



## Development of Flipbook Maker-Based E-Module in Economics Subjects to Improve Students' Interest in Learning

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### Abstract

The background of this research is the lack of student interest in learning in economics subjects. This study aimed to develop a flipbook maker-based e-module in economics subjects tested from the level of validity, practicality, and effectiveness in improving students' interest in learning. This research method was research and development (R&D). The data used in this study consisted of quantitative data (question scores of material experts, media experts, linguists, educators, and students) and qualitative data (validators' comments on the product developed). The instruments used in data collection consisted of validation sheets, teacher and student response questionnaires, as well as learning interest questionnaires. The results showed that: the development of a flipbook maker based e-module on economics subject which refers to the Borg and Gall model modified by Sugiyono consisted of ten steps; the validity level of flipbook maker-based e-modules in economics subjects was categorized as valid; the practicality level of flipbook maker-based e-modules in economics subjects was categorized as practical; and the level of effectiveness of flipbook maker based e-modules in economics subjects was categorized as effective in improving student interest in learning.

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## INTRODUCTION

Education is not only an issue in Indonesia but also a focus of the world. Therefore, this field of education is one of the goals of sustainable development. This field ranks 4th out of 17 sustainable development goals, namely ensuring inclusive and equitable quality education and increasing lifelong learning opportunities for all (BPPN, 2021).

President Joko Widodo has set the education sector as one of the leading development goals in the 2020-2024 National Medium-Term Development Plan (RPJMN) to develop productive, dynamic, skilled Human Resources (HR) capable of mastering science and technology supported by industrial cooperation and global talent. The objective of HR development is 1 of 7 development programs. The main concentration of education development in the 2020-2024 RPJMN is still improving education services' quality and equity.

The level of public education has improved but has yet to reach all the people. Educational disparities between economic groups are still a problem and are getting broader as the level of education increases. Education inequality is also still high when compared between regions. Quality learning also needs to run optimally and evenly among areas. The government has taken some steps to improve the quality of national education. Unfortunately, the efforts made have not been able to improve the quality of learning (BPS, 2020).

Indonesia's participation since 2000 in the PISA (Program for International Student Assessment) survey shows that the Indonesian education system has changed to become more inclusive, open, and has wider access (Cabinet Secretariat of the Republic of Indonesia, 2020). This international student assessment program is a world-class assessment program held every three years to test students; in 2021, the implementation was hampered by a pandemic. From the available data, the average PISA score in 2018 decreased in three competency areas compared to 2015, namely the areas of reading, math, and science competen-

cies. The highest decline in scores occurred in the reading field, from a score of 397 down to 371. Based on the findings of the PISA survey, it is known that there are three main issues that must be resolved, namely the large percentage of students who have low achievement, the high percentage of students who repeat in class, and high student absenteeism in class. Therefore, comprehensive improvement measures are needed from all aspects ranging from regulations to the student learning environment in order to be able to resolve these issues (Indonesian Central Statistics Agency, 2020).

Madrasah Aliyah Negeri (MAN) 2 Banyumas is an Islamic school located in the Purwokerto area under the auspices of the Ministry of Religion. At the school, there is a field of study in Social Sciences (IPS). The subject in IPS is economics subject. In economics subject, memorization and calculations will be found (Rahmad, 2016). During the internship process at MAN 2 Banyumas, the researcher observed class XI IPS. Researchers found that students' learning interest in economics subjects was in a low category. The proof is that students actively asked and answered was on an average of 10-20% of the total students in the class. In the criteria for collecting assignments, 10-15% of students still needed to submit assignments. A small proportion (5%) also made noise during the learning process.

Researchers also conducted interviews with class XI IPS teachers. Based on the results of the interviews, there were still students who were not present in class, did not submit assignments, and did not pay attention during the learning process. This low interest in learning can be influenced by several factors, including the teaching materials used by the teacher. Teaching interesting and varied materials will increase students' interest in learning (Nurrita, 2018).

The results of the questionnaire showed that teaching materials that were usually used included student worksheets (85.7%), printed books (28.6%), reading on the inter-

net (28.6%), videos (14.3%), modules (7.1%), and animation (7.1%). Even though these teaching materials had not been able to attract students' interest in learning, there were still students who still needed to open teaching materials before the learning process took place. (78.6%). Students should be able to read material from teaching materials before the learning process takes place. In that case, it will increase their understanding of the learning material by 30% (Edgar's Cone of Experience in Muhajarah, 2019).

As reviewed in the narrative of the 2020-2024 RPJMN, one of the challenges in educational development is the industrial revolution 4.0. the development of digital technology marked it. Digital technology can be used to help smooth learning in schools. Technological developments that can process, package, demonstrate and disseminate information make packaged learning more attractive for students to learn wherever they are (Mustaki, 2015).

Interest in learning is a desire that directs students to areas that they enjoy and are passionate about without any pressure from any party to improve their quality in terms of knowledge, skills, values, attitudes, interests, appreciation, logical thinking, communication, and creativity (Rachmanto, 2016). Several indicators measure interest in learning, namely feelings of pleasure, interest, acceptance, and student involvement (Slameto, 2010). The low interest in learning has an impact on high absenteeism in class, low achievement, and high student repeats in class. This is the main problem in the PISA survey that has been described previously. Therefore, one of the steps that can be given in solving these problems is to increase student interest in learning.

Students want the right teaching materials, the selection of the right teaching materials can make it easier for them to learn and understand the material, so that it has a positive impact on their learning outcomes (Istigfar et al., 2018). The selection of the right teaching materials in the learning process can also increase students' interest in learning (Abadiyah

et al., 2018).

E-module can be used as an alternative in solving existing problems. E-module is a set of digital or non-printed learning media that is systematically arranged which is used for the learning purposes of students (Nufus et al., 2020). The learning process will be more effective and efficient if it is assisted by teaching materials in the form of e-module (Wahyugi & Fatmariza, 2021). E-module can be in the form of audio-visual. The selection of the e-module can answer the needs of students where they prefer audio-visual teaching materials (71.4%) than other types of teaching materials.

The e-module developed by the researchers is based on a flipbook maker. Flipbook maker is a software that can work on and convert PDF and image/ photo files into a book or physical album when opened per page (Wijayanto et al., 2014). This flipbook maker can be used as teaching material in learning activities, because this flipbook is not only focused on writing, but can also be included in motion animation, video, and audio that can make it interactive and interesting, so that learning is not boring (Susanti, 2015).

Based on the facts described above, it is necessary to conduct research on the development of e-modules on flipbook maker-based economic subjects to improve student interest in learning at MAN 2 Banyumas. The aims of this study are: (1) to develop a flipbook maker-based e-module in economic subjects on national income; (2) to determine the level of validity of the flipbook maker-based e-module for economic subjects on national income; (3) to determine the practicality of the flipbook maker-based e-module for economic subjects on national income; (4) to determine the effectiveness of the flipbook maker-based e-module for economic subjects on national income materials in improving students' interest in learning.

The scope of this research is to develop an e-module on economic subjects assisted by a flipbook maker. The module to be developed consists of one basic competency (2-4 learning

activities). The e-module will discuss KD 3.1, namely national income material, because this material often comes out in exams, and the XII Social Sciences class teachers said that the XII Social Sciences class students still have difficulty understanding the material. Researchers are not only limited to developing modules, but researchers have a goal to improve student interest in learning. Interest in learning is one of the important things in learning. If interest in learning is high, it will encourage motivation and enthusiasm for student achievement.

## METHODS

The research method used research and development (R&D). The steps in this study adopted from the research steps of the Borg and Gall model modified by Sugiyono (2018), namely potential and problems, gathering information, product design, design validation, design revision, product testing, product revision, trial usage, product revision, and mass production. This is in line with previous research conducted by Wibowo (2018) and Mulaswi (2016), who also developed e-modules and books according to the Borg and Gall model stage sequence.

The subjects of this research consisted of a small group (XII IPS 3 Social Sciences class with a total of 25 students) and a large group (XII IPS 5 Social Sciences 5 with a total of 33 students).

The location of this research was conducted in MAN (Madrasah Aliyah Negeri) 2 Banyumas. The type of data used was quantitative data in the form of scores and qualitative data in the form of suggestions or comments. Data collection techniques used interviews and questionnaires. The data collection instruments used validity sheets to test the validity of flipbook maker-based e-modules, educator and student questionnaires to test the practicality of flipbook maker-based e-modules, and learning interest questionnaires to test the effectiveness of flipbook maker-based e-modules.

The data analysis technique used qualitative data in the form of comments or suggestions from experts, analyzed descriptively qualitatively, and quantitative data calculated by using the average formula, then the average results are entered into predetermined criteria. The formula for finding the total mean is:

$$\bar{X} = \sum X / n$$

Description:

$\bar{X}$  = Average score

$\sum X$  = Number of item scores

n = Number of items

The criteria for the level of validity that can be used to determine the categorization of the mean results can be seen in Tabel 1.

**Table 1.** Category of Determination of Validity Level

Score	Category
3.50-4.00	Very valid
3.00-3.49	Valid
2.00-2.99	Less valid
1.00-1.99	Not valid

Source: Putri (2020)

Product validity was assessed by several validators (material experts, media experts, and linguists). The validity test aims to determine whether a product is feasible to be tested in the field.

The practicality level criteria that can be used to determine the categorization of the average results can be seen in Table 2.

**Table 2.** Category of Determination of Practicality Level

Score	Category
$3.6 \leq X_i \leq 4$	Very practical
$2.6 \leq X_i \leq 3.5$	Practical
$1.6 \leq X_i \leq 2.5$	Less practical
$0 \leq X_i \leq 1.5$	Not practical

Source: Ridwan (2013)

The practicality of the module was measured by analyzing the results of the student's response questionnaire and the teacher's response questionnaire. The practicality test aims to determine the practicality of the module and whether it is easy to use.

The criteria for the level of effectiveness that can be used to determine the categorization of the average results can be seen in Table 3.

**Table 3.** Conversion Effectiveness Guidelines

Score	Category
$\bar{X} > 3$	High
$3 \geq \bar{X} > 2.5$	Medium
$2.5 \geq \bar{X} > 2$	Low
$\bar{X} \leq 2$	Very low

Source: Yogiswara (2019)

Analysis of the module's effectiveness by using interest questionnaire data to study economics (descriptive analysis). The purpose of the effectiveness test is to find out whether the module is effective in improving students' learning interest.

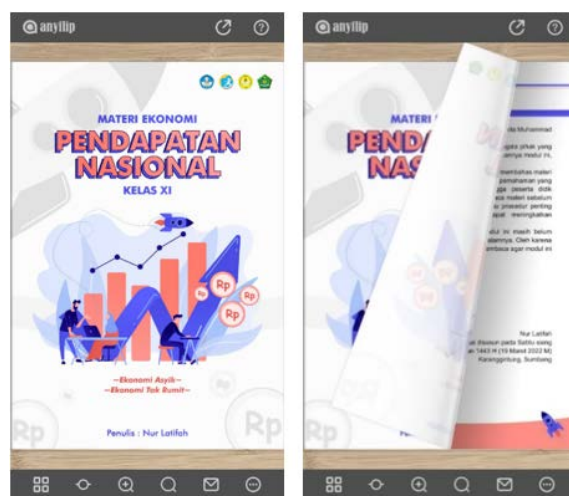
## RESULT AND DISCUSSION

### E-Module Development in Flipbook Maker-Based Economics Subjects

The development of an e-module in flipbook maker-based economics was carried out by using the research steps of the Borg and Gall model modified by Sugiyono. The development began by looking at the potential and problems that existed in the field. The problem found was the low interest in learning of students in Class XII Social Sciences, especially in Class XII Social Sciences 5. The low interest was obtained from observations and interviews with teachers. Researchers saw that there was potential to improve interest in learning, namely by looking for teaching materials in accordance with the characteristics of students.

The researchers continued the second step, which was to collect various information from secondary data in the form of books to find teaching materials, journals to looking for information on how to improve student interest in learning, and other scientific papers. In addition to secondary data, the researchers also used primary data by directly asking the class teacher about teaching materials that were often used, namely student worksheets. In addition, there were teaching materials in the form of modules as well, namely in the form of Microsoft Word and PowerPoint. The researchers reproduced the literature in order to solve existing problems. The digital potential in the current era is so rapidly followed by the use of mobile phones which makes digital-based teaching materials suitable for development.

The researchers continued the third step, namely product design. The product was designed by looking at the characteristics of students and the characteristics of good teaching materials. Students liked interactive teaching materials and made it easier for them to understand the existing subjects. The researchers designed an electronic module in the form of a flipbook maker as an effort to make this electronic module a digital version of student worksheets. The initial stage in designing the module was to think about the concept of the module made, namely what kind of module can make students interested in learning



economics. After the concept was well structured, the researchers proceeded to arrange it in Microsoft Word first, then given an illustration image that could attract students' interest in learning. The file was saved as a PDF, then uploaded to anyflip.com so that the module can be like a book.

The researchers continued the fourth step, namely design validation. The validators assessed the modules that had been made so that the modules could be tested in the field. The validator consisted of three people who were experts in their fields (language experts, media experts, and material experts). The researchers continued the fifth step, namely design revision. After getting an assessment from the validators, then the researchers made revisions according to the suggestions given.

The researchers continued with the sixth step, namely product testing. The product trial was carried out for the first time with the class XII teachers of Social Sciences, then the product trial was carried out in class XII of Social Sciences with a total of 25 students. They read the module that had been made by the researchers, after that they filled out the questionnaire sheet that had been provided. There were 10 statements that they had to answer according to their respective conditions. In addition to statements, there was also a comment section and suggestions that they could fill in for future module improvements.

The researchers continued with the seventh step, namely product revision. If the researcher wanted to know whether the product needed to be revised again or not, the researchers looked at the comments given by educators and students. The educator explained that the module was good, because the main reference for the e-module based on the flipbook maker was the module made by the Ministry of Education which became the reference for economics teachers. However, there was an evaluation related to the example of the problem. However, in the summary section, there was already a more complete and more

detailed explanation that could cover the evaluation of the sample questions, so that they were worthy of being tested in the field without revision. Apart from educators, students' responses to flipbook maker-based e-modules were also very positive. They wrote in the comments that the module was very good, interesting, efficient, modern, easy to understand, useful, practical, and simple. Thus, the researchers did not revise the product, because the flipbook maker-based e-module received a positive response from educators and students.

The researchers continued with the eighth step, namely the use trial. The usage trial was carried out in Class XII of Social Sciences 5 that had low interest in learning economics subjects. Interest in learning in this class was lower than the other classes XII of Social Sciences. Therefore, using trials as the final steps in development was carried out in this class. Their treatment was different from students in limited trials or product trials. Initially, they filled out a questionnaire of 15 statements regarding their interest in learning before using the flipbook maker-based e-module. After they filled out the questionnaire, they then read the flipbook maker-based e-module. After they read the module, they filled out a questionnaire of 15 statements regarding their interest in learning after using the flipbook maker-based e-module. So, there were a total of 30 statements that they answered according to their respective conditions. In addition to the statement, they also commented on the flipbook maker-based e-module.

The researchers continued with the ninth step, namely product revision. Overall, Class XII of Social Sciences 5 liked the existence of the flipbook maker-based e-module. They said that the flipbook maker-based e-module was in accordance with the times and could be a substitute for student worksheets if they felt bored with student worksheets. If they used a flipbook maker-based e-module, they needed to set up a strong internet network. Thus, the researchers did not revise the product because

the flipbook maker-based e-module was well received by the students and their learning interest became better after using the flipbook maker-based e-module.

The researchers continued with the last step, namely mass production. Mass production was not carried out, the researchers only provided flipbook maker-based e-modules on national income materials to Class XII teachers of Social Sciences, so that the results of this development research can be useful.

**Level of Validity of E-Module in Flipbook Maker-Based Economics Subjects**

To determine the level of validity of the flipbook maker-based e-module, the researchers carried out the validation process with three validators. The results of the validity can be seen in Table 4.

**Table 4.** Flipbook Maker-Based E-Module Validity Level

Validator	Average	Category
Language Expert	3.92	Very valid
Media Expert	3.08	Valid
Material Expert	3.46	Valid
Total	3.49	Valid

Source: Processed primary data (2022)

Based on Table 4, it can be seen that the average result of validity level of the flipbook maker-based e-module in economics subjects got a score of more than 3.00. Thus, the module was categorized as valid and can be tested in the field to students.

**The Practical Level of the Flipbook Maker-Based E-Module in Economics Subjects**

To determine the practicality of the flipbook maker-based e-module, the researchers distributed questionnaires to educators and students. The results of the questionnaire can be seen in Table 5.

Based on Table 5, it can be seen that the average practicality level of the flipbook maker-based e-module in economics subjects got a score of more than 3.00, so that the module is categorized as practical and can be tested in the field to Class XII of Social Sciences 5 who had a lower interest in learning than the other classes XII of Social Sciences.

**The Effectiveness of the Flipbook Maker-Based E-Module in Economics Subjects**

To determine the level of effectiveness of the flipbook maker-based e-module in improving students' interest in learning, the researchers distributed questionnaires to Class XII of Social Sciences 5. The results of the questionnaire can be seen in Table 6.

**Table 5.** The Practical Level of Flipbook Maker-Based E-Module

Subject	Appearance	Contents	Benefit
Educators	3.67	3.50	3.67
Students	3.60	3.45	3.20
Average of each indicator	3.63	3.48	3.43
Category of each indicator	Very practical	Practical	Practical
Total Average	3.51		
Category Total	Practical		

Source: Processed primary data (2022)

**Table 6.** Flipbook Maker-Based E-Module Effectiveness

Indicator	Feeling Happy	Interest	Attention	Involvement
Before Using Flipbook Maker-Based E-Module				
Score	2.81	2.50	2.77	2.70
Category	Medium	Low	Medium	Medium
Total Average	2.69			
Category Total	Medium			
After Using Flipbook Maker-Based E-Module				
Score	2.86	3.00	2.93	2.93
Category	Medium	Medium	Medium	Medium
Total Average	2.93			
Category Total	Medium			

Source: Processed primary data (2022)

Based on Table 6, it can be seen that the average result of interest in learning before using the flipbook maker-based e-module in economics subjects got a score of 2.69 so that it was in the medium category. Meanwhile, the average result of interest in learning after using the flipbook maker-based e-module in economics subjects got a score between 2.93 so it was in the medium category as well. Therefore, the use of flipbook maker-based e-module in economics subjects was quite effective in improving students' interest in learning in economics subjects because it could improve students' interest in learning, which initially scored 2.69 to 2.93.

The development of a flipbook maker-based e-module was developed with the Borg and Gall model modified by Sugiyono as done by Wibowo (2018: 41-42) because it has systematic, structured, and detailed steps. Development research was conducted with the aim of knowing the effectiveness seen from the results of improving student interest in learning after using a flipbook maker-based e-module. Research that had been done previously by Sumarni (2019: 61-63) knew the effectiveness seen from the learning outcomes of students. The researchers chose interest in learning because a high interest in learning would encourage

motivation and enthusiasm for achievement so that high interest in learning was directly proportional to good learning outcomes.

The module was developed in the form of a flipbook maker because it was in accordance with the times and according to what was said by Situmorang et al. (2020: 834) that flipbook makers give positive responses to students, they become enthusiastic in learning. The flipbook maker-based electronic module was developed on economics subjects. Oronce et al. (2021: 112) explained that the flipbook maker module is not only developed for science students, but can also be developed in different disciplines, namely economics.

Flipbook maker-based modules in economics are teaching materials like books or student worksheets which mostly contain writing, but there are also image, graphic designs, or tables to clarify the explanation of the material. Previous research conducted by Yogiswara (2019: 315-358) included a video in it. The researchers did not include videos, because their internet network must be stronger if they opened flipbook maker-based e-modules.

The module developed by the researchers was tested for validity, practicality, and effectiveness. The validity test got a valid category, from the language expert getting the



highest score compared to the media expert and the material expert. The language expert gave an average value of 3.92 so that it was in the very valid category. The scoring was based on several aspects, namely directness, the use of interactive dialogic language, the suitability of the level of development of students, and coherence of cohesion. According to Yennanda et al. (2014: 6), language acts as a communication tool to convey intent to speakers or readers, so that the use of good language is a bridge in achieving goals.

The media expert gave an average value of 3.08 so it was categorized as valid. This value was the smallest value compared to other validators. The aspects assessed were module cover design, module content, and module size. The low value was caused by the lack of knowledge of the researchers about design, so the design was only categorized as quite attractive.

The material expert gave an average value of 3.46 so it was categorized as valid. The aspects assessed were the suitability of the material with basic competencies, the accuracy of the material, the suitability of learning support materials, presentation techniques, completeness of presentation, and presentation of learning. The material presented was adjusted to the teaching materials made by the Indonesian Ministry of Education so that they got good grades (Merdeka Belajar, 2022).

In addition to providing an assessment, the validators also provided comments and suggestions to make the module better. Comments and suggestions were very important so that the module could be tested in the field and got better grades. Every time the validity test was carried out in research and development, there was always a blank section specifically provided for comments and suggestions. This was also done by Putri (2020: 122) who prepared a special section for validators to provide comments and suggestions.

The module that had been declared valid was then tested for practicality to determine the level of practicality. The results of practicality got a total average value of 3.51 so that

it was categorized as practical. The aspects assessed were the appearance of the module, the content of the material, and the benefits. The module display aspect was categorized as very practical (easy to use the module), the material content aspect was categorized as practical (easy to understand the content), and the benefit aspect was categorized as practical (easy to learn independently). The appearance of the module was very practical due to the strong internet network, so that when opening page after page it can be easily opened. Yogiswara (2019: 127) also explained this.

The module was not only tested in terms of validity and practicality, but also tested in terms of its effectiveness in improving students' interest in learning economics, especially the material on national income. Before using the module made by the researchers, they usually read economics learning materials using a student worksheet. They had a medium interest in learning with a score of 2.69. After they read economic learning materials especially national income materials using a flipbook maker-based e-module, their interest in learning increased to 2.93. The use of flipbook maker-based e-module improved their interest in learning by 0.24.

There was an increase in interest in learning economics before and after using an e-module based on a flipbook maker, which only increased by 0.24 due to the time the research was carried out at the 6th hour, at 10.30. The time of the teaching and learning activities had an influence on the concentration of students. This is in line with the statement of Lestari (2015: 116) that in general students will be more focused in the morning because they are still fresh, so they are more interested in learning. Meanwhile, during the day, many students are tired because they have been active since the morning so they are no longer interested in learning.

In addition, the improvement which only improved by 0.24 was also due to their long-standing habit of using student worksheets. This was also in line with what was conveyed by Djazifah (2012: 36) that habit is

a pattern of behavior in meeting needs. Strong ingrained habits make it difficult to change.

Thus, flipbook maker-based e-module in economic subjects was quite effective in improving students' interest in learning economics subjects especially national income materials because of differences in learning interest before and after using flipbook maker-based e-module even though it only improved by 0.24.

## CONCLUSION

Based on a series of development research processes that had been carried out, it can be concluded as follows: (1) the development of the flipbook maker-based e-module in economic subjects was carried out using the Borg and Gall model modified by Sugiyono which has ten steps, namely potential and problems, data collection, design product, design validation, design revision, product trial, product revision, usage trial, product revision, and mass production; (2) the level of validity of the flipbook maker-based e-module in economic subjects especially on the national income material was categorized as valid by going through a testing process by the language expert, material expert, and media expert; (3) the level of practicality of the flipbook maker-based e-module in economic subjects especially on the national income material was categorized as practical by going through a testing process by educators and students; as well as (4) the level of effectiveness of the flipbook maker-based e-module in economic subjects especially on the national income material was categorized as quite effective in improving the learning interest of Class XII of Social Sciences 5 because of the increase in scores before and after using the flipbook maker-based e-module.

Based on the conclusions that had been described, the implications of this research are as follows: (1) the flipbook maker-based e-module in economic subjects especially on national income material can be used as one of the teaching materials that can improve students' interest in learning and can become a substitute for student worksheets; (2) the flipbook

maker-based e-module in economic subjects especially on national income materials can be used anywhere and anytime with a note that the internet network owned by students is a strong and smooth internet network as well as the cell phone battery is also still charged so it doesn't run out when used. Thus, (1) for schools, it can provide support so that teachers can create various learning media; (2) teachers can be motivated to be more creative in creating digital (not only conventional) learning media; (3) for students, it can improve interest in learning.

Based on a series of research processes that had been carried out, the limitations of this research are as follows: (1) the internet network was less stable when in class, so there were some students who could not open the flipbook maker-based e-module. In addition, the unstable internet network also caused pages to become full white or difficult to load to the next page; (2) the researchers had difficulty in making a module that had few pages but had interesting content and in-depth discussion of material; (3) the research and development process took a long time, so the mass production can be suggested for further research; and (4) the flipbook maker-based e-module made by the researchers could only be used online, so students who did not have internet data could not open it. Therefore, further research is recommended to create a flipbook maker-based e-module that can be used offline, so that students do not have to use an internet data when using it.

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