

## Development of Flipbook -Based E- Modules to Improve Student Learning Outcomes and Learning Motivation



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**ABSTRACT:** This flipbook-based e-module development research aims to produce e-modules that are valid, practical and effective. The subjects of this research were Class XI PA SMA N 09 Bombana, totaling 23 people. The model used is the Hannafin & Peck development model adapted by Tegeh. The instruments used in this research were e-module validation sheets, implementation observation sheets along with response questionnaires given to students and teachers, motivation questionnaires and students' physics learning outcomes tests. Based on the results of the analysis, the following conclusions were obtained: 1) The flipbook-based e-module developed was said to be valid based on validation results with a value of 3.36. 2) The flipbook-based e-module developed meets the practicality criteria because in the practicality test it is included in the very practical category. 3) The flipbook-based e-module analyzed using N-Gain, namely 0.57, is in the medium category and the student learning outcomes obtained are a class completion percentage of 100%. Thus research on developing flipbook-based E-modules is valid, practical and effective

**KEYWORDS:** Flipbook-based e-module, motivation and learning outcomes

### INTRODUCTION

The development of information technology in the current era of globalization is growing so rapidly that it has an impact on the world of education. The world of education is required to always adapt to technological developments, especially in adjusting the use of information and communication technology, especially in the learning process. Quality education can be realized through efforts that are able to synergize all educational components optimally. The role of educational technology is important in implementing quality learning that leads to solving students' learning problems. Students are the determinants of achieving educational goals. However, in the process of learning activities, students often experience difficulties in these activities. Difficulties experienced by students include students' lack of motivation to learn and learning that is still dominated by teachers. One effort to improve the learning process is by using learning modules that actively involve students so that they foster students' curiosity and make learning more meaningful. Success in the learning process is greatly influenced by many factors, both internal and external factors. The selection and use of good teaching materials is an important factor that supports the learning process (Prastowo, 2011). One type of teaching material that is often used in learning is a module. Modules are independent teaching materials that are systematically planned and designed to help students achieve learning goals (Mulyasa, 2006). Modules can be presented in digital form. The results of observations carried out at SMAN 9 Bombana stated that the teaching materials used by students were only printed books. The teaching materials used are limited in number, especially physics textbooks. Therefore, students can only borrow printed books in turn to use for studying at home. The physics textbooks used by students at school are less interesting and students still have difficulty understanding what is in the physics textbooks. The physics textbook used is very monotonous and difficult to understand because there are not many pictures or photos, making students feel bored and making students unmotivated to learn. This problem can be overcome by implementing learning innovations that can enable students to learn independently, namely by developing teaching materials in the form of modules that can increase students' learning motivation. This is supported by the results of research conducted by Puspitasari et al (2020) which states that students' learning motivation increases more significantly and the teaching and learning process will run effectively if it is supported by the availability of media that supports learning, one of which is modules. As technology advances, modules can be presented in digital form. Electronic modules or e-modules are independent learning materials that are arranged systematically to achieve certain learning objectives which are presented in electronic format which includes animation, audio, navigation which makes users more interactive. An electronic module or e-module is a display of information in book format that is presented electronically using a hard disk, floppy disk, CD or flash disk and can be read using a computer or electronic book reader. E-modules can also be used anywhere, making it more practical to carry anywhere. E-modules are essentially used independently with or without a companion because they contain a sequence of activities, so that students are able to learn the instructions in the module easily (Susilawati et al, 2020). One type of learning module that can

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be used is a flipbook-based e-module. Flipbook-based e-modules can be created using the flipbook maker application. The flipbook maker application is an application for making flipbook-based modules that supports the learning process because this application is not only focused on writing, but can include images, animations and videos which are packaged and operated with a computer and can then be used in the learning process. Making modules interactive and interesting learning materials so that learning is not monotonous (Rasiman, 2014). So, e-modules using the flipbook maker application can be accessed offline and students can access them wherever they are because they are available in software form. The use of teaching materials in the form of e-modules is used as a substitute for books or printed modules (hardcopy) without reducing its function as a source of information that can be used outside the classroom or inside the classroom so that it can motivate students to learn. This is in accordance with research conducted by Soejana et al (2020), which states that the use of learning media in the form of flipbook-based e-modules can be an alternative for teachers to make it easier to understand concepts and can foster students' interest and motivation to learn. Physics is one of the natural science subjects whose teaching requires innovative and interactive learning materials so that students can understand the lessons presented and make students motivated to learn. Based on this description, the researcher will conduct research with the title "Development of E-modules Based on Flipbook Maker to Increase Student Motivation and Learning Outcomes"

### METHOD

This research is included in the Research and Development (R&D) type of research. The product resulting from this research is teaching materials in the form of flipbook-based e-modules to increase student motivation and learning outcomes. This research was carried out in the odd semester of the 2023/2024 academic year located at SMAN 9 Bombana. Learning is carried out in 8 meetings (1 month). Each meeting consists of one class hour. The research design used follows the Hannafin and Peck development model adapted by Tegeh et al (2014) which consists of three stages, namely the needs assessment stage, the design stage and the development and implementation stage, all three of which involve the evaluation and revision stages. The research instruments used for validity testing were e-module validation sheets, practicality tests were implementation observation sheets, teacher and student response questionnaires and effectiveness tests were motivation questionnaires and student learning outcomes tests. The data sources in this research are for validity: two expert validators, practicality: two observers, namely the physics teacher of SMAN 9 Bombana and students of class XI IPA 1 SMAN 9 Bombana and the effectiveness test is students of class totaling 23 people. The data analyzed is data on the validity, practicality and effectiveness of flipbook-based e-modules.

### RESULT AND DISCUSSION

Results Validity: The results of the expert assessment of the flipbook maker -based e- module can be seen in attachment 4.A. A description of the results of the expert assessment of the flipbook maker- based e- module can be seen in Table 4.

**Table 1. Recapitulation of Expert Assessment Results on E- Based Modules Flipbook and Supporting Devices**

| <b>Instrument Validation</b> | <b>Indicator</b>       | <b>Evaluation</b> | <b>Average</b> | <b>Category</b> |
|------------------------------|------------------------|-------------------|----------------|-----------------|
| E- module based flipbook     | • Appropriateness fill | 3.00<br>3.57      | 3.36           | Valid           |
|                              | • Language             | 3.10              |                |                 |
|                              | • Serving              | 3.78              |                |                 |
|                              | • Graphics             |                   |                |                 |
| Percentage                   |                        |                   | 84.03          | Very Worthy     |

flipbook maker -based e- module research on static and dynamic fluid material for class , the presentation aspect is 3.10 and the graphic aspect is 3.78 so that the average total score for all aspects is 3.36, which according to Arikunto (2010) , is the result of assessing the validity of the flipbook maker -based e- module on static and dynamic fluid material for class XI SMA is in the valid category.

The practicality of the flipbook maker -based e- module being developed can be determined through learning implementation data obtained through observation data and teacher response questionnaires filled in by observers. The observers in question are two teachers who will assess the teacher's response to learning using e- module. - flipbook maker based module , while data from student response questionnaire results was obtained through data from student response questionnaire results from 23 class XI IPA 1 SMAN 9 Bombana. The results of the analysis of teacher responses to the flipbook maker -based e- module in Appendix D p.328 show that the percentage of teacher responses to the flipbook maker -based e- module was 95.31% which can be concluded that teachers gave a positive response to the flipbook maker- based e- module because Based on the results obtained through teacher responses to the flipbook maker -based e- module according to Mardikaningtyas et al (2016) , the percentage of 95.31% is in the very practical category.

Table 2. N-Gain Criteria for Student Motivation

| Variable            | N-Gain Earnings |           |     |                |           |     |
|---------------------|-----------------|-----------|-----|----------------|-----------|-----|
|                     | Frequency       |           |     | Percentage (%) |           |     |
|                     | Tall            | Currently | Low | Tall           | Currently | Low |
| Motivation to learn | 3               | 20        | -   | 13.04          | 86.96     | -   |

Based on the results obtained, it can be seen that students' learning motivation has increased where of the 23 students in class .04% of students are in the high category and 86.96% are in the medium category.

**CONCLUSION**

Based on the research results that have been described, it can be concluded that the process of developing flipbook-based e-modules in the discovery learning model in the Hannafin & Peck model, includes: 1) needs assessment stage which consists of four steps, namely learning problem analysis, student analysis, goal analysis and analysis of learning settings; 2) the design stage which consists of preparing research instruments, preparing learning tools and designing e-modules and 3) the development and implementation stage, namely expert assessment and trials carried out at SMAN 9 Bombana. Furthermore, all initial designs are validated by experts and are in the valid category, then tested to determine the practicality and effectiveness so that the flipbook-based e-module is suitable for use as teaching material for students on fluid material and the quality of the flipbook-based e-module is 1) valid based on assessment by experts where the product has been developed with an average validity value of 3.52 is in the very valid category. 2) Practical because all aspects of learning using flipbook-based e-modules were completely implemented and received positive responses from teachers and students with practicality scores in the percentage range of 80%-100% (very practical) and 3) effective because e-modules were based flipbooks on fluid material that have been developed can increase student learning motivation and increase student learning outcomes and flipbook-based e-modules on fluid material can increase student learning motivation from 63.12% to 85.05% with an average value of N -Students' gain of 0.57 is in the medium category and student learning outcomes have increased with an average student score of 80.76%, which overall is declared to have met the minimum completion criteria for physics subjects with an average achievement score above 75. Based on the findings obtained in this research, several suggestions are put forward, namely that teachers are advised to apply flipbook-based e-modules as physics teaching materials for students because they can be accessed offline anytime and anywhere, making it easier for students to learn and for further researchers it is recommended that Further research was carried out regarding flipbook-based e-modules to obtain more input data and suggestions so that the flipbook-based e-modules developed could be more optimal.

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