

## DEVELOPMENT OF LOCAL HISTORY E-MODULE BASED ON DIENG TEMPLE SITE FOR STUDENTS OF SMA N 1 BAWANG, BANJARNEGARA REGENCY

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### Abstract

This research aims to develop learning media in the form of Dieng Temple Site-Based Local History E-module for grade X students at SMA Negeri 1 Bawang, Banjarnegara Regency, and assess the feasibility of the media produced. The method used in this study is Research and Development (R&D) with a 4D development model that includes the Define, Design, Develop, and Disseminate stages, but is limited to the develop stage. The research subjects consisted of 30 students in class X-1. Data collection techniques were carried out through interviews, observations, and questionnaires. The results of the study show that e-modules have a very high level of feasibility. This is shown by the results of the validation of material experts (96.2%), media experts (88.2%), and the assessment of history teachers (98.7%). In addition, the results of the student response questionnaire showed a percentage of 91.4% and were categorized as "very interesting". Thus, it can be concluded that the Dieng Temple Site-Based Local History E-module is suitable for use as an alternative history learning media that is interactive, interesting, and able to increase students' interest and participation in learning.

Keywords: E-module; Local history; Dieng temple site.

### INTRODUCTION

History is a subject that reconstructs past factual events that affect various aspects of human life ranging from political, social, economic and cultural. However, the pedagogical reality in schools shows that history learning is still dominated by lecture methods that place students as passive subjects. The limitations of the learning experience that only focuses on listening and memorizing activities results in a failure to internalize values and meanings that are useful for life, thus triggering a negative stigma that history subjects are boring (Asmara, 2019).

History education has a very important role in shaping the character of students through the cultivation of values formed from past events. Character formation is expected to foster historical awareness in students (Muhtarom & Andi, 2023). The low attention of students to history lessons needs to be overcome immediately so that learning goals are achieved. History material at the high school level is often considered complicated, so teachers need to package their delivery creatively so that learning competencies are still achieved. One of the keys to this success lies in the use of relevant learning media, which not only serves as an aid, but also as an instrument to create interactive learning experiences (Hernadi, 2021).

Local history in general is a process of developing activities from human life in the region itself which is limited in scope by geography and administration. Local history still lacks a place in the importance of learning. Few teachers can explain the meaning of local history as the same material as national history. So that many students are blind to their own identity (Chalimi, 2023)

Learning with local history from the past to the present has many challenges in the form of local historical sources that will be used as relatively few references, short time given, teachers who are less creative in the learning process. Local history is still an urgency for educators in the learning

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process. With materials containing local history, it makes it easier for students to understand the truth of a nation's past events. However, the reality is that there are many local history lessons that have not been conveyed by teachers (Ningrum & Agustiningsih, 2022).

Basically, the material that will be delivered by teachers in the local history teaching and learning process needs to be developed. A history teacher has a major role in formulating the learning of history as it will be taught in class. In addition to being the implementer and developer of the curriculum, the history teacher needs to know in detail about the local history to which he or she is assigned. So that the above must be improved in the formulation of teaching materials and textbooks that contain local history.

The development of e-module-based local history teaching materials can be an innovative research because the e-module-based teaching materials developed pay attention to the need for understanding and awareness of local history for students in Banjarnegara in general. Based on the needs analysis by stating that the conditions of learning local history are still not optimal in its application. Some teachers still focus on learning in general which is adjusted to core competencies and basic competencies. So, the reason why teachers have not been maximized in teaching local history material is because there are no learning resources that specifically contain local history material.

Some previous research which has been done by developing e-modules on local history materials. The results of the previous research obtained products that were developed were effective in increasing the sense of nationalism and learning achievement compared to using teaching materials that are often used by teachers (Wine et al., 2020). In addition, Interactive e-modules based on local wisdom have a number of advantages that make them unique and useful. This e-module is presented interactively through learning activities, pictures, and videos so that it is able to create exciting learning. In addition, integrating local wisdom such as Tumpek Wariga, e modules are able to create the character of students to be more concerned about the culture and surrounding environment. E-modules provide easy access, so they are very suitable for learning needs in today's digital era (Sri, 2025). The next research develops e-module teaching materials assisted by the anyflip application based on local wisdom in social studies subjects to increase students' insight into local wisdom in their area (Five, 2023). The next research developed a local history e-module based on the Dieng temple site for class X students of SMAN 1 Bawang Banjarnegara which can be accessed by students using android phones.

The complexity of the problems described above in learning local history can be overcome by developing e-modules designed to facilitate students to learn independently with interesting features and can eliminate boredom in learning local history. The e-module that was created was developed using the application of choice, namely Canva. The appearance of this e-module is made interesting in terms of appearance and evaluation at the end of the material so that students can increase students' knowledge of local history learning. In this study, local history teaching materials will be packaged in the form of e-modules that can be used optimally in learning so that history learning becomes fun learning for students.

## RESEARCH METHOD

This study uses the Research and Development (R&D) which, refers to the (Scott, 2019), is a research strategy to produce a specific product while testing its effectiveness level through valid data support. In line with the stages presented by (October, 2023), this development process is carried out systematically, starting from the stage of needs analysis, product manufacturing, to the validation process to ensure quality. The use of this method aims to ensure that the products developed are truly scientifically tested and able to answer the challenges in the field.

This study adopts a 4D development model adapted from the theory (Thiagarajan, 1974) in (Lestari, 2018) and (Kurniawan & Dewi, 2017), which originally included the Define (definition), Design (planning), Development (development), and Dissemination (dissemination). However, the procedure in this study is limited to only three stages, namely Define, Design, and Development.

This was chosen because the product developed by the researcher only focuses on the implementation of material and media validation by experts which is then tested on a limited basis, namely in class X-1 SMA Negeri 1 Bawang.



Figure 1. Stages of 4D Development Model  
Source (Fayrus & Slamet, 2022)

This research was carried out at SMA Negeri 1 Bawang which is located at Jl. Raya Pucang No. 134, Bawang District, Banjarnegara Regency, Central Java. The research subjects involved in this study were students in class X-1 with a total of 30 students. The selection of the place was made to facilitate the collection of data in accordance with the development needs of the school environment.

In this study, the data collection technique used a questionnaire arranged in the form of an instrument sheet containing several written questions. The research instrument was given to respondents consisting of two people, namely material experts and media experts, to provide an assessment of the products developed. In addition, questionnaires are also given to students in the form of written questionnaires as part of product trials to find out student responses and assess the feasibility of the media that has been developed.

Before being used for research data collection, the questionnaire instrument that has been prepared is first tested for validity and reliability. Validity tests are performed to ensure that the instrument is able to measure what should be measured. In this validity test, what is used is the calculated  $r$  value compared to the  $r$  value of the table. For 30 respondents, the  $r$  of the table was 0.361. The reliability test in this study used Cronbach's Alpha technique. The instrument is declared reliable if the Cronbach's Alpha value obtained is above the minimum standard value, which is > 0.60 (Krisnawati, Artanti, & Umar, 2024).

Alternative Answers	Value
Excellent (SB)	4
Good (B)	3
Less (K)	2
Very Insufficient (SK)	1

Table 1.1 Likert Scale Assessment  
Source : (Scott, 2019)

The formula for calculating the results of the validation questionnaire using the Likert scale according to (Scott, 2019) are as follows:

$$P = \frac{\sum \text{Score obtained}}{\sum \text{Skor maximum}} \times 100\%$$

Based on the formula that has been described, the categories in the value scale can be categorized as shown in Table 1.2

Introduce yourself	Value Scale	Criteria and Description
$81.25\% < \text{value} \leq 100\%$	4	Highly Worth It
$62.5\% < \text{value} \leq 81.25\%$	3	Worthy
$43.75\% < \text{value} \leq 62.5\%$	2	Quite Decent
$25\% < \text{value} \leq 43.75\%$	1	Very Unworthy

Table 1.2. Eligibility Scale Categories  
Source : (Aupa & Yefterson, 2022)

## RESULT AND DISCUSSION

This research applies research and development (R&D) methods to create products in the form of a website-based electronic module that examines the history of temple sites and local culture of Dieng. The development of this media is intended as a means of enriching the material on the History of Hindu-Buddhist Civilization in Indonesia, so that students can learn the relationship between local heritage and national historical narratives in a more in-depth and interactive manner.

### Validity and Reliability Tests

The author aims to further clarify some of the fundamental distinctions between ethical-academic reasoning and ideological-theological-political discourse patterns or reasoning in this sub-chapter, drawing on the numerous prior explanations stated above. Between textual and contextual reasoning, between ideological-theocentric and philosophical-anthropocentric-academic reasoning, and between political reasoning and sensible politics, there are a number of significant distinctions between the two types of reasoning.

The initial stage in the research was carried out by compiling a list of questionnaire statements to be used. The questionnaire consists of 15 statement items for the e-module product feasibility questionnaire. The validity test uses a correlation method between the scores of each item of the questionnaire statement and the total score of the questionnaire. Then it was continued by carrying out a reliability test using Cronbach's Alpha. Validity test is used to measure the feasibility of each question or statement in a questionnaire to define a variable. Validity tests through data analysis applications on computers or SPSS can be carried out using techniques that are often used, namely Bivariate Pearson and Correct Item-Total Correlation.

In this study, the validity test analysis technique used is Bivariate Pearson, which is an analysis that correlates each item of statement or question with a total score; which is the result of the sum of all item scores. The interpretation of the results is that the questionnaire is declared valid if the Pearson value  $r$  is calculated  $> r$  table with a significance of 5%. Reliability is a statistical test on research instruments to measure the consistency of the data obtained even though repeated measurements have been carried out under different conditions. The method that is often used is Cronbach' Alpha. Taherdoost (2018) classified the reliability test results based on Cronbach's Alpha value, into low reliability ( $<0.5$ ), medium reliability ( $0.5-0.7$ ), high reliability ( $0.7-0.9$ ), and excellent reliability ( $>0.9$ ) (Krisnawati et al., 2024).

Table 2. E-module Feasibility Questionnaire Validity Test

Statement	r-table	r-count	Remarks
P1	0,361	0,445	Valid
P2	0,361	0,472	Valid
P3	0,361	0,518	Valid
P4	0,361	0,428	Valid
P5	0,361	0,526	Valid
P6	0,361	0,378	Valid
P7	0,361	0,470	Valid
P8	0,361	0,394	Valid
P9	0,361	0,508	Valid
P10	0,361	0,477	Valid
P11	0,361	0,363	Valid
P12	0,361	0,536	Valid
P13	0,361	0,377	Valid
P14	0,361	0,495	Valid
P15	0,361	0,497	Valid

Based on the results of the validity test in Table 2. Namely, a statement that measures the feasibility of e-module products as a source of historical learning can be declared valid with 15

statements. In this validity test, what is used is the calculated  $r$  value compared to the  $r$  value of the table. For 30 respondents, the  $r$  of the table was 0.361.

Table 3. Results of the Reliability Test of the E-module Feasibility Questionnaire

Questionnaire	Cronbach's Alpha	Remarks
E-module Qualification	0,664	Reliable

Reliability Statistics	
Cronbach's Alpha	N of Items
.664	15

Table 3. Displaying the results of the reliability test with Cronbach's alpha calculation, the feasibility variable of the e-module product was obtained with a coefficient value of 0.664. The test results show that the e-module feasibility questionnaire as a source of history learning can be declared reliable or reliable and consistent, because it has met the requirements, namely the value of Cronbach's Alpha coefficient  $> 0.60$ . The following is Table 2. Results of the Feasibility Test of E-modules as a Source of History Learning.

### Define Stage

At the definition stage, a needs analysis is carried out by collecting various information needed as a basis for the product development process. The researcher took the first step in research and development by interviewing a history teacher at SMA Negeri 1 Bawang Banjarnegara, namely Inayah Dwi Lestari, S.Pd. Based on the results of the interview, the researcher received information that SMA Negeri 1 Bawang Banjarnegara had used the Independent Curriculum with a Deep Learning Approach in class X. The use of the independent curriculum caused changes in the characteristics of students at SMA Negeri 1 Bawang. Not only changes in the characteristics of students, but changes also occur in the teaching style of history teachers in the classroom. The school also facilitates wifi that can be accessed by school residents which of course can be used. With these facilities and infrastructure, when history learning takes place, students often use the internet or other technology to find information as an addition to the history learning material that has been explained by the teacher.

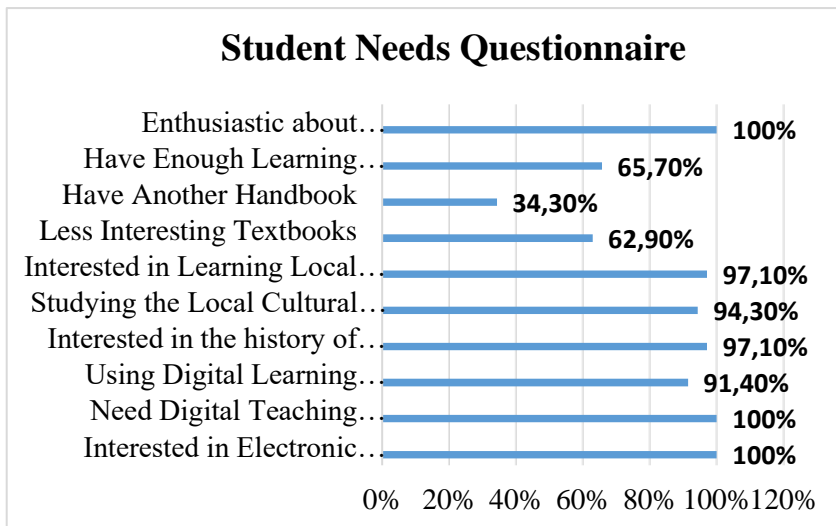
In learning history in class X, it is found that local history in learning is still not paid attention. This happens because in textbooks, the material is not included in the main material of history learning and is only supplementary material. He also said that when teaching Hindu-Buddhist history about the Dieng temple site, he usually asked students to look for material on the internet for analysis.

Local history material regarding temple sites and local culture has not been included in class X history textbooks, resulting in students not understanding the history around the students' environment. With the rapid change of times, of course, it also encourages the use of technology to support history learning to be more effective and efficient. Through the development of local history teaching materials through simple, centralized, and flexible non-print teaching materials, it is hoped that it can increase students' interest in learning history in the classroom. Overall, interviews conducted by the researcher with history teachers highlighted the lack of availability of local history teaching materials for students, students' interest in learning history, curriculum changes, students' characteristics in learning history in the classroom, and the use of technology to maximize history learning in the classroom.

The next stage carried out by the researcher is data collection by distributing questionnaires of needs to students. This questionnaire is used to find out the needs of students in schools regarding local history teaching materials, temple sites and local Dieng culture.

The researcher distributed questionnaires to students in class X-1 with a total of 30 students in total. The distribution of questionnaires was carried out by researchers on March 5, 2026. In the questionnaire, there are several statements that have been filled in by the students. The following are some of the answers from the student needs questionnaire that has been distributed at SMA Negeri 1 Bawang Banjarnegara.

Figure 1.1 Student Barriers and Interests



Realizing the complexity of these challenges and needs, the e-module teaching materials for temple sites and local culture were developed as an innovative solution. The development of this teaching material is based on empirical findings obtained through observation, interviews, needs analysis, and questionnaire distribution. The findings show three important points, namely first, the high enthusiasm of students for local history, especially the history of temple sites and local culture. Second, it opens up opportunities to connect global events with national contexts and local dynamics that affect people's survival. Third, the selection and development of e-module-based electronic teaching materials is based on the analysis of the needs of students' teaching materials, which makes it easier for students to understand the material without the need to take notes. Complete and enrich educator explanations with visuals and additional information. Self-paced learning resources that can be accessed anytime and anywhere. Invite students to be actively involved in learning. Clear and structured summary of the material.

*Design Stage*

At this stage, the design of e-module learning media is carried out. The activities carried out include collecting materials related to the topic of local history of the Dieng temple site from various sources, both from books and other sources on the internet. The preparation of local history teaching materials carried out by the researcher begins by conducting a literature study according to the local history material that will be developed as teaching materials. The researcher compiled local history teaching materials by conducting a literature study of local history materials about Dieng temple sites and local culture. The researcher utilizes various relevant and credible sources, such as visiting the Dieng temple site, in-depth scientific research books, the latest and relevant journal articles, and then the researcher combines these sources to compile teaching materials on the history of the temple site and local culture of the Dieng temple.

Next, the researcher searched for and collected relevant images to support the presentation of the material. After all the materials and images were collected, the researcher began to design the E-module design using the Canva application, which included the selection of design templates, the creation of the front cover, the back cover, and the preparation of various other layout elements to make the media appearance more attractive and systematic. After the design process of the E-module learning media is completed, the next step is to turn it into a flipbook so that the e-module display has a flip-page effect like a digital book. This process is carried out to improve the product

so that the learning media becomes more interactive and interesting to use in the learning process. The following are the results of the design of the E-module product:



Figure 1. Initial cover of E-module



Figure 2. Table of Contents View



Figure 3. Material Section Display

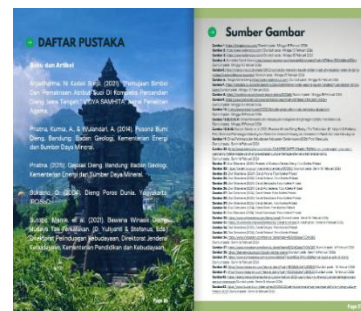


Figure 4. Bibliography View

### Develop Stage

The third stage in the 4D development model is the develop stage. At this stage the developed product is validated by experts. Validation in this study refers to the construct validity test, which is a test conducted based on the assessment and consideration of experts on the developed instrument or product (Scott, 2019).

At the development stage, a validation process was carried out twice involving material experts and media experts. This step was taken to test the feasibility and effectiveness of the products developed in supporting history learning, as well as to ensure that materials related to temple sites and local culture in Dieng can be understood more easily by students. The experts who provide an assessment of the quality of the content and design appearance of this local history e-module consist of the following experts.

### Material Expert Validation Results

The product developed was then validated by a material expert lecturer, namely Mr. Dr. R. Soeharso, M.Pd. The validation process involves competent expert lecturers to provide input, criticism, and constructive suggestions to ensure that the teaching materials developed are of high quality and relevant to the characteristics of students. The assessment of subject matter experts is carried out based on the assessment aspect with an instrument containing 20 Likert scale questions which cover the assessment range from Very Good (score 4) to Very Poor (score 1), so that objective and systematic data are obtained.

$$P = \frac{\sum \text{Score obtained}}{\sum \text{Score maximum}} \times 100\%$$

$$P = \frac{77}{80} \times 100\% \\ = 96,2 \%$$

Based on the results of validation at this stage, the E-module obtained a percentage of 96.2%. The percentage value is then adjusted to the eligibility criteria table and is included in the very feasible category. Thus, the e-module developed is stated to be very feasible for use as a history learning medium and does not require further revision.

### Media Expert Validation Results

The e-module teaching material on local history materials, namely temple sites and local culture of Dieng, has gone through product feasibility testing by a history lecturer at Semarang State University as a validation of media experts, namely Mr. Atno, S.Pd., M.Pd. This media expert is determined in accordance with the expert's competence as a media expert. In the media expert validation stage, there are several aspects that are assessed, namely teaching material innovation, teaching material features, and teaching material design with a total of 17 indicators. Product ratings by validators are analyzed using a systematic Likert scale. This instrument categorizes the response into four score levels, namely Very Good with a weight of 4, Good with a weight of 3, Less with a weight of 2, and Very Poor with a weight of 1.

$$P = \frac{\sum \text{Score obtained}}{\sum \text{Score maximum}} \times 100\%$$
$$P = \frac{66}{68} \times 100\%$$
$$= 88,2 \%$$

Based on the results of validation at this stage, the E-module obtained a percentage of 88.2%. The percentage value is then adjusted to the eligibility criteria table and is included in the very feasible category. Thus, the e-module developed is stated to be very feasible for use as a history learning medium and does not require further revision.

Table 4. Results of Expert Validation Score

Validator	Total scores obtained	Maximum score	Average score (%)
Material Expert	77	80	96,2 %
Media Member	66	68	88,2 %

### Results of the Teacher Response Questionnaire

The e-module teaching materials on the Dieng temple site and local culture material have met the product feasibility test by the history teacher of class X of SMA Negeri 1 Bawang, Banjarnegara Regency, namely Mrs. Inayah Dwi Lestari, S.Pd. This trial is an important part of the product development process to produce quality and feasible e-module teaching materials on the theme of Dieng temple sites and local culture before being used in the trial to students. Product ratings by validators are analyzed using a systematic Likert scale. This instrument categorizes the response into four score levels, namely Very Good with a weight of 4, Good with a weight of 3, Less with a weight of 2, and Very Poor with a weight of 1.

$$\sum P = \frac{97,5\% + 100\%}{2}$$
$$= \frac{197,5\%}{2}$$
$$= 98,7\%$$

Based on the results of the trial of the use of media by the teacher above, it was revealed that the e-module with material on the Dieng temple site and local culture developed by the researcher achieved an average percentage score of 98.7%, classified as "very feasible", so that the e-module can be used without revision. This indicates approval to conduct a trial use of the product, after achieving a feasibility percentage above 62.5% with a minimum category of "moderately feasible".

The quality of the Dieng Temple and Local Culture Site e-module is evidenced by the acquisition of scores (average of 4) on all assessment indicators, which places it in the "excellent" category. These advantages include design and layout aspects, the quality of illustrations and drawings, ease of operation, to the depth and objectivity of the material presented. In addition, the aspect of conformity with the level of understanding of students also received maximum scores, which confirms that all elements that make up this e-module both in terms of visuals, functionality, and material substance have met very high quality standards for use in the learning process.

### Student Response Survey Results

The test of the use of the developed historical product, namely e-module teaching materials with material on temple sites and local Dieng culture, was carried out at SMA Negeri 1 Bawang Banjarnegara, precisely in class X-1. This trial was carried out twice, namely a one-on-one trial, as an initial input on the product and a trial use. The main purpose of this trial is to produce teaching materials that are suitable for use in learning history at SMA Negeri 1 Bawang Banjarnegara.

#### 1. one-on-one trial

This one-on-one trial of teaching materials involved 5 selected students from class X-1. The selection of students is done at random to ensure a diverse representation of the target population. The trial takes place on Thursday, March 5, 2026

Figure 1.2 Calculation of Students' Limited Test Response Results

No	Name	Assessment Aspect															Amount	Percentage	Information
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15			
1	A1	4	3	4	3	3	4	4	3	3	4	4	3	4	3	3	52	86 %	SM
2	A2	4	3	4	3	3	4	4	4	4	3	4	4	3	3	4	54	90 %	SM
3	A3	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	59	98 %	SM
4	A4	4	4	3	4	3	3	4	3	4	3	4	3	3	3	4	52	86 %	SM
5	A5	4	4	3	4	3	3	3	3	4	4	3	3	4	2	4	51	85 %	SM
Amount		20	18	18	18	16	18	19	17	19	17	19	17	18	15	19	268	445%	
Percentage		100%	90%	90%	90%	80%	90%	95%	85%	95%	85%	95%	85%	90%	75%	95%			
Eligibility		SM	SM	SM	SM	M	SM	SM	SM	SM	SM	SM	SM	SM	M	SM			

	Total Score	Score Presentation	Remarks
Results	268 : 5 = 53.6	445 : 5 = 89%	81.25% < 100% ≤ value
Remarks		Positive	Very Interesting

Table 5. Results of Student Limited Trials  
Source : Primary Data processed by researchers

#### 2. Trial Use by Grade X-1 Students

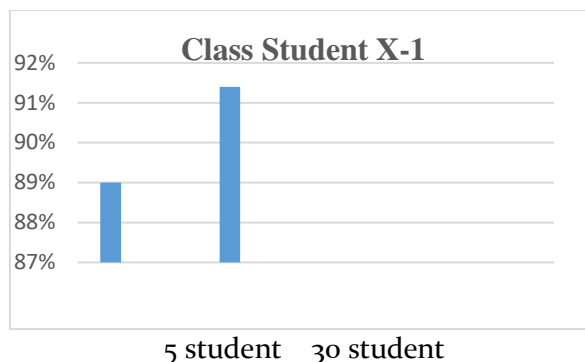
After going through two important stages, namely testing the use of products by students in a limited trial and revision based on input, the researcher proceeds to the next stage: the trial of use. This stage will be held on March 6, 2026 at SMA Negeri 1 Bawang Banjarnegara, precisely in class X-1 consisting of 30 students. This trial of use aims to measure the effectiveness of the product in actual learning situations. The students in class X-1 had the opportunity to use the product and give their feedback.

	Total Score	Score Presentation	Remarks
Results	1.651 : 30 = 55.3	2,742.6 : 30 = 91.4%	81.25% < 100% ≤ value
Remarks		Positive	Very Interesting

Table 6. Results of Student Usage Trials  
Source : Primary Data processed by researchers

The e-module teaching materials based on temple sites and Dieng local wisdom have passed the revision stage and direct testing to students with satisfactory results. In the one-on-one trial stage, the product achieved an average score of 89%, which later increased to 91.4% in the wide-use test; both were classified as "very attractive". This high percentage figure proves that the e-module received a positive and effective response in triggering students' enthusiasm to explore Dieng history and local culture materials.

Figure 1.3 X-1 Student Usage Trial



The e-module teaching materials based on the Dieng Temple and Local Culture Site were declared very feasible to use after passing a series of expert validations, assessments of history teachers of SMA Negeri 1 Bawang, and revision processes. The results of the trial were limited to 30 students in class X-1 and confirmed this finding with an average questionnaire score of 91.4% which was included in the "very good" category. The results of this study are in line with a global study on the digitization of local history. Research in Malaysia shows that digital teaching materials of local history significantly increase students' "historical empathy" (M. Khairi Mahyudin, 2025).

The results show that the e-module teaching materials have been tested and proven to meet the high eligibility criteria to be developed and applied in the teaching and learning process. The feasibility of this teaching material is proven through a series of validations and trials. The validation of media experts and material experts showed high scores, namely 96.2% and 88.2%. This shows that this teaching material is well designed and in accordance with the rules of interactive learning media, and contains material that is accurate and relevant to the learning objectives. Trials of the use of the product by teachers and students also showed positive results, with scores of 98.7% and 91.4%. This score shows that teachers and students are satisfied with the e-module teaching materials and are easy to use in the learning process. Based on the findings of this study, the teaching materials for the Dieng Local Temple and Culture Site e-module show that the product is very feasible to be used as a history learning medium at SMA Negeri 1 Bawang, Banjarnegara Regency.

### Final Product Review

The product produced is a teaching material for the Dieng Temple and Local Culture Site e-module to support the historical material of Hindu-Buddhist civilization/Hindu-Buddhist kingdoms in Indonesia. This product is produced using the Canva application for structure development, content presentation, and publication. The researcher also created an e-module in the form of a website so that the e-module is compatible with electronic devices owned by students and teachers, such as computers/PCs, laptops, tablets and smartphones.

The resulting e-module product takes two months to complete starting from the stage of analysis, planning, development, implementation and evaluation of the product. The structure of the e-module format of the Dieng Temple and Local Culture Site material is designed into three parts, namely the first introduction containing the preface, table of contents, and content standards. Second, the material includes general information about the dieng area starting from

the geographical and geological location and the origin of the name dieng. Followed by the history and architecture material of the temple which includes traces of Javanese ancestors in Dieng, the legacy of colonialism in Dieng, the history of Dieng Temple and temple architecture. Then material on local culture and life values consisting of the history of dreadlocks and the tradition of ruwatan as well as the integration of community life values. The third closing, contains reflection questions packaged in the form of practice quiz questions.

This e-module is designed with the main purpose of providing convenience for users in learning local history materials, especially the history of the Dieng Temple Site and Local Culture to support the material of Hindu-Buddhist civilization in Indonesia. In contrast to traditional teaching materials that are tied to paper format, these e-modules offer much more flexibility and accessibility. Users can access and study this e-module material whenever and wherever they are, as long as they have an electronic device connected to the internet.

### Product Limitations

The results of this research and development show that the e-module based on the Dieng Temple and Local Culture Site has a very high level of validity and practicality, but there are several research limitations that need to be considered. Methodologically, this research is only limited to the Development (development) in 4D models, so that the effectiveness of the product on a wide scale at the Disseminate (spread) has not been empirically measured outside the test subjects of SMA N 1 Bawang.

From a technical perspective, the operation of this e-module is entirely dependent on digital infrastructure, including the availability of qualified hardware and the stability of internet connections, so that potential accessibility obstacles are still possible in schools with uneven technological facilities. In addition, the local historical content developed is very specific and contextual to the Dieng region, which on the one hand is the strength of the product, but on the other hand limits the generalization of the use of the material to different geographical regions without any significant content modification. Finally, interactivity in this e-module still needs further development, especially in integrating features that are more adaptive to various learning styles of students so that the goal of learning independence can be achieved more optimally and personally.

### CONCLUSION

The results of the study show that the development of local history teaching materials in the form of electronic modules regarding the Dieng Temple and Cultural Site is very necessary to overcome the limitations of learning resources and low student understanding at SMA Negeri 1 Bawang Banjarnegara. Through the 4D development model, this e-module was declared "very feasible" by material experts (96.2%), media experts (88.2%), and history teachers (98.7%), and received a "very interesting" response from students with a percentage of 91.4%. As a follow-up, it is recommended that teachers integrate this module with cooperative learning models and field trip activities to build a more contextual awareness of students' history, while future researchers are expected to examine the effectiveness of the use of this media in the long term.

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