
| Normality | *Kolmogoro v-Smirnov* | Sig *pretest* =0,157 Sig *posttest* =0,182 | H$_0$ Accepted | Normal Data |
| Homogeneity | *Levene Test* | Sig 0,165 | H$_0$ Accepted | Homogeneous Data |
| Test t | | Sig = 0,0004 | H$_0$ Accepted | There is a significant difference between the learning outcomes of the experimental class and the control class |

Source: 2021 Research Results

Based on this summary regarding the analysis of students' cognitive scores, it is known that the normality of the data tested using the Kolmogorov-Smirnov obtained a significance level of 0.157 for the pretest value and 0.182 for the posttest value. Both pretest-posttest values are greater than = 0.05, so H0 is accepted and means that the pretest-posttest values are normally distributed. Based on the results of the homogeneity test with a significance level of 0.162> 0.05, so H0 is accepted and means that the variation in each sample is the same (homogeneous).

The pretest-posttest data values were normally distributed and homogeneous so that further analysis would be carried out using the one-way ANOVA test. Based on the calculation, the result is t = -23.352 with a probability of 0.04 (p-value <0.05), so H0 is accepted. The data shows that there is an indication that the two data groups have a significance value of less than 0.05. This means that H0 is accepted or there is a difference after being given teaching materials for the Pugungraharjo Archaeological Site Encyclopedia. The experimental class (X IPS 1) has a greater average of 90.8 compared to the control class (X IPS 2) of 88.1. It can be concluded that the learning outcomes achieved by the experimental class (using the Pugungraharjo Archaeological Site Encyclopedia teaching materials) are better than the learning outcomes achieved by the control class (not using the Pugungraharjo Archaeological Site Encyclopedia teaching materials).

The results of the observation of local historical understanding based on observations of the five highest score groups were obtained on indicators of identifying the author, the sources used, and historical stories compiled of 77, Reconstructing the meaning of historical stories of 76.6, Identifying the main questions to be answered by the story History is 62, Differentiating between historical facts and historical interpretation is 64, analyzing issues and making decisions is 58.43, Appreciating historical perspectives is 63, Utilizing data from historical maps 68.2, and Utilizing visual, mathematical, and quantitative data 72. Based on The overall average understanding of students' local history in class X Social Sciences 1 can be categorized as 'Good'.

Based on observations when learning history activities in class X IPS 2 as the control class. The results of the observation of local historical understanding based on observations of the five highest score groups were obtained on

indicators identifying the author, the sources used, and historical stories compiled at 67.7, Reconstructing the meaning of historical stories of 63.3, Identifying the main questions to be answered by historical stories 55, Distinguishing historical facts and historical interpretations 57, analyzing issues and decision making 50, Appreciating historical perspectives 64, Utilizing data from historical maps 67.6, and Utilizing visual, mathematical, and quantitative data 71. Based on the overall average understanding of the local history of students in class X IPS 2 can be categorized as Good″.

The results of the observation of understanding local history in the experimental class and control class, it is known that from the highest score to the lowest score, class X IPS 1 which was given treatment using the Pugungraharjo archaeological site encyclopedia teaching materials obtained a higher score than class X IPS 2 which did not use teaching materials. the Pugungraharjo archaeological site encyclopedia as a teaching material in history learning at SMAN 4 Metro Class X IPS 1, the highest score was obtained by group 2 with an average of 68.3 in the "good" category.

The lowest score was obtained by group 5 with an average of 66.7 in the "good" category. Meanwhile, in the results of class X IPS 2 as the control class the highest score was obtained by group 4 with a score of 64.1, with a good category. The lowest score was obtained by group 2 with a score of 58.6 in the "enough" category.

B.     Discussion

Validation of the design and development of a product must be carried out to ensure that the product produced is in accordance with the requirements for the use of the product. Design validation and product development are basically to produce a final product that is able to meet customer needs, in this study customers include teachers and students under certain conditions.

Based on the results of the expert assessment of history teaching materials, an average of 96% was obtained with the category "fit for use in the field without revision". Therefore, it can be concluded that the teaching materials of the Pugungraharjo archaeological site encyclopedia are "very worthy of testing" in history learning.

The process of product validation of Pugungraharjo archaeological site encyclopedia teaching materials by learning media experts obtained an average score of 93 percent with the category "fit for use in the field without revision". Based on the results of the expert test of learning media, and the teaching materials of the Pugungraharjo archaeological site encyclopedia, the researchers did not revise.

After experiencing the validation process from history teaching material experts and learning media experts, all products developed were tested first on the subject, namely students in class X IPS 1 SMAN 4 Metro, totaling 30 people. The average large group trial score was obtained with an overall average score of 3.48 with the category "very suitable for use" in history learning. The average score shows the student's response to the use of Pugungraharjo archaeological site encyclopedia teaching materials in history learning. Learning activities were carried out 3 times in accordance with the time allocation provided, at the implementation stage, then the evaluation stage was carried out. The evaluation stage of the Pugungraharjo archaeological site encyclopedia teaching materials to strengthen the understanding of local history is ready to be applied to the process of history learning activities to see the effectiveness of the teaching materials. This is in accordance with the research on the Development of Teaching Materials in the Form of Encyclopedias of History and Local Culture of Dieng on Main Materials for the Development of the Life of the Hindu-Buddhist Kingdom in Indonesia at SMA Negeri 1 Karangkobar, Banjarnegara Regency, which was conducted by Yudha Bhuwana Girindra, Jayusman, and Abdul Muntholib [34]. The findings reveal that there are interactive local history teaching materials that are also effective in increasing students' knowledge of local history in Banjarnegara with a high effectiveness category of 79.58%.

Based on the implementation of the use of teaching materials for the Pugungraharjo archaeological site encyclopedia in class X IPS 1 SMAN 4 Metro, is supported by the results of a questionnaire regarding the implementation of history learning positively. Aspects of the assessment include: (1) teachers are able to communicate learning objectives (100%), communicate instructions for using books (89%), direct students to study seriously (100%), (2) teachers direct students in history learning activities (89%), (3) students work on books seriously, (89%), (4) students can express opinions and explore and draw conclusions after learning (78%), (5) book participants (100%), (7) students learn by using textbooks enthusiastically (100%), (8) students can do practice questions after the end of learning (88.89%), and (9) teachers do not dominate the implementation of learning activities in class (88.89 %).

Pugungraharjo archaeological site encyclopedia teaching materials are used to complement teaching materials on local history in the pre-literate period in Basic Competence (KD). The history textbooks for class X IPA/IPS SMA from the Ministry of Education and Culture have not included material for local Lampung history, especially in the Pre-literate period. This condition encourages researchers to complete the void of local historical material in the material. Learning history by utilizing material that comes from the immediate environment, students are expected to have an understanding of historical locality regarding the core identity of an area's life that has an important role and understand the characteristics of an area.

Based on the results of the pretest and posttest, the n-gain scores were 0.79 and 0.71. The n-gain score obtained shows that there is an increase in concept understanding in the "high" category. After calculating the conclusion that the variance of the two populations is homogeneous. So, it can be said that class X IPS 1 and class X IPS 2 have the same level of ability.

The increase in students' understanding of local history is in the "very good" category. This shows that during the learning process students try to develop their understanding of local history by linking the material with the experimental activities they experience. This statement supports the research on the Development of Social Science Encyclopedia-Based Teaching Materials on Materials for the Hindu-Buddhist and Islamic Kingdoms to Improve Learning Motivation of fifth-graders at Madrasah Ibtidaiyah Anbaul Ulum Pakis - Malang Regency [35]. Research conducted in 2015 by Nuurmansyah Hanif showed that there was a significant influence on the model developed related to social science on Hindu-Buddhist and Islamic kingdom materials to strengthen understanding of local history.

## IV. CONCLUSION

The results of observations on history learning in class X Social Sciences at SMAN 4 Metro can be concluded that learning history of local history materials has not been packaged in systematic and interesting teaching material. The implementation of learning is still dominated by teacher center learning so the understanding of local history that is demanded in the 2013 Curriculum has not achieved maximum results. Based on this background, this research develops teaching materials for the Pugungraharjo archaeological site encyclopedia to strengthen students' understanding of local history. The process of developing valid, practical, and effective Pugungraharjo archaeological site encyclopedia teaching materials for class X Social Sciences at SMAN 4 Metro refers to the Borg & Gall development model which was modified according to Sukmadinata, simplified into three stages. The results of validation data from media experts obtained a percentage of 93% with a very suitable category for use and the results of data from material validation obtained a score of 96% with a very suitable category for use. Meanwhile, the results of the large group trial in class XI IPS 1 reached a score of 3.48 with a very suitable category for teaching materials for the Pugungraharjo archaeological site encyclopedia in teaching history at SMAN 4 Metro. In the pre-test and post-test learning tests, it is known that the average value obtained by the experimental class is 73.40, this average value is higher than the control class which does not use the Pugungraharjo archaeological site encyclopedia teaching materials in learning but only uses history textbooks. The average achieved by the control class is 58.14. Thus, it can be concluded that the use of teaching materials for the Pugungraharjo archaeological site encyclopedia in the field trial has met the very good category and is suitable for use in learning History for class X Social Sciences at SMAN 4 Metro. The use of teaching materials for the Pugungraharjo archaeological site encyclopedia is effective in strengthening the students' understanding of local history at SMAN 4 Metro. Based on observations, class X IPS 1 which uses Pugungraharjo archaeological site encyclopedia teaching materials has higher results than class X IPS 2 which does not use Pugungraharjo archaeological site encyclopedia teaching materials in learning.

## REFERENCES

[1] J. Setiawan, Aman, and T. Wulandari, "Understanding Indonesian history, interest in learning history and national insight with nationalism attitude," *Int. J. Eval. Res. Educ.*, vol. 9, no. 2, pp. 364–373, 2020, doi: 10.11591/ijere.v9i2.20474.

[2] M. Watz, "An Historical Analysis of Character Education.," *J. Inq. Action Educ.*, vol. 4, no. 2, pp. 34–53, 2011.

[3] S. K. Kochhar, *Pembelajaran Sejarah.* Jakarta: Gramedia, 2008.

[4] H. Kurniasih, V. Y. D. Utari, and Akhmadi, "Character Education Policy and Its Implications for Learning in Indonesia ' s Education System," *Res. Improv. Syst. Educ.*, no. 2016, pp. 1–7, 2018, [Online]. Available: https://rise.smeru.or.id/en/publication/character-education-policy-and-its-implications-learning-indonesia's-education-system.

[5] M. Basri, J. Setiawan, M. Insani, M. R. Fadli, K. Amboro, and K. Kuswono, "The correlation of the understanding of Indonesian history, multiculturalism, and historical awareness to students' nationalistic attitudes," *Int. J. Eval. Res. Educ.*, vol. 11, no. 1, p. 369, 2022, doi: 10.11591/ijere.v11i1.22075.

[6] J. Jumardi, "Peranan Pelajaran Sejarah Dalam Pengembangan Karakter Siswa Melalui Pembelajaran Berbasis Nilai Sejarah Lokal di SMA Negeri 65 Jakarta Barat," *J. Pendidik. Sej.*, vol. 6, no. 2, pp. 70–80, 2017, doi: 10.21009/jps.062.08.

[7] Z. C. Y. Chan, "A systematic review of creative thinking/creativity in nursing education," *Nurse Educ. Today*, vol. 33, no. 11, pp. 1382–11387, 2013, doi: 10.1016/j.nedt.2012.09.005.

[8] Bahri, Jumadi, and A. D. R. Tati, *Integration of character values in local history learning (in Indonesian).* Bandung: Penerbit Media Sains Indonesia, 2021.

[9] N. A. Hidayati, H. J. Waluyo, R. Winarni, and Suyitno, "Exploring the implementation of local wisdom-based

character education among Indonesian higher education students," *Int. J. Instr.*, vol. 13, no. 2, pp. 179–198, 2020, doi: 10.29333/iji.2020.13213a.

[10] R. Priamantono, Warto, and A. A. Musaddad, "Implementation of Local Wisdom Values of Piil Pesenggiri as Character Education in Indonesian History Learning," *VNU J. Sci. Educ. Res.*, pp. 1–10, 2020, doi: 10.25073/2588-1159/vnuer.4366.

[11] Anjar Mukti Wibowo, "Pengembangan Model Pembelajaran Sejarah Lokal di SMA Kota Madiun," *J. Agastya*, vol. 6, no. 1, pp. 46–57, 1990.

[12] Warsiman, *Penguatan Identitas Budaya Lokal Jawa Timur*. Surabaya: UB Press, 2015.

[13] R. Soekmono, *Pengantar Sejarah Kebudayaan Indonesia I*. Yogyakarta: Kanisius, 1991.

[14] E. Mulyasa, *Menjadi Guru Profesional menciptakan Pembelajaran. Kreatif dan Menyenangkan*. Bandung.: Rosdakarya, 2007.

[15] R. Suharso, "Pembelajaran Sejarah Lokal Pada Kelas Sejarah (Model Pengembangan Bahan Ajar Sejarah Lokal Kota Kudus Dalam Rangka Meningkatkan Minat Siswa Pada Sejarah)," *Sej. dan Budaya J. Sejarah, Budaya, dan Pengajarannya*, vol. 11, no. 1, pp. 95–111, 2017, doi: 10.17977/um020v11i12017p095.

[16] A. Robertus, *Optimalisasi Media Pembelajaran*. Jakarta: PT Grasindo, 2007.

[17] D. A. Utami, "Pengembangan Bahan Ajar Berbasis Modul Interaktif Bagi Pemelejar BIPA Tingkat A1," *KREDO J. Ilm. Bhs. dan Sastra*, vol. 3, no. 2, pp. 277–294, 2020, doi: 10.24176/kredo.v3i2.4747.

[18] Trianto, *Mendesain Model Pembelajaran Inovatif-Progresif*. Jakarta: Kencana, 2011.

[19] Y. S. E. Tiwi Susanti, Ali Imron, "Situs megalithik taman purbakala desa pugung raharjo kecamatan sekampung udik kabupaten lampung timur," *Pesagi*, vol. 1, no. 4, 2013.

[20] A. Prastowo, *Panduan Kreatif Membuat Bahan Ajar Inovatif*. Yogyakarta: Diva Press, 2015.

[21] G. Vanessa, "Pembuatan Ensiklopedia Hewan Punah dan Terancam Punah Berbasis Web," *Calyptra J. Ilm. Mhs. Univ. Surabaya*, vol. 2, no. 2, pp. 1–6, 2013, [Online]. Available: https://journal.ubaya.ac.id/index.php/jimus/article/view/752/582.

[22] L. A. Faridah, "Pengembangan Ensiklopedia Dan LKS Invertebrata Laut Untuk Pembelajaran Biologi," *J. BioEdu*, vol. 3, no. 3, pp. 580–588, 2014.

[23] W. Suwarno, *Perpustakaan & Buku: Wacana Penulisan & Penerbitan*. Jogjakarta: Ar-Ruzz Media, 2011.

[24] P. Sulistyowati, D. M. N. Wahidiyah, and D. A. Setiawan, "Membangun Karakter Nasionalisme Melalui Pengembangan Bahan Ajar Ensiklopedia pada Materi Tokoh-tokoh Proklamasi," *J. Moral Kemasyarakatan*, vol. 4, no. 1, pp. 32–37, 2019, doi: 10.21067/jmk.v4i1.3392.

[25] A. W. Utomo, "Pengembangan ensiklopedi makanan tradisional Daerah Istimewa Yogyakarta.," *J. Chem. Inf. Model.*, vol. 53, no. 9, p. 137, 2016.

[26] I. Mohammad, *Ensiklopedia Sejarah dan Budaya Jilid 6*. Jakarta: PT Lentera Abadi, 2009.

[27] Sugiyono, *Quantitative, qualitative, and R&D research methods (in Indonesian)*. Bandung: Alfabeta, 2020.

[28] S. Punaji., *Metode Penelitian Pendidikan dan Pengembangan*. Jakarta: Prenada Media Group, 2017.

[29] Sukmadinata Nana Syaodih, *Metode Penelitian Pendidikan*. Bandung: PT. Remaja Rosdakarya, 2012.

[30] N. Sudjana and A. Rivai, *Media Pengajaran*. Bandung: Sinar Baru Algesindo, 2015.

[31] D. J. Richey, C Rita and Klein, *Design and Development Research Metdhods, Strateges and Issues*. Lawrence Erbaum Associates, Inc, 2007.

[32] R. R. Hake, "Analyzing change/gain scores," *Unpublished.[online] URL: http://www. physics. indiana. edu/\~ sdi/AnalyzingChange-Gain. pdf*, 1998. .

[33] E. D. J. dan Hermansyah, *Sejarah pugungraharjo dan kepurbakalaan*. Bandar Lampung.: Palapa Jaya, 1989.

[34] G. Y. Bhuwana and A. Muntholib, "Indonesian Journal of History Education Pengembangan Bahan Ajar Bentuk Ensiklopedia Sejarah dan Budaya Lokal Dieng," *Indones. J. Hist. Educ.*, vol. 5, no. 2, pp. 16–21, 2017.

[35] H. Nuurmansyah, *Pengembangan Bahan Ajar Berbasis Ensiklopedia Ilmu Pengetahuan Sosial Pada Materi Kerajaan Hindu- Buddha dan Islam Untuk Peningkatan Motivasi Belajar Peserta Didik Kelas V Di Madrasah Ibtidaiyah Anbaul Ulum Pakis-Kabupaten Malang*. 2015.

● **19% Overall Similarity**

Top sources found in the following databases:

- 12% Internet database
- Crossref database
- 12% Submitted Works database

- 14% Publications database
- Crossref Posted Content database

---

TOP SOURCES

The sources with the highest number of matches within the submission. Overlapping sources will not be displayed.

1  Deri Hendriawan, Lia Nur Asriah Maulia. "Integrated Teaching Material ...   <1%
   Crossref

2  eprints.ums.ac.id   <1%
   Internet

3  Ambuy Sabur, Dadang Saepuloh, Reva Triana. "Improving Students' Crit...   <1%
   Crossref

4  sciencegate.app   <1%
   Internet

5  R Novalia, H Sobar, R Ismaya, A Marini, M S Sumantri. "Effect of the Mi...   <1%
   Crossref

6  Mahatma Gandhi Institute of Technology on 2021-11-10   <1%
   Submitted works

7  Yunitasari,  Irwandani, E Triyana, A Pricilia, R H Maulana, M. N Yulianto....   <1%
   Crossref

8  jurnal.unimed.ac.id   <1%
   Internet

**9** Rachmatul Akbar, Mukminan. "Biology E-Magazine Development in Hu... <1%
Crossref

**10** Universitas Negeri Jakarta on 2020-06-05 <1%
Submitted works

**11** A Fajarini, Musyarofah. "Development of a Digital Catalog for the Kam... <1%
Crossref

**12** M N L Khakim, W D Sulistyo, Yuliati, R R Hudiyanto, I Afhimma. "Histori... <1%
Crossref

**13** Sudarwanto, V Serevina, D A Nugroho, H F Lipikuni. "Development of O... <1%
Crossref

**14** Baderiah Baderiah, Ahmad Munawir, Firman Firman. "Developing Islam... <1%
Crossref

**15** R Diani, Y Yuberti, S Anggereni, G N Utami, A Iqbal, I Kurniawati. "ECIRR... <1%
Crossref

**16** Universitas Riau on 2022-01-19 <1%
Submitted works

**17** journal.uniku.ac.id <1%
Internet

**18** Konsorsium PTS Indonesia - Small Campus II on 2021-01-07 <1%
Submitted works

**19** eprints.walisongo.ac.id <1%
Internet

**20** journal.unnes.ac.id <1%
Internet

**33** Pan, Xin Kitty. "The Development of an E-Learning Course Incorporatin...

Publication

<1%

**34** Universitas Islam Malang on 2019-06-14

Submitted works

<1%

**35** Universitas Negeri Semarang on 2022-04-11

Submitted works

<1%

**36** repository.umsu.ac.id

Internet

<1%

**37** researchgate.net

Internet

<1%

**38** Angeles University Foundation on 2022-06-07

Submitted works

<1%

**39** Garuda.Kemdikbud.Go.Id

Internet

<1%

**40** eprints.unm.ac.id

Internet

<1%

**41** Suwito Eko Pramono, Tsabit Azinar Ahmad, Putri Agus Wijayati. "The N...

Crossref

<1%

**42** Universitas Diponegoro on 2021-07-08

Submitted works

<1%

**43** Universitas Pendidikan Indonesia on 2021-10-27

Submitted works

<1%

**44** Universitas Riau on 2020-07-04

Submitted works

<1%

**45** Universitas Sebelas Maret on 2022-03-20
Submitted works

<1%

**46** lib.unnes.ac.id
Internet

<1%

**47** Sumarmi Sumarmi, Syamsul Bachri, Listyo Yudha Irawan, Muhammad ...
Crossref

<1%

**48** M Ruhimat, E Ningrum, B Wijayanto. "The Implementation of Problem B...
Crossref

<1%

**49** Oktariyani O, Oktariyana O. "The Effectiveness of the Application of the...
Crossref

<1%

**50** Universitas Jember on 2019-11-16
Submitted works

<1%

**51** Universitas Muria Kudus on 2019-09-09
Submitted works

<1%

**52** Universitas Negeri Jakarta on 2020-02-17
Submitted works

<1%

**53** conference.undiksha.ac.id
Internet

<1%

**54** media.neliti.com
Internet

<1%

**55** moam.info
Internet

<1%

**56** proceeding.nstproceeding.com
Internet

<1%

**57** Irlidiya Irlidiya, Achmad Tolla, Nurdin Noni, Anshari Anshari. "The Devel... <1%
Crossref

**58** R. Teti Rostikawati, Lufty Hari Susanto, Eka Puspita Rahayu. "DEVELOP... <1%
Crossref

**59** Universitas Pakuan on 2022-08-29 <1%
Submitted works

**60** Universitas Sultan Ageng Tirtayasa on 2020-06-03 <1%
Submitted works

**61** Vels University on 2017-02-16 <1%
Submitted works

**62** download.atlantis-press.com <1%
Internet

**63** e-journal.hamzanwadi.ac.id <1%
Internet

**64** ijere.iaescore.com <1%
Internet

**65** journal.stkipsingkawang.ac.id <1%
Internet

**66** repository.uin-malang.ac.id <1%
Internet

**67** thesai.org <1%
Internet

**68** Muhammad Rijal Fadli, Ajat Sudrajat, Aman Aman, Kian Amboro. "The i... <1%
Crossref

**69** Petroleum Research & Development Center on 2016-04-26
Submitted works
<1%

**70** W S Dewi, Murtiani, S Y Sari, Mairizwan. "The validity of physics learni...
Crossref
<1%

**71** D L Saraswati, Y Dinihari, A Nurrahmah, T A Sari, E Wiyanti. "The applic...
Crossref
<1%

**72** Iswidana Utama Putra, Nopriansah Nopriansah, Melly Susanti. "Develo...
Crossref
<1%

**73** Nur Ainiyah, Anik Ghufron, Marzuki Marzuki, Said Subhan Posangi et al...
Crossref
<1%

**74** Retno Winarni. "Development of Indonesian Language Text Books with ...
Crossref
<1%

**75** S Syukriah, C Nurmaliah, A Abdullah. "The implementation of project-b...
Crossref
<1%

**76** SMA Alfa Centauri on 2021-11-26
Submitted works
<1%

**77** St. Patrick's College on 2013-01-05
Submitted works
<1%

**78** Universitas Negeri Semarang on 2021-05-04
Submitted works
<1%

🔵 **Excluded from Similarity Report**

- Bibliographic material
- Manually excluded text blocks
- Manually excluded sources

EXCLUDED SOURCES

| | |
|---|---|
| **iarjset.com**<br>Internet | **93%** |
| **ijmmu.com**<br>Internet | **10%** |
| **jurnal.uns.ac.id**<br>Internet | **5%** |
| **repo.budiutomomalang.ac.id**<br>Internet | **4%** |
| **atlantis-press.com**<br>Internet | **2%** |
| **repository.lppm.unila.ac.id**<br>Internet | **2%** |
| **Rutgers University, New Brunswick on 2020-02-18**<br>Submitted works | **<1%** |
| **repository.uinsu.ac.id**<br>Internet | **<1%** |
| **ijarcce.com**<br>Internet | **<1%** |
| **Mahatma Gandhi Institute of Technology on 2021-11-12**<br>Submitted works | **<1%** |

Mahatma Gandhi Institute of Technology on 2021-11-12

Submitted works

<1%

Mahatma Gandhi Institute of Technology on 2021-11-12

Submitted works

<1%

Mahatma Gandhi Institute of Technology on 2021-11-10

Submitted works

<1%

Mahatma Gandhi Institute of Technology on 2021-11-09

Submitted works

<1%

erepository.uwks.ac.id

Internet

<1%

EXCLUDED TEXT BLOCKS

IARJSETISSN (O) 2393-8021, ISSN (P) 2394-1588International Advanced Researc...

iarjset.com

IARJSETISSN

Rutgers University, New Brunswick on 2020-02-18

IARJSETThis work is licensed under a Creative Commons Attribution 4.0 Internatio...

Mahatma Gandhi Institute of Technology on 2021-11-12

Issue 5, May

Mahatma Gandhi Institute of Technology on 2021-11-12

IARJSETISSN

Mahatma Gandhi Institute of Technology on 2021-11-12

Development of the Pugungraharjo ArchaelogicalSite-Based Encyclopedia to Impr...

repository.lppm.unila.ac.id