



DEVELOPMENT OF MULTIMEDIA-BASED LEARNING MEDIA USING GOOGLE SITES IN INDONESIAN HISTORY SUBJECT FOR GRADE X B AT SMAI SUNAN GUNUNG JATI

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Abstract— This study aims to develop multimedia-based learning media using Google Sites. The method used is research and development with the ADDIE model. The product of this research is a mobile-accessible learning media for the Indonesian History subject at SMA Islam Gunung Jati. Media feasibility tests yielded a score of 95% from media experts and 100% from content experts. Evaluation phases involving small and large groups resulted in scores of 86% and 91%, respectively. These findings indicate that the developed media has strong potential to enhance the effectiveness of education and the integration of technology in the learning process.

Keywords— Learning Media, Multimedia, Google Sites.

I. INTRODUCTION

The advancement of information and communication technology has significantly impacted human life, influencing nearly every aspect of daily activities [1]. Integrating these technological developments into the educational process, especially through multimedia-based platforms like Google Sites, helps align teaching methods with the digital era—making learning more engaging and effective [2]. In today's context, educators are expected to demonstrate innovative and creative teaching competencies. When lessons are delivered in a more attractive and interactive way, student engagement and enthusiasm increase [3].

Education plays a vital role in individual and social development, fostering continuous interaction toward achieving specific goals [2]. Teaching strategies that match students' interests and abilities are essential to educational advancement. Utilizing multimedia media not only innovates learning experiences but also enhances the delivery of content effectively and supports producing graduates who meet digital-era demands [4].

Senior High School (SMA) is a secondary education level equivalent to Madrasah Aliyah (MA) and Vocational High School (SMK), with institutions spread across Indonesia [5]. One example is SMA Islam Sunan Gunung Jati, located in Ngunut District, Tulungagung Regency. As this school operates under the supervision of an Islamic boarding school (pondok pesantren), students face limited access to media and technological resources. Therefore, it is essential to design innovative technology-based learning approaches that align

with the values and regulations of the pesantren. This will help bridge the gap between the demands of the digital era and the religious-based educational environment [6].

Therefore, this study considers and explores the implementation of multimedia-based learning development using Google Sites. History is a subject that is predominantly delivered through lectures, making the learning process monotonous and less engaging. By integrating technological media into the learning process, it is expected to support students in understanding the material more effectively and enhance their knowledge retention [7].

II. RESEARCH METHOD

This study employs a research and development approach, commonly referred to in English as Research and Development (R&D). According to its definition, research and development is a method used to produce a product while also evaluating its effectiveness [8]. It is a research method used to develop a product while also serving to test the effectiveness of that product. Meanwhile, according [9] *educational research and development is a process used to develop and validate educational product*. In other words, research and development in the field of education is a process aimed at developing and testing a product intended for educational purposes. The product development model used in this study is the ADDIE model, which was developed by Dick and Carey. This model consists of five stages, namely *Analysis, Design, Development, Implementation* dan *Evaluation* [10].

In this study, data collection was conducted using a multi-method approach to ensure the validity of the results. The observation stage allowed researchers to directly observe learning phenomena, while in-depth interviews provided qualitative insights from the perspective of the research subjects. Questionnaires were distributed to collect quantitative data from a more representative sample [7].

The assessment system was developed by considering three evaluator perspectives: (a) media experts to assess technical aspects, (b) subject matter experts to evaluate the content, and (c) user responses (students) to measure product acceptance. Data from these three sources were then analyzed



using percentage-based techniques to determine the feasibility level of the developed learning media [9].

In the data analysis process, the researcher applied statistical formulas to measure the validity level of the developed multimedia learning media.

$$\text{Hasil} = \frac{\text{Skor hasil yang diperoleh}}{\text{Skor maksimal}} \times 100\%$$

Sumber: (Nuryanah dkk., 2021)

Furthermore, the results of the quantitative analysis will be compared against the score interpretation table. Based on the study by Ernawati as cited in [11] the percentage criteria for the feasibility of learning media can be classified as follows:

| No | Skor dalam presentase | Kategori |
|----|-----------------------|--------------------|
| 1. | < 21% | Sangat Tidak Layak |
| 2. | 21% - 40% | Tidak Layak |
| 3. | 41% - 60% | Cukup Layak |
| 4. | 61% - 90% | Layak |
| 5. | 91% - 100% | Sangat Layak |

III. HASIL DAN PEMBAHASAN

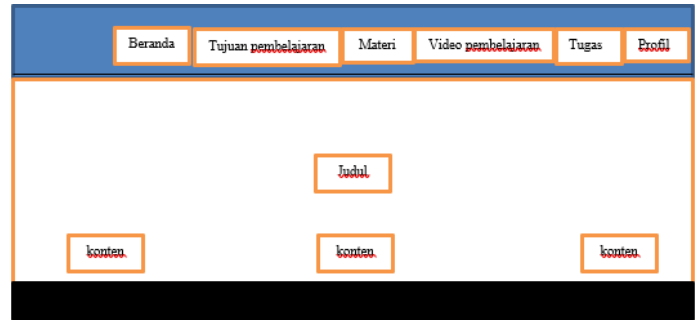
This development research was conducted at SMA Islam Gunung Jati and resulted in a multimedia-based learning media product that is both effective and interactive, utilizing the Google Sites platform for the Grade X B History subject. The product was designed using computer-based tools and developed with a multimedia approach by optimizing the features available in Google applications. The research method employed was Research and Development (R&D), referring to the model of Robert Maribe Branch as cited in [12], using an instructional design approach through the ADDIE stages (Analysis, Design, Development, Implementation, Evaluation). These stages include: Analisis (*Analysis*),

1. *Design*,
2. *Development*,
3. *Implementation*,
4. *Evaluation*.

Based on the initial observations at SMA Islam Gunung Jati, the analysis stage—the first step in developing multimedia-based learning media—revealed three key findings: (1) An analysis of student characteristics showed that history learning is still predominantly lecture-based, with student achievement ranging between scores of 60–70, and limited use of learning media, (2) Content analysis identified the need for developing more interactive materials and, (3) Needs analysis revealed that teachers face challenges in utilizing technology, which contributes to the continued use of conventional teaching methods. These findings highlight the importance of developing mobile-based interactive

learning media to enhance the effectiveness of the learning process [13].

The second stage, design planning, was carried out by preparing a development design. A multimedia-based learning media for the History subject was created using the Google Sites platform, following the previously established design. The product was then evaluated by media experts and subject matter experts to determine its validity before being implemented for students at SMA Islam Sunan Gunung Jati [14].



Picture 1.0 Design Layout Google Site.

In the development stage, the learning media—previously designed using the Google Sites platform—was further refined. The homepage features a background image of the Indonesian map along with the red and white national flag, symbolizing the identity of the Indonesian nation. Additionally, the media includes the university logo to indicate that this product was developed by students of Universitas Bhinneka PGRI Tulungagung. The homepage includes icons for navigation, such as a home button, learning objectives, instructional videos, and references for the presented materials. This learning media is equipped with clickable icons that direct users to subsequent pages, which are visually enhanced with attractive graphic elements.



Homepage Image





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Learning Objectives Page Image



Concept Map Page Image



Material Page Image



Learning Content Page Image

On the content page, a discussion is presented regarding the historical heritage of Hindu-Buddhist kingdoms along with its explanations. Meanwhile, on the learning video page, there is a video directly integrated with the YouTube platform, containing content aligned with the material being taught. Therefore, operating this media requires a stable internet connection.



Learning Video Page Image



Learning Vidio Page Image

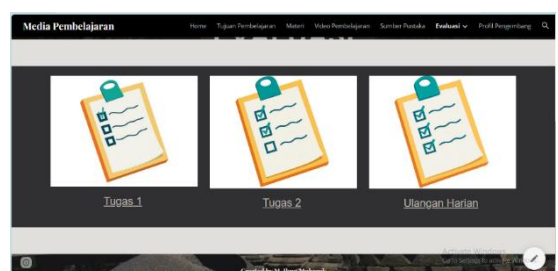


Reference Page Image

In the development of this media, additional pages were included to provide assignments and evaluations in order to support an optimal learning process. Subsequently, the product will undergo an evaluation phase by media experts and subject matter experts to validate its feasibility before being implemented for students at SMAI Sunan Gunung Jati.



Evaluation Page Image



Assignment Page Image

In the Implementation stage, a trial was conducted on the developed learning media. An initial evaluation was then carried out to gather feedback for improvements in the next phase. The trial with a small group resulted in a score of 86%. Based on the researcher's observations, the media had not yet reached its maximum potential due to weaknesses in visual appearance and operability. Therefore, the media could not yet be considered excellent in terms of interface layout and user-friendliness.



In the large group trial, the media received a score of 91%. However, based on the researcher's analysis, this result was not yet optimal due to shortcomings in the organization of the material sequence. Nevertheless, the score indicates that the media is feasible and can be used in the learning process, and several of its weaknesses have been revised accordingly [15].

| No. | Saran perbaikan media | Status Perbaikan |
|-----|--|-------------------|
| 1. | Konsistan dalam penggunaan huruf dan font | Sudah di perbaiki |
| 2. | Pada halaman materi pilih Background yang lebih redup cahaya nya, supaya tulisan bisa terbaca dengan jelas | Sudah di perbaiki |
| 3. | Pencantuman logo prodi Pendidikan teknologi informasi, fakultas sains dan teknologi dan logo universitas bhinneka pgri ke dalam media pembelajaran | Sudah di perbaiki |
| 4. | Penambahan peta konsep pada halaman tujuan pembelajaran | Sudah di perbaiki |
| 5. | Pada halaman materi di berikan gambar yang relevan dengan materi yang di paparkan | Sudah di perbaiki |

The next stage is the product evaluation phase, in which the developed product is assessed. This stage determines whether the product meets expectations and fulfills the identified needs. If any shortcomings are found, improvements will be made to ensure the product can effectively meet those needs.

The validity of the product, based on the results of expert testing by media specialists, was carried out in two stages. In the first stage, the product received a score of 84%. The suggestions provided at this stage included improving the interactivity of the media and addressing issues related to its ease of use. After revisions were made based on these suggestions, the product was re-evaluated by the media expert and received an improved score, indicating that the product was highly feasible for use. Tabel 2.0 Hasil Uji Ahli Media.

| Aspek | Indikator | Skor | Keterangan |
|------------|---|------|------------|
| Komunikasi | Pengguna dapat menggunakan media dengan mudah | 5 | Baik |
| | Media ini berinteraksi dengan baik dengan pengguna | 4 | Baik |
| | Urutan informasi atau langkah-langkah dalam media sudah jelas | 5 | Baik |
| | Petunjuk penggunaan media ini sudah jelas | 4 | Baik |
| | Penggunaan Bahasa dalam media sudah baik | 5 | Cukup Baik |

| | | | |
|--------------------|--|-----------|------------|
| Desain Teknis | Tata letak dan format teks dalam media ini sudah menarik | 4 | Cukup Baik |
| | Penggunaan warna dalam media ini sudah baik | 4 | Cukup Baik |
| | Kualitas vidio yang digunakan dalam media ini sudah bagus | 5 | Baik |
| Format Tampilan | Informasi dan langkah-langkah dalam media berjalan secara runtut dan jelas | 5 | Cukup Baik |
| | Penataan icon dalam media ini sudah rapi | 4 | Cukup Baik |
| | Keseluruhan tampilan dalam media sudah bagus | 4 | Baik |
| Jumlah Skor | | 49 | |

$$\text{Hasil} = \frac{\text{Skor yang Diperoleh}}{\text{Skor Maksimal}} \times 100\%$$

Hasil Perhitungan:

$$= \frac{49}{55} \times 100\% = 89\%$$

Based on the calculations presented in the previous table, the validation score obtained from the first trial with Media Expert 1 reached 84%, with a total score of 46 points. However, according to the results of the second trial with the same media expert, it was identified that the learning media product had not yet achieved its maximum potential. This was due to several weaknesses in visual communication and operational ease. Although the media underwent two evaluation stages, it still did not fully meet the criteria for optimal user-friendliness, indicating the need for further improvement in the identified areas

Tabel 2.1 Hasil Uji Ahli Materi

| Aspek | Indikator | Skor | Keterangan |
|--------------------|---|-----------|-------------|
| Isi Materi | Cakupan Materi | 5 | Sangat Baik |
| | Kejelasan Topik | 5 | Sangat Baik |
| | Keruntutan Materi | 5 | Sangat Baik |
| | Kesesuaian video pembelajaran dengan materi | 5 | Sangat Baik |
| | Kemudahan memahami materi | 5 | Sangat Baik |
| Desain Teknis | Materi | 5 | Sangat Baik |
| | Kemudahan menggunakan media | 5 | Sangat Baik |
| Jumlah Skor | | 30 | |



$$\text{Hasil} = \frac{\text{Skor yang Diperoleh}}{\text{Skor Maksimal}} \times 100\%$$

Hasil Perhitungan :

$$= \frac{30}{30} \times 100\%$$

$$= 100\%$$

Based on the analysis results presented above, the trial conducted by the subject matter expert yielded a score of 100%, with a total of 30 points. When converted using the score interpretation table mentioned previously, this score falls under the "Highly Feasible" category. Therefore, it can be concluded that the learning material meets high feasibility criteria and can be used as a learning medium to be implemented in trials with students.

Tabel Uji Kelompok Kecil

| No | Pernyataan | Skor Hasil Analisis | Presentase (%) | Keterangan |
|--------------------|---|---------------------|----------------|--------------|
| 1. | Kemudahan Pemakaian media | 20 | 80% | Layak |
| 2. | Menu yang ada dalam media mudah untuk di pahami | 23 | 92% | Sangat Layak |
| 3. | Penataan media menarik | 20 | 80% | Layak |
| 4. | Penggunaan Bahasa mudah untuk dipahami | 22 | 88% | Layak |
| 5. | Materi mudah dipahami | 22 | 88% | Layak |
| 6. | Urutan materi jelas | 22 | 88% | Layak |
| 7. | Penggunaan video pembelajaran dalam media sudah sesuai dengan materi yang di pelajari | 24 | 96% | Sangat Layak |
| 8. | Penataan letak desain menarik | 23 | 92% | Sangat Layak |
| 9. | Kesesuaian pemilihan warna | 20 | 80% | Layak |
| 10. | Kesesuaian pemilihan ukuran dan jenis huruf | 21 | 84% | Layak |
| 11. | Keseluruhan tampilan media menarik | 21 | 84% | Layak |
| Jumlah Skor | | 238 | | |

$$\text{Hasil} = \frac{\text{Skor yang Diperoleh}}{\text{Skor Maksimal}} \times 100\%$$

Hasil Perhitungan :

$$= \frac{238}{275} \times 100\%$$

$$= 86 \%$$

Based on the results of the small group trial data analysis, a score of 86% was obtained. The researcher's observations indicated that the media had not yet reached its optimal value. This was due to several weaknesses in the visual appearance and operational mechanisms of the media. Therefore, in terms of interface layout and ease of use, the media cannot yet be categorized as excellent.

Tabel Hasil Uji Coba Kelompok Besar

| No | Pernyataan | Skor Hasil Analisis | Presentase (%) | Keterangan |
|---------------|---|---------------------|----------------|-------------|
| 1. | Kemudahan Pemakaian media | 95 | 86% | Baik |
| 2. | Menu yang ada dalam media mudah untuk di pahami | 105 | 95% | Sangat Baik |
| 3. | Penataan media menarik | 97 | 88% | Baik |
| 4. | Penggunaan Bahasa untuk dipahami | 104 | 94% | Sangat Baik |
| 5. | Materi mudah dipahami | 100 | 90% | Baik |
| 6. | Urutan materi jelas | 92 | 83% | Baik |
| 7. | Penggunaan video pembelajaran dalam media sudah sesuai dengan materi yang di pelajari | 98 | 89% | Baik |
| 8. | Penataan letak desain menarik | 107 | 87% | Baik |
| 9. | Kesesuaian pemilihan warna | 98 | 89% | Baik |
| 10. | Kesesuaian pemilihan ukuran dan jenis huruf | 102 | 92% | Sangat Baik |
| 11. | Keseluruhan tampilan media menarik | 106 | 96% | Sangat Baik |
| Jumlah | | 1104 | | |

$$\text{Hasil} = \frac{\text{Skor yang Diperoleh}}{\text{Skor Maksimal}} \times 100\%$$

Hasil Perhitungan :

$$= \frac{1104}{1210} \times 100\%$$

$$= 91 \%$$

Based on the results of the large group trial data analysis, a score of 91% was obtained. However, the evaluation results indicated that the media had not yet reached an optimal level. This finding was due to shortcomings in the systematic presentation of the learning material. Therefore, in terms of the organization and flow of content, the media cannot yet be classified as excellent.

Based on the research findings, it can be concluded that the developed product is classified as highly feasible for use in the learning process. Feedback from both implementation stages served as valuable input for the product's further development, thereby ensuring the accountability of its feasibility level. Furthermore, these findings reinforce the value of the developed product as a learning medium that not only meets feasibility standards but also proves to be relevant and effective in supporting the learning process.



IV. CONCLUSION

The results of the research and development of multimedia-based learning media using Google Sites for the Indonesian History subject—specifically on the topic of Hindu-Buddhist Kingdom heritage—for Grade X B at SMAI Sunan Gunung Jati indicate that the media is effective in supporting the learning process. The development followed the ADDIE model (Analysis, Design, Development, Implementation, Evaluation). The analysis stage was conducted through interviews and observations to identify learning needs. The design stage involved planning the media layout, while the development stage focused on creating the product based on the design. Implementation was carried out through classroom trials, and evaluation included revisions based on feedback from small and large group trials, as well as validation by media and content experts.

Validation results from Media Expert 1, Media Expert 2, and the Subject Matter Expert were 84%, 71%, and 100% respectively, indicating the media's feasibility. Student trials in small and large groups yielded scores of 86% and 91%, which are classified as feasible to highly feasible. Therefore, it can be concluded that this learning media meets feasibility criteria and can be implemented in the teaching of Indonesian History for Grade X B at SMAI Sunan Gunung Jati.i.

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