



# Journal of Education and Learning Research

Journal homepage: <https://jelr.greadc.org/index.php/jelr>



## Development of E-Brochure Media Based on The Collection of The Tridaya Eka Dharma Struggle Museum on The Material of The Struggle to Maintain Independence for Class XII Students of SMAN 4 Bukittinggi

Rahmi Adisti\*, Ahmal, Refly Surya Barkara

History Education, University of Riau, Pekanbaru, 28292, Indonesia

### ARTICLE INFO

#### Article history:

Received: 24 Dec 2025

Revised: 02 January 2026

Accepted: 08 January 2026

Published online: 10 Feb 2026

#### Keywords:

E-Brochure,  
History Learning,  
Perjuangan Tridaya Eka Dharma Museum

#### \* Corresponding author.

E-mail: rahmi.adisti2924@student.unri.ac.id

#### Article Doi

Doi: <https://doi.org/10.62208/jelr.3.2.p.56-63>

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### ABSTRACT

This study aims to develop an E-Brochure learning media based on the Tridaya Eka Dharma Struggle Museum collection to improve students' understanding in learning history. This research was conducted at SMAN 4 Bukittinggi, focusing on history lessons for Grade XII students. The background of this research arose from the lack of student interest in history lessons due to conventional teaching methods. To address this problem, this study developed an E-Brochure learning media that allows students to learn about museum collections online. This study followed the Research and Development (R&D) method using the ADDIE model, which includes Analysis, Design, Development, Implementation, and Evaluation. Data collection involved observation, interviews, and questionnaires distributed to students and history teachers. The E-Brochure learning media was validated by media and history material experts before being trialed on small and large groups of students. The findings showed that the E-Brochure learning media was effective in increasing student motivation and engagement in history lessons. Students showed a higher level of enthusiasm and understanding when using the e-brochure compared to traditional learning methods. In conclusion, the e-brochure learning media based on the Tridaya Eka Dharma Struggle Museum collection can be innovative in making history learning more interesting.

### 1. Introduction

Education is a learning process that every human being undergoes to develop understanding and think more critically. Education is a conscious effort undertaken by individuals to develop and enhance a

child's character, starting from an early age. Education is a system in which all components are interconnected, interdependent, and mutually reinforcing (Saat, 2015). Students can develop and enhance their potential through the learning process.

Learning is the assistance provided to students by educators, during which students gain knowledge and skills, as well as develop character and behavior. According to Bunyamin (2021), learning is a system consisting of various interconnected components. These components include objectives, materials, methods, and evaluation. Teachers must consider these four learning components when selecting and determining the media, methods, strategies, and approaches to be used in learning activities.

The development of learning media is a tool that can be used to facilitate educators in conveying material to students during the learning process. According to the Big Indonesian Dictionary (KBBI), development is the process, method, or act of developing. According to Setyosari (2016), development is a process used to develop and evaluate educational products. With innovative learning media, educators can convey the desired message to students and can facilitate the learning process. According to Soemardjan (2017), learning media is a means of conveying or container for learning. Learning media plays a very important role in the teaching and learning process. Besides being able to attract students' attention, learning media can also convey the desired message in each subject efficiently.

With the advancement of educational technology that has been very developed, educators can develop learning media used during the history learning process. According to Sapriya (2012) history learning is a branch of science that studies the origins and development and the role of society in the past, which contains values of wisdom that can be used to train intelligence, shape attitudes, character and personality of students. According to Isjoni (2007) history learning has the meaning as a process of teaching and learning history. In history learning, the important role of learning is clearly seen not only as a process of transferring ideas, but also a process of maturing students to understand the identity, self-identity and personality of the nation through an understanding of historical events (Susanto, 2014). History learning has an important role in character education because it has a very precise meaning in the formation of character, attitudes, character and is able to realize national ideals and can arouse the desire to have awareness and concern for history.

In this case, it is necessary to develop history learning media to support and support the learning process, one of which is by developing learning media. This is in accordance with Djamarah in (Fikri, 2021), media plays a crucial role in the learning process as an intermediary. Material that is difficult to understand

becomes easier with the presence of media. According to Kemp and Dayton in (Ansyari, 2023), several benefits of media in learning are identified: material delivery can be standardized, the learning process is clearer and more engaging, the learning process becomes more interactive and efficient in terms of time and energy. Not only are learning media beneficial, but also functional, according to Jauhar in (Ansyari, 2023), it arouses interest or motivation and attracts students' attention, overcomes limitations of space and time, activates students in learning activities, and makes the provision of learning stimuli more effective. Often with the development of the times, learning media is very varied, one of which is the E-Brochure.

According to Prastowo (2012) Brochure is essentially a written information material about a problem that is arranged systematically. Brochure can also be interpreted as a printed leaflet containing brief and complete information. Majid (2013) explains that brochures can be used as an interesting learning resource, because of its attractive and practical form. E-Brochure related to history learning E-Brochure is an abbreviation of Electronic Brochure or commonly called Digital Brochure. E-brochure is one of the history learning media that can package the material well in learning.

The existence of this E-brochure media, educators can package events, relics and related things well, one of which is the museum collection which is one of the materials that can be packaged in history learning media. E-Brochure can display museum collections in the form of images and brief descriptions that can attract students' interest and make it easier to remember the information contained in the learning material. The use of image illustrations and brief explanations in E-brochures makes the material presented easier for students to understand. Material that is easy for students to understand and learn through learning media in the form of E-Brochures will make the learning process more interesting (Hendra, 2023).

Based on a previous study conducted at SMAN 4 Bukittinggi, the learning media used were still printed textbooks or teachers still explained using conventional learning models with lecture methods, then gave assignments that were done by summarizing the material and writing it in a notebook, then collected for assessment. Meanwhile, according to Piaget (in Irawan, 2019), emphasizes that history learning should be through a process of discovery and experience. By emphasizing bringing students into real or actual

situations, students can more easily project past experiences.

By including the collections of the Tridaya Eka Dharma Struggle Museum through learning media that can be accessed via smartphone is an appropriate learning media innovation for history learning. This E-brochure learning media will be packaged in the form of an application that contains the collections of the Tridaya Eka Dharma Struggle Museum that can facilitate students in the learning process and can be accessed anytime and anywhere by students. Researchers developed this E-Brochure history learning media to introduce the collections of the Tridaya Eka Dharma Struggle Museum located in Bukittinggi where this museum has collections that are silent witnesses of the Indonesian nation's struggle to maintain independence.

## 2. Methodology

This study uses the Research and Development (R&D) method, which aims to develop an e-brochure learning media based on the Tridaya Eka Dharma Museum collection in history learning. The research and development method, or in English Research and Development, is research used to test the effectiveness of the product (Sugiyono, 2017). The R&D research and development method is a research method used to produce new product designs, test the effectiveness of existing products, and develop and create new products (Banjarnahor, 2021). The development model used is ADDIE (Analysis, Design, Development, Implementation, Evaluation). This model was chosen because it allows for systematic and gradual product development, starting from needs analysis, design, development, implementation, and evaluation. This approach allows the developed learning media to be tailored to students' needs and thoroughly evaluated before being widely implemented in the learning environment.

This research was conducted at SMAN 4 Bukittinggi, located on Jalan Pabidikan, Puhun Pintu Kabun, Mandiangin Koto Selayan District, Bukittinggi City, West Sumatra. The selection of this school was based on initial observations that indicated a need for innovation in history learning. The research implementation period began after obtaining permission from the Faculty of Teacher Training and Education, University of Riau, until the implementation and evaluation stages were completed. The research process included various stages, starting from needs analysis, media

development, student trials, and evaluating the effectiveness of the developed learning media.

The research process encompasses various stages, starting with needs analysis, media development, student trials, and evaluating the effectiveness of the developed learning media. The ADDIE development model used in this study consists of five main stages (Anafi et al., 2021). The first stage, Analysis, was conducted to identify problems in history learning and determine the need for e-brochure development. In the second stage, Design, the e-brochure media concept, design sketches, and workflow were compiled.

Next, the Development stage included media creation using Canva, validation by media and material experts, and revisions based on expert input. After development was completed, the Implementation stage was conducted by testing the media on students to determine its effectiveness in history learning. The final stage, Evaluation, was conducted to assess the overall media development process and to improve student learning outcomes in small and large groups to determine its effectiveness in enhancing student knowledge. The Evaluation stage evaluated the media based on the trial results and corrected aspects that still needed improvement before widespread implementation.

However, Okpatrioka (2023) stated that the development procedure in this study began with a needs analysis, which was conducted through observation and interviews with teachers and students at SMAN 4 Bukittinggi. The development procedure in this study began with a needs analysis, which was conducted through observation and interviews with teachers and students at SMAN 4 Bukittinggi. Next, in the media design stage, historical material was collected, the learning flow was compiled, and the E-Brochure display design was determined. After that, the media development was carried out using the Canva application, which was then validated by media experts and material experts before being revised based on their input. After the media was declared feasible, the trial implementation stage was carried out in small groups consisting of ten students and large groups consisting of 30 students. The final step was an effectiveness evaluation, which was carried out by analyzing the results of student response questionnaires after using the E-Brochure media.

The trial subjects in this study were a small group of 10 students in grade XII 7, and a large group of 30 students from the same class. The small group was used for initial trials to identify potential obstacles in the use of the E-Brochure media before being tested

on a larger group. After revisions were made based on the results of the small group trial, the media was then tested on a large group to measure its effectiveness in improving students' understanding of history. The types of data used in this study consist of qualitative and quantitative data (Mulyadi, 2011). Qualitative data were obtained through observations, interviews with teachers, and validation conducted by media experts and material experts. According to Agustiningsih et al. (2020), Meanwhile, quantitative data were obtained from the results of a questionnaire given to students after they used the E-Brochure media. This questionnaire was used to measure the level of student understanding before and after using the E-Brochure media, as well as assess student responses to the media developed.

The data collection instruments used in this study included several techniques (Waruwu, 2024). Observations were used to observe the conditions of history learning before and after the use of E-Brochure media, in order to determine the extent to which this media could increase student interest and engagement. Interviews were conducted with teachers and students to understand the challenges in history learning and the effectiveness of the media developed (Firmansyah, 2024). Expert validation questionnaires were given to media experts and material experts to assess the feasibility of the E-Brochure before being implemented in learning. In addition, student response questionnaires were used to measure their learning experiences, including aspects of engagement, understanding, and use of the E-Brochure media.

The data analysis technique in this study uses a qualitative and quantitative analysis approach. Qualitative analysis is carried out by describing the results of observations and interviews to understand the problems and the effectiveness of the developed learning media. Meanwhile, quantitative analysis is carried out by calculating the percentage of media feasibility based on the results of expert validation, and measuring the effectiveness of the media with a Likert scale based on student responses.

Data from expert validation are categorized in a percentage scale, with a range of 85-100% considered very valid, 68-84% valid, 52-67% quite valid, 35-51% less valid, and 20-34% invalid. With this analysis method, the study can provide an objective picture of the feasibility and effectiveness of the E-Brochure media based on the Tridaya Eka Dharma Struggle Museum Collection on the Struggle to Maintain Independence Material for grade XII students of SMAN 4 Bukittinggi.

### 3. Results and Discussion

The research results are described in accordance with the research objectives detailed in the previous chapter using the ADDIE stages which consist of the stages of Analysis, Design, Development, Implementation, Evaluation.

*Development of E-Brochure media based on the Tridaya Eka Dharma Struggle Museum collection on the material on the struggle to maintain independence for class XII of SMAN 4 Bukittinggi.*

#### *Analysis Stage*

##### a. Needs analysis stage

Needs analysis is the foundation for creating a learning media product. In the first stage, researchers observed the learning process, specifically in history lessons. They observed the methods used by teachers in the classroom.

##### b. Learning Analysis Stage

Learning material analysis is the stage for determining what material will be discussed in the development of an e-brochure based on the Tridaya Eka Dharma Struggle Museum Collection. The material presented in this development is the Struggle to Maintain Indonesian Independence.

#### *Design Stage*

The design stage was carried out to make it easier for researchers to design this E-Brochure media to be suitable for use as a history learning media for class XII students of SMAN 4 Bukittinggi which will be produced based on the description of the information that has been carried out at the analysis stage.

##### a. Data Collection

At this stage, researchers looked for reference sources in the form of books, journals, documents, articles related to the Museum and material on the Struggle to Defend Indonesian Independence.

##### b. Storyboard Making

A storyboard is a sketch that is explained through pictures. The purpose of making a storyboard is to provide an overview related to the E-Brochure media based on the Tridaya Eka Dharma Struggle Museum collection on the material of the struggle to defend Indonesian independence for class XII students of SMAN 4 Bukittinggi which will be developed.

### Preparation of Instruments

The preparation of the instrument in the form of a questionnaire aimed at assessing the E-Brochure media based on the Perjuangan Tridaya Eka Dharma museum collection consists of 1) a media expert validation questionnaire consisting of 4 aspects containing 12 questions; 2) a material expert validation questionnaire consisting of 3 aspects containing 10 questions; 3) a student assessment sheet consisting of 12 questions.

### Development Stage

#### a. Product manufacturing

At this stage, the researcher created an E-brochure media based on the Tridaya Eka Dharma Struggle Museum collection in history learning which was used as an aid that could support the learning process and make things easier for students. The creation of an e-brochure based on the Tridaya Eka Dharma Struggle Museum collection consists of several parts, as follows:

#### a. Initial view of the e-brochure based on the Tridaya Eka Dharma Struggle Museum collection.

On the first page of the E-Brochure as shown in Figure 1, which displays the front of the Tridaya Eka Dharma Struggle Museum which displays the AT-16 Harvard aircraft and the front view of the museum. On the home page there is the museum address, visiting hours or opening and closing hours of the museum and there are 3 clickable points where at each point there is an explanation regarding the history of the Tridaya Eka Dharma Struggle Museum, the meaning of the name of the Tridaya Eka Dharma Struggle Museum and an explanation of the AT-16 Harvard aircraft which is on the home page of the E-Brochure.



Figure 1. First page view of E-Brochure media

#### b. Display of the Tridaya Eka Dharma Struggle Museum Collections

On the second page of the E-Brochure as shown in Figure 2 at the bottom, it presents the collections of the Tridaya Eka Dharma struggle museum related to the material used during the history learning process, namely the material on the struggle to maintain Indonesian independence studied in grade XII. On this second page there are 4 collections such as clothing worn during the struggle, the flag that was first raised in the city of Padang, radio transmitters and communication devices used during the struggle to maintain independence.



Figure 2. Display of the Tridaya Eka Dharma Struggle Museum Collections

#### c. Display of other collections at the Tridaya Eka Dharma Struggle Museum.

On the third page of the E-Brochure as shown in Figure 3, it is the same as the previous page, but there are differences in the collection, in which there is a collection of weapons made by blacksmiths from Sungai Puar, West Sumatra, confiscated bullets and means of communication used during the struggle to maintain Indonesian independence which are related to the appropriate material during the learning process for grade XII students.



Figure 3. Display of the Tridaya Eka Dharma Struggle Museum Collections

### Validation by Media Experts and Material Experts

#### a. Validation by Media Experts

The E-Brochure history learning media product based on the Tridaya Eka Dharma Struggle Museum collection is complete, then validated by media experts. The results of the number of assessments given by media experts are 49, with a percentage of 81.66%. Based on the product quality criteria in table 3.5, the E-Brochure media based on the Tridaya Eka Dharma Struggle Museum collection is included in the "Very Suitable" category. So it can be concluded that this E-Brochure media is suitable for use as a history learning media for class XII students of SMAN 4 Bukittinggi.

#### b. Validation by Material Experts

The E-Brochure history learning media product based on the Tridaya Eka Dharma Struggle Museum collection was completed and then validated by material experts. The results of the total assessment given by material experts were 44 with a percentage of 88% included in the "Very Suitable" category. Therefore, it can be concluded that this E-Brochure media is suitable for use as a history learning medium for grade XII students of SMAN 4 Bukittinggi.

### Implementation Stage

The fourth stage of the ADDIE model is implementation. Implementation was carried out with two trial groups: a small trial group of 10 students in grade XII.7 obtained a score of 522 out of a maximum total score of 600, with a percentage of 87%, categorized as "Very Suitable" for use in history learning for grade XII students at SMAN 4 Bukittinggi. In the large trial group of 30 students from grade XII.7 SMAN 4 Bukittinggi obtained a score of 1587 out of a maximum total score of 1800, with a percentage of 88.16%, categorized as "Very Suitable"

for use in history learning for grade XII students at SMAN 4 Bukittinggi.

### Evaluation Stage

After completing the implementation phase, the next step was for the researchers to conduct an evaluation. The evaluation was based on expert validation results and student responses. All evaluation results indicated that the media was highly suitable for use. Furthermore, testing the media's effectiveness in increasing learning motivation was also conducted. In the small group, the percentage of students increased from 76% to 87% after using the media. Meanwhile, in the large group, it increased from 73% to 88.16%. This shows that the E-Brochure media based on the Tridaya Eka Dharma Struggle Museum Collection on the Struggle to Defend Independence material for class XII SMAN 4 Bukittinggi is very effective in improving understanding in learning history.

### The feasibility of developing E-Brochure media based on the Tridaya Eka Dharma Struggle Museum collection on the material of the struggle to maintain independence for class XII of SMAN 4 Bukittinggi.

The feasibility of the E-Brochure media collection of the Tridaya Eka Dharma Struggle Museum on the material of the struggle to defend the independence of class XII SMAN 4 Bukittinggi through the validation stage of media experts, materials and student assessments based on the conversion of scores into qualitative categories as follows. The average score obtained from the feasibility results at each stage of the overall assessment can be seen in the following table. Based on the validation results:

- 1) The material expert gave a score of 81.66%, categorized as "Very Appropriate."
- 2) The media expert gave a score of 88%, also categorized as "Very Appropriate."

In addition, the appropriateness of the media was also assessed based on student responses to its use. The trial was conducted in two stages:

- 1) The small group (10 students) gave a score of 87%, categorized as "Very Appropriate/Very Valid."
- 2) The large group (30 students) gave a score of 88.16%, categorized as "Very Valid."

The trial was conducted by randomly assigning students to study an e-brochure related to history learning materials. Students then completed a response questionnaire. This media was used in teaching about the struggle to maintain Indonesian independence.

Based on the overall data, it can be concluded that the e-brochure media based on the Tridayaya Eka Dharma Struggle Museum collection is highly suitable for use

in history learning. This is also demonstrated in the Figure 1. below:

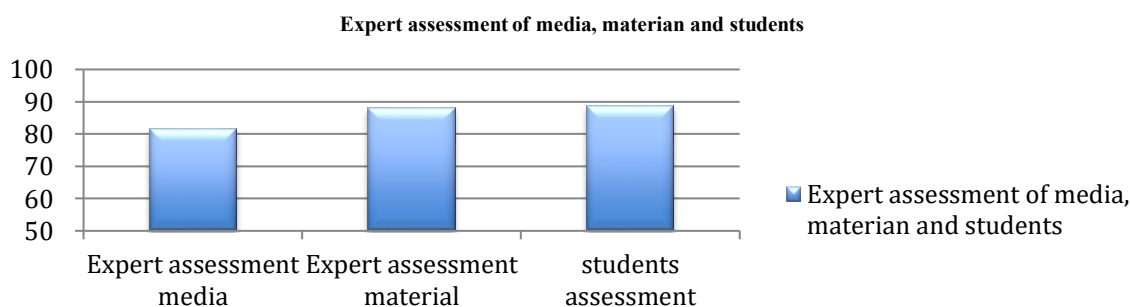


Figure 1. Average Score

This, it can be concluded that the development of E-Brochure media based on the Tridayaya Eka Dharma Struggle Museum collection is very suitable for use as a supporting medium for history learning, especially in increasing the understanding and learning motivation of students in class XII 7 of SMAN 4 Bukittinggi.

#### 4. Conclusion

This research successfully developed an E-Brochure media based on the Tridayaya Eka Dharma Struggle Museum collection, which displays the Tridayaya Eka Dharma Struggle Museum collections as a form of innovation in history learning in grade XII of SMAN 4 Bukittinggi. This media was designed to address the low motivation of students to learn history subjects, as well as answer the need for more interesting and interactive learning. Through a development process using the ADDIE model, this media was validated by material and media experts and tested on students, and was declared very feasible and effective for use in the learning process. This media not only helps understanding historical material, but also significantly increases students' interest in learning. The success of this development proves that the use of E-Brochures can be an alternative learning solution that is interesting, contextual, and in accordance with current developments. For further research, this media can continue to be developed by adding more complete features and covering other historical materials as a form of enrichment of history teaching materials.

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How to cite this article:

Adisti, R., Ahmal., & Barkara, R. S. (2026). Development of E-Brochure Media Based on The Collection of The Tridaya Eka Dharma Struggle Museum on The Material of The Struggle to Maintain Independence for Class XII Students of SMAN 4 Bukittinggi. *Journal of Education and Learning Research*, 3(2), 56-63.