

## Development of E-Booklet Based on Case Method on the subject of World War I and II Material for Advanced History Learning at SMA Negeri 18 Palembang

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### Abstrak

Penelitian ini bertujuan untuk mengetahui efektivitas penggunaan bahan ajar e-booklet pada mata pelajaran Sejarah Lanjut. Penelitian ini termasuk dalam penelitian pengembangan dengan menggunakan teknik observasi langsung di lokasi penelitian yaitu SMA Negeri 18 Palembang, kemudian angket disebarakan kepada 40 orang siswa kelas XI F.8 sebagai subjek penelitian. E-booklet dikembangkan dengan menggunakan model pengembangan Hannafin & Peck yang terdiri dari tahap analisis kebutuhan, perancangan basis, dan tahap pengembangan serta implementasi yang pada setiap bagiannya dicakup oleh evaluasi dan revisi. Hasil penelitian menunjukkan bahwa e-booklet berbasis metode kasus dinilai valid dan efektif untuk digunakan dalam pembelajaran sejarah. Validasi oleh ahli media, ahli materi, dan ahli bahasa memperoleh kategori sangat valid (89.7%), penilaian *one-to-one* dan kelompok kecil memperoleh kategori sangat valid (92.05%), peningkatan hasil *post-test* valid (88.8), disertai dengan hasil N-gain mencapai 0.82 yang termasuk dalam kategori tinggi atau sangat efektif.

**Kata kunci:** e-booklet, pengembangan, pembelajaran.

### Abstract

*This study aims to determine the effectiveness of the use of e-booklet teaching materials in Advanced History subjects. This study is included in development research using direct observation techniques at the research location, namely SMA Negeri 18 Palembang, then questionnaires were distributed to 40 students in class XI F.8 as research subjects. E-booklets were developed using the Hannafin & Peck development model consisting of the needs analysis phase, design base, and development and implementation phases, each part of which is covered by evaluation and revision. The results of the study indicate that case method-based e-booklets are considered valid and effective for use in history learning. Validation by media, material, and language experts obtained a very valid category (89.7%), one-to-one and small group assessments obtained a very valid category (92.05%), the increase in post-test results was valid (88.8), along with the N-gain results reaching 0.82 which is included in the high or very effective category.*

**Keywords:** e-booklet, development, learning.

### INTRODUCTION

One of the efforts and awareness of planning that brings change to humans towards a better direction in a never-ending process is called education (Sujana, 2019). Education in the current era of globalization must be aligned with the rapid development of technology. In the current era of society 5.0, humans

cannot be separated from technology that is deliberately created to build a sustainable and continuous life (Ruskandi et al., 2021). One of the uses of technology to make human life easier is by applying it to the aspect of education. This is in line with the main objective of the National Education Standards Agency to help realize the nation's ideals.

To achieve these goals, it is very important for education providers to prepare a learning atmosphere that can require students to think critically. Critical thinking is a way to involve organized mental activity in making decisions properly and correctly (Saputra, 2020). Critical thinking skills in students become provisions in the future that will be able to solve various problems practically and effectively in the future (Ariyanto et al., 2020). These skills do not appear instantly, but it is necessary to provide stimulus in the learning process. The form of stimulus that can be given, for example, is by creating digital learning tools, considering that today students are very fond of using technology. Based on this, teachers or educators must also be able to adapt in the use of technology and create digital teaching tools to support the success of the learning process (Wahyuni & Hastuti, 2023).

No less important, the existence of teaching materials is also a cause of whether or not a student is successful in understanding the material in class. According to the Ministry of National Education (2003), teaching materials are a collection of materials that are arranged to be presented to students which are characterized by knowledge, skills, and attitudes achieved in the basic competencies of students. Teaching materials that students like are unique and interesting teaching materials. Even

Android-based teaching materials are said to be able to increase students' desire and motivate them to learn (Hapsari & Fahmi, 2021). Thus, the combination of teaching materials and technology will produce learning tools that motivate student.

Digital teaching materials are considered more practical because they are in the form of online media that can be used on various electronic devices and are also efficient to carry anywhere. One of the digital teaching materials is an e-booklet which contains denser material and its appearance is made as attractive as possible. Booklets are usually small in size which when digitized will become e-booklets (Agung et al., 2024). E-booklets are available in the form of soft PDF files that can be accessed online or downloaded on gadgets (A. I. Susanti & Lestari, 2021). E-booklets are different from e-books which have more pages. E-booklets are teaching materials that will visualize material in the form of designed text, images, illustrations, or videos (Syahputra & Yefterson, 2021).

In making e-booklets, another thing that must be considered is the selection of tasks or questions that can arouse critical thinking power for students. In this study, e-booklets will be developed using a case-based learning method or what is known as the Case Method. The case method is a learning method that utilizes a case or problem as learning material for students in providing answers to existing problems

(Alkhairi et al., 2024). Learning using the case method will stimulate students' thinking power because it hones analytical skills, critical thinking, creative thinking, practical thinking, communication skills, social and reflexive skills.

One of the subjects that can utilize E-booklets as teaching materials is history. Learning history as a compulsory subject certainly contains a lot of material to be given to students. This is an opportunity for e-booklets to present historical material in the past to make it more interesting in the eyes of students. History learning must have the elements of 4C (Critical, Thinking, Creativity, Communication, Collaboration) in order to become intelligent history learning (Abduhzen, 2018).

Based on the results of observations by distributing a google form questionnaire in class XI F.8 of SMA Negeri 18 Palembang, the results of the needs analysis showed that 97.2% of students said that they felt helped by the presence of smartphones at school and 88.9% of students wanted new teaching materials in the form of e-booklets. As many as 69.4% of students admitted that they had never used a case method-based e-booklet in learning and were interested in using it. There is also supporting data, namely based on the results of an interview with an advanced history subject teacher in this case with Mrs. Mimi Zaleha, M.Sc., who said that students at SMA Negeri 18

Palembang had indeed brought smartphones to school every day. This was reinforced by the statement of Mrs. Hj. Farini, M.Pd., as the Deputy Principal for the Field of Education. The curriculum states that schools also provide a sense of freedom for students and teachers to explore teaching materials in learning, but the application of e-booklets based on the case method has never been tested at SMA Negeri 18 Palembang.

Based on the explanation above, in this study, the e-booklet developed will contain one of the materials in the Advanced History Subject in phase F of the Independent Curriculum at SMA Negeri 18 Palembang, namely World War I and II. The digitalization process of developing this e-booklet uses the Flip PDF Corporate Application, which is software to help display e-booklets like book pages (E. D. Susanti & Sholihah, 2021). This application was chosen as a tool because it can make e-booklets available online or offline without having to be downloaded from the Playstore, can provide video, audio, and illustration features that will add to the appeal of the e-booklet display. E-booklets based on the case method are expected to be able to overcome the problems that exist at SMA Negeri 18 Palembang. So based on the explanation above, this study is entitled "Development of E-Booklets Based on the Case Method for World War I and II Material in History

Learning for Class XI at SMA Negeri 18 Palembang".

## METHODS

Development research is a form of research method that aims to create a product through problem-finding, design activities, and developing new products as good solutions (Waruwu, 2024). This study will use the Hannafin & Peck development model, with the research subjects being students of class XI F.8 at SMA Negeri 18 Palembang in the Advanced History subject. This research was conducted at SMA Negeri 18 Palembang. Data were collected using observation, interview, and questionnaire methods. The data obtained were then processed based on the results of the pre-test and post-test of students using the N-gain comparison formula. The Hannafin & Peck development model can be seen in Figure 1 below:



Figure 1. Hannafin & Peck Development

The diagram above shows the Hanafin & Peck development model which is divided into several stages, namely: needs analysis, design phase, and development and implementation phase (Yuli Yanti et al., 2020). In the needs analysis phase, observations were carried

out by visiting and distributing google form questionnaires in class XI F.8 of SMA Negeri 18 Palembang to 40 students. Furthermore, interviews were also conducted with the Deputy Principal for Curriculum and advanced history teachers at the school to determine the discussion material. The design stage begins by creating a storyboard of the product to be developed. Then the development and implementation stage begins by designing an e-booklet teaching material product, determining the topic of the material, designing the e-booklet to be attractive, and preparing expert validation sheets. At this stage, the e-booklet will also go through Tessmer's formative stages (Tessmer, 1993) which consist of: independent review by researchers, language expert validators, material experts, media experts, and one-to-one questionnaires.

Improvements from the results of this validation will produce prototype 1 which will then be re-evaluated in the small group questionnaire. The evaluation results at this stage will produce prototype 2 which will be revised to be implemented in the field test. The summative assessment component is carried out after the e-booklet has been tested, namely in the form of post-test questions to assess student learning outcomes. This e-booklet research uses research instruments in the form of direct observation, interviews, and

questionnaires. To measure the percentage of validity, the following formula can be used:

$$\text{Validity Percentage} = \frac{\text{Number of Validation Scores}}{\text{Highest Score}} \times 100\%$$

The following are the expert validation score categories which can be seen in the table below:

Table 1. Validity Level Categories

Criteria	Category
81.00% - 100.00%	Very Valid
61.00% - 80.00%	Quite Valid
41.00% - 60.00%	Less Valid
21.00% - 40.00%	Not Valid
00.00% - 20.00%	Very Invalid

(Source: Akbar, 2013)

Researchers involve students through pre-tests and post-tests that are analyzed using N-gain calculations to determine the desired improvement in student learning outcomes. N-gain scores can be calculated using the following formula (Rismayanti et al., 2022):

$$N\text{-gain} = \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{Score max} - \text{Pretest Score}}$$

The results obtained from the N-gain score can be categorized based on the criteria in the table below:

Table 2. N-gain Level Categories

Value	Category
$g > 0,7$	High
$0,3 \leq g \leq 0,7$	Medium
$0 < g < 0,3$	Low
$g \leq 0$	Failed

(Source: Wahab et al., 2021)

## RESULTS AND DISCUSSION

The creation of e-booklet teaching materials based on the case method through several stages of research and development. The e-booklet based on the

case method on World War I and II material is a teaching material developed for class XI F.8 students at SMA Negeri 18 Palembang. This development has three stages, namely needs analysis, design, and development and evaluation. Each stage is accompanied by a revision and evaluation process.

### 1) Needs Analysis Stage

Based on observations made at SMA Negeri 18 Palembang, especially in phase F class XI F.8, it was concluded that in advanced history learning, teachers have never used teaching materials in the form of electronic booklets (e-booklets). The use of interesting and visualized teaching materials has never been used so that new innovations are needed in making teaching materials. Especially in the implementation of the independent curriculum where teachers and students are asked to be proficient in using technology and are able to utilize it during learning activities. SMA Negeri 18 Palembang implements the Independent Curriculum by supporting technology-based learning that can improve 4C capabilities.

Supported by the results of the initial needs analysis obtained through Google Form, that as many as 97.2% of students bring smartphones to school and 66.7% of students say that they prefer learning via smartphones compared to using printed books. As many as 88.9% of students want new teaching materials in

history subjects, especially in the form of electronic booklets. This is because as many as 69.4% of students have never learned to use electronic booklets. Interesting data from this initial observation shows that 72.2% of students want to try learning using electronic booklets based on the case method in learning history.

As a new subject, advanced history is also a form of effort to understand global history to students well, so supporting teaching materials are needed so that students can more easily understand dense material. The combination of technology and history learning can be used as an idea to develop an e-booklet based on the case method. The case method is useful for providing stimulus to students so that they can think critically in accordance with the development of the times.

## 2) Design Stage

The design stage is carried out to decide on the initial idea and principles of e-booklet development. Based on the results of the needs analysis, the researcher wants to develop advanced history subject teaching materials, in this case in the form of case-based e-booklets (case method). The selection of this idea is based on the needs of students who want interactive and flexible learning. The use of digital teaching materials in the form of e-booklets will make it easier for students to learn history. Therefore, the

researcher has an idea to develop an E-Booklet based on the Case Method using the Flip PDF Corporate application for World War I and II material in class XI F.8 at SMA Negeri 18 Palembang.

## 3) Development and Implementation Stage

The development stage of the e-booklet begins with designing the e-booklet using the Canva Design Pro application. Researchers load materials and include elements of images/illustrations, learning videos, games, formative tests, and case method-based learning. The e-booklet that has been edited is then downloaded as a pdf file, then converted into digital form using the Flip PDF Corporate application. The use of this application will make the e-booklet available online and make the e-booklet usable with several audio, video, page swipe, link, and website features.



Figure 2. Editing and converting process using the Flip PDF Corporate application

After being digital, the e-booklet then enters the validation stage. This validation is carried out by three experts in their respective fields, namely media,

material, and language experts. The media expert validator is a lecturer in the History Education study program, FKIP, Sriwijaya University, namely Mr. Alif Bahtiar Pamulaan M, Hum., the material expert is a lecturer in the History Education study program, FKIP, Sriwijaya University, namely Mrs. Risa Marta Yati, M. Hum., and the language expert is a lecturer in the Indonesian Language and Literature Education study program, FKIP, Sriwijaya University. The validation results that have been assessed by the experts can be seen in the table below:

Table 3. Expert Validation Results

Num	Name	Assessment Component	Validation Result	
			Score	Category
1	Alif Bahtiar Pamulaan, M.Hum.	Media	98.8%	Very Valid
2	Risa Marta Yati, M.Hum.	Material	95%	Very Valid
3	Khalidatun Nuzula, M.Pd.	Language	75.3%	Quite Valid
Average			89.7%	
Category			Very Valid	

Judging from table 3, the e-booklet scored 89.7% which is in the very valid category. The three validators also provided input in the notes column for improving the e-booklet. After making improvements to the comments from the three expert validators, the e-booklet was

worthy of being tested in the field. The next stage was the field test which consisted of two phases, one-to-one testing and small group testing. According to the results of the field test, the following scores were obtained:

Table 4. Results of One-to-One Trial

Num	Name	Score	Average (%)
1	RS	45	90%
2	MRRB	38	76%
3	S	50	100%
Total		133	88.6%

Based on table 4 above, the field trial process proves that the e-booklet being designed can be implemented in learning activities. The next field trial was carried out by giving pre-test and post-test questions to 40 students of class XI F.8 SMA Negeri 18 Palembang. The pre-test was carried out before students were invited to learn using the e-booklet, then the post-test was held after students had learned using the e-booklet. On the day of implementation, April 24, 2025, 4 students were absent so that only 36 students were left who could take part in the pre-test and post-test field tests. After the trial was carried out, the results of the pre-test and post-test were obtained as follows:

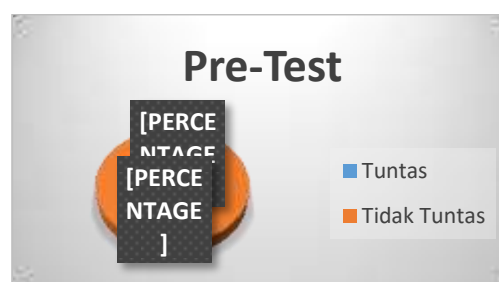


Figure 3. Results of Student Pre-Test

Based on the recapitulation scores of the pre-test implementation from 36 students, 34 students achieved the TT (Not Complete) category, namely a score between 0-60, and 2 students managed to achieve the T (Complete) category with a KKM score of 70.

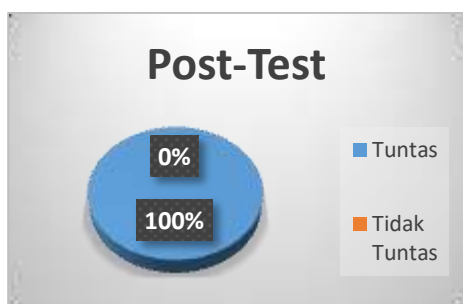


Figure 4. Result of Student Post-Test

After learning using e-booklet based on case method, students were then given post-test questions. Based on the recapitulation results, 36 students managed to get category T (Complete) with a score range of 70-100. This data shows that all students were able to answer post-test questions with scores above KKM. For a comparison between the pre-test and post-test scores obtained,

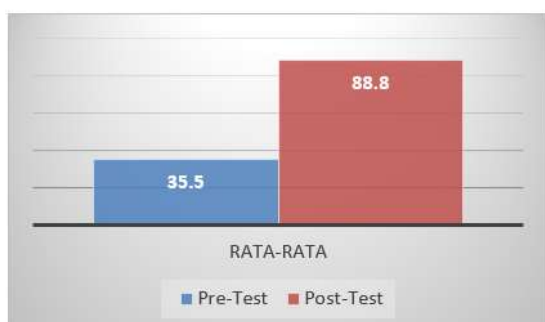


Figure 5. Comparison of Values

The figure above shows a comparison diagram between the average values obtained from the pre-test and post-test to show the improvement in the

students' understanding of the material. The scores achieved by both the pre-test and post-test will be calculated using the N-gain formula as follows:

$$\begin{aligned}
 N-g &= \frac{\text{Posttest Score} - \text{Pretest Score}}{\text{Score max} - \text{Pretest Score}} \\
 &= \frac{88,8 - 35,5}{100 - 35,5} \\
 &= \frac{53,5}{64,5} \\
 &= 0,82
 \end{aligned}$$

The calculation results can be seen in the table below:

Table 5. Comparison of scores and N-gain

Average Score Pre-Test	Average Score Post-Test	N-gain
35.5	88.8	0.82

Judging from the table above, the analysis of the increase in students' understanding can be seen in the increase in the average score from 35.5 to 88.8. The N-Gain score reached 0.82 which is included in the high or very effective category. Therefore, the use of e-booklets based on the case method of World War I and II material is valid and has an effective impact on fostering the ability to understand advanced history learning in the classroom. This is in line with the learning outcomes and students who also experienced an increase in the material presented.

## CONCLUSION

The conclusion obtained from the analysis and results of the research conducted is the development of an e-booklet based on the case method using the Flip PDF

Corporate application for World War I and II material in advanced history learning for class XI F.8 at SMA Negeri 18 Palembang is effective and valid which is useful in history learning activities. Validity can be seen from the results of the assessment by the three validators which include language, material, and media experts so that they get an average score of 89.7% which is included in the very valid category. The one-to-one and small group trial scores also reached 92.05% which indicates a very valid category. Its effectiveness is supported by the average value of learning outcomes owned by students who achieved a score of 88.8 on the post-test questions. Based on the N-gain formula, this e-booklet gets a score of 0.82 which is included in the high or very effective category. Case method-based e-booklet learning helps students to have critical thinking aspects by solving cases given in groups so that it causes a lot of discussion between peers. This e-booklet is also considered efficient and flexible because students can access it anywhere and anytime. On the other hand, e-booklets can also be used in online and offline learning. In this study, the e-booklet developed meets the criteria for being valid and effective as a teaching material that can be a reference or new example for educators/teachers and students to carry out digital learning integrated with technology in accordance with 21st century learning innovations.

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