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The Testing of E-Module Flip-PDF Corporate to Support Learning: Study of Interests and Learning Outcomes

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ABSTRAK

Sumber belajar berbasis TIK yang dikembangkan masih kurang, terutama untuk daerah yang fasilitas pembelajarannya kurang. Hal ini menyebabkan siswa kesulitan dalam memahami materi pemeblajaran. Penelitian ini bertujuan untuk mengembangkan e-modul pada materi fluida statis berbasis software flip pdf corporate edition. Jenis penelitian yang digunakan adalah Research and Development denganmetode ADDIE. Objek penelitian kelas XI SMA dengan Sampel uji coba 25 Siswa. Instrumen penelitian terdiri dari lenbar validator, angket respon guru dan peserta didik serta lembar tes hasil belajar. Teknik analisis data terdiri dari analisis deskriptif dan uji hipotesis. Hasil penelitian menunjukkan bahwa e-modul pembelajaran fisika fluida statis memiliki persentase kevalidan sebesar 89,95 % (sangat baik). Tingkat kepraktisan e-modul pembelajaran fisika fluida statis melalui hasil respon peserta didik yaitu 87,42 % (sangat baik), serta hasil respon guru yaitu 86,25 % (sangat baik). Tingkat keefektifan e-modul pembelajaran melalui minat belajar peserta didik memperoleh kategori sedang serta peningkatan hasil belajar fisika peserta didik memperoleh kategori sedang. Hal ini menandakan bahwa e-modul penggunaan e-modul mempunyai dampak terhadap minat dan hasil belajar.Implikasi dari kajian ini adalah tersedia e-modul pembelajaran dalam flip pdf corporate edution yang dapat digunakan oleh siswa dan guru sebagai sumber belajar serta dapat di akses melalui secara online.

ABSTRACT

ICT-based learning resources that are developed still need to be improved, especially in areas where learning facilities are lacking. It causes students difficulty in understanding the learning material. This study aims to develop an e-module on static fluid material based on corporate edition flip pdf software. The type of research used is Research and Development with the ADDIE method. The research object was class XI SMA, with a trial sample of 25 students. The research instrument consisted of validator sheets, teacher and student response questionnaires, and learning achievement test sheets. Data analysis techniques consist of descriptive analysis and hypothesis testing. The results showed that the static fluid physics learning e-module had a validity percentage of 89.95% (very good). The level of practicality of the static fluid physics learning e-module through the results of student responses is 87.42% (very good), and the teacher's response results are 86.25% (very good). The level of effectiveness of the learning e-module through students' learning interest obtains the medium category, and the increase in students' physics learning outcomes obtains the medium category. It indicates that the use of e-modules impacts interest and learning outcomes. The implication of this study is that learning e-modules are available in flip pdf corporate education that can be used by students and teachers as learning resources and can be accessed online online.

1. INTRODUCTION

21st-century learning prioritizes information and communication technology-based learning. The 21st-century learning paradigm emphasizes students' ability to think critically, then be able to master technology, be able to connect science with life, and collaborate (Baroya, 2018; Mardhiyah et al., 2021; Pane, A., & Dasopang, 2017). Moreover, learning is an activity carried out by teachers. This activity can impact students' lives, such as their behavior, abilities, interests, and talents. They refer to the existence of supporting learning processes, such as learning resources, media, and learning aids, to realize the goals and ideals of 21st-century learning. It is necessary to develop as a form of adjustment to realize these goals and ideals by developing learning resources in the form of electronic learning modules (Maksum & Purwanto, 2022; Wulandari et al., 2021). Research conducted by previous study stated that providing teaching materials on time can be assisted by providing electronic-based teaching modules (Elder et al., 2019; Putra et al., 2017).

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However, currently, ICT-based learning resources developed are still lacking, especially for regions that have fewer learning facilities (Abidah et al., 2020; Batubara, 2021). In many schools, teachers only provide summary material or sometimes ask students to copy material already in the textbook (Dunlosky et al., 2013; Zee, M., & Koomen, 2016). Furthermore, various references stated that most students were only given videos or summaries, so learning was not interactive (Hutauruk & Sidabutar, 2020; Rahayu & Sukardi, 2021). Moreover, during the COVID-19 pandemic, blended learning made by teachers must be more interactive to build student interest in learning during learning. To manage this, we need an alternative source of learning that can build student interest in learning. One such alternative is to create interactive e-modules (Martin et al., 2021; Muthuprasad et al., 2021). An e-module is a form of teaching material systematically arranged into the smallest learning unit and allows students to learn independently in electronic form (Herawati, & Muhtadi, 2018; Sugihartini & Jayanta, 2017). E-module is a form of electronic presentation of learning materials. The primary purpose of developing this e-module is to understand and learn the subject matter (Misbah et al., 2021; Satriawati, 2015). Due to the reality of the field, students find it challenging to understand the subject matter because the modules used are less attractive. In addition, e-modules can increase students' interest and learning motivation to improve their learning outcomes (Kurniawati et al., 2016; H. D. Lestari & Parmiti, 2020; Sulistiani et al., 2022). Therefore, it can make students interested in knowing when the developed e-module contains text, images, and other features such as video, animation, simulation, and audio.

However, the e-module currently being developed is less interactive. This was found from several studies that reported that most e-modules were converted into pdf format. The results displayed were only visualizations or explanations not far removed from conventional modules (Diantari et al., 2018; Garjita et al., 2017; Oksa & Soenarto, 2020). In general, the e-module developed must convey material or explanations to students requiring various media because for students to understand this material requires a reasonably high abstraction. It is not enough to describe how an object can float, but simulation is needed to make it interesting, and students can remember well (Mulyadi, et al., 2021; Trilestari, K., & Almunawaroh, 2020). The results of observations made at Senior High School 1 Motui, North Konawe Regency, showed that the use of technology-based e-modules was still very underutilized as a solution to cover the lack of books. Furthermore, looking at the current conditions that are being hit by the Covid-19 pandemic, which causes the learning process not to be carried out in schools, the number of students who are less interested in learning, especially physics, has decreased significantly. Then, in terms of learning resources in the form of books that are less interesting for students to study because they only contain text and pictures, they have to look for other sources to develop their understanding further. Senior High School 1 Motui has a minimum completeness criteria for physics subjects of 70.00, with the average score obtained in the odd semester exam being 65.00. These results indicate a need for learning media sources that support learning so that the learning process can take place effectively and efficiently, especially in the current offline learning period. The development of e-modules is one solution to improve the learning process that is more interactive and effective at this time and in the future, especially during the COVID-19 pandemic as it is today. Then, based on the development of science and technology that is becoming increasingly rapid and sophisticated, the learning process must adapt to existing developments. For this reason, the development of e-modules can be done by utilizing technology in the form of using software that can support the learning process to be more effective and interactive (Asrial et al., 2019; Nabila et al., 2021; Solihudin JH, 2018). Therefore, innovation is needed in the development of e-modules, namely by using flip pdf corporate edition.

Flip Pdf Corporate Edition software is a flipbook flash software or application that can be used to create ebooks or electronic modules in the form of flipbooks. According to previous research Flip Pdf Corporate Edition Software makes teaching materials very effective when inserted with videos, animations, and simulations (Fairuzi, O., & Bentri, 2021; Zinnurain, 2021). Other study revealed that using the corporate edition flip software, you can create 3-dimensional-based teaching materials to feel the flip effect on the module (Maulana, 2020). Based on this, it can be seen that the superior features contained in the Flip PDF Corporate Edition software are that it can be inserted with video, animation, simulation, and audio features. Moreover electronic modules developed using flipbook-based software can be filled with educational content such as videos, animations, simulations, and audio (Ellysia & Irfan, 2021; Febrianti, 2021; Oktarina et al., 2021). By using Flip Pdf Corporate Edition software, learning media resources can be accessed online, and the display is displayed like a book Flip PDF Corporate Edition software provides all the features of Flip PDF Professional Catalog and Flip Shopping, including single/batch conversion mode, command line, embed multimedia, add shopping cart and price animations, set password security, track with embedded Google Analytics ID, add bookmarks, publishing life, output in HTML, EXE, ZIP, Mac App, FBR, CD, and mobile versions. Also, you can directly publish flipbooks to your FTP server, email your readers, or create *.scr format flipbooks to use as screen savers. In addition, users can publish flipbooks as plugins, Joomla & modules. With Flip PDF Corporate Edition, one can embed several multimedia elements into your publication, for example, text, shapes, links, audio, video, YouTube videos, Vimeo videos, buttons, images, and Flash animations (Mandal, S., Chakrabarti, A., & Maji,

2017; Maynastiti et al., 2020; Misbah et al., 2021; Nurbaiti et al., 2021; T. Susanti et al., 2021). Several studies that assessed the effectiveness of e-modules showed that the e-module development carried out and applied to students obtained a validity value that met the criteria, indicating a high category and positive student responses (Fahmi et al., 2021; Nikita et al., 2018; Sari & Manuaba, 2021). In addition, other studies have shown that e-modules using professional flip pdf software are feasible, very good to use, attractive, and practical to implement (H. A. Nisa et al., 2020; Pramana et al., 2020). Then, developing e-modules using professional flip pdf software cannot be accessed using a smartphone and can only be accessed using a computer (H. A. Nisa et al., 2020; Rara Seruni et al., 2019; Sriwahyuni et al., 2019). Thus, this impacts the products developed and given to students to learn to use e-modules that have been designed to be unable to be realized optimally because not all students have computer equipment. However, these studies still have some shortcomings, including the e-module developed. The video presented is not yet interactive. Hyperlinks are not optimal; for example, they are integrated using PhET (Physics Education Technology). The simulation presented is not optimal. Seeing these conditions, the authors are interested in studying the development of e-modules with Flip Pdf Corporate Edition Software as a digital learning resource. It aims to build student interest in learning so that it has an impact on the expected learning outcomes. In addition, through this study, it is hoped that a prototype learning e-module will be available, especially on the concept of static fluid learning, to be used as a learning resource for various groups. The objectives of this study are to develop an e-module on static fluid material based on Flip PDF corporate edition software.

2. METHOD

The research method used in this research is research and development using the ADDIE method. The Research and Development Method is a research method that produces a product in a particular area of expertise, followed by certain by-products, and has the effectiveness of a product (Muruganantham, 2015). The development research model applied in this research is the ADDIE development model (Analysis, Design, Development, Implementation, and Evaluation). This study develops an e-module on static fluid material based on software flip pdf corporate edition to increase students' interest in learning and physics learning outcomes. In the form of a static fluid physics learning e-module, the product was piloted at Senior High School 1 Motui with 25 students from class XI MIA as respondents. The research instruments include validation sheets for static fluid physics learning e-modules, student response questionnaire sheets, teacher response questionnaire sheets, student learning interest questionnaires, and pre-test and post-test sheets to determine student physics learning outcomes. The development research chart using the ADDIE method is presented in Figure 1.

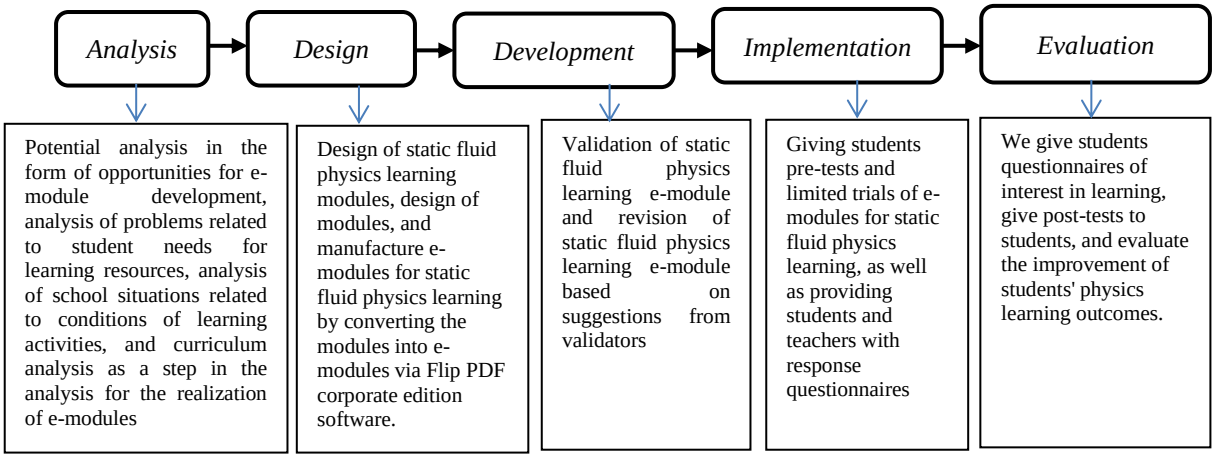


Figure 1. The Flowchart of ADDIE Research Development

Data collection techniques carried out in research on the development of static fluid physics learning e-modules based on Flip PDF Corporate Edition software consist of non-test and test. Non-test techniques giving e-module validation sheets to validators, giving questionnaires to students and teachers, giving student interest in learning questionnaires, as for the test technique, giving tests to students using the developed e-module. The research instrument consists of instruments that fulfill the validity function, which consists of construct feasibility, content feasibility aspects, presentation feasibility aspects, and language feasibility aspects. Meanwhile, the instrument fulfills the practical function of student and teacher response questionnaires. Next, the research instrument that meets the effective aspect consists of a student interest questionnaire sheet and

student pretest and posttest question sheets. The data analysis technique uses validation, practicality, and effectiveness instruments as well as hypothesis testing obtained thru the implementation of school tests.

Validity analysis The development of the e-module for static fluid physics learning was obtained from the research instrument in the form of an e-module validation sheet based on the assessment of the validators. The scope of the assessment aspects includes aspects of construction, content, presentation, and language; feasibility analysis of the static fluid physics learning e-module using ideal standards. The ideal standard is used to determine the feasibility of the static fluid physics learning e-module whose experts conduct an assessment. Validity level assessment conversion guide showed in Table 1.

Table 1. Validity Level Assessment Conversion Guide

No.	Score range	Category
1	$\overline{X} > \overline{Xi} + 1{,}8\,\mathrm{SBi}$	Very good
2	$\overline{Xi} + 0{,}6\,\mathrm{SBi} < \overline{X} \leq \overline{Xi} + 1{,}8\,\mathrm{SBi}$	Good
3	$\overline{Xi} - 0{,}6\,\mathrm{SBi} < \overline{X} \leq \overline{Xi} + 0{,}6\,\mathrm{SBi}$	Enough
4	$\overline{Xi} - 1{,}8\,\mathrm{SBi} < \overline{X} \leq \overline{Xi} - 0{,}6\,\mathrm{SBi}$	Not enough
5	$\overline{X} \leq \overline{Xi} - 1{,}8\,\mathrm{SBi}$	Very less

(Helmon, 2017; Malinda et al., 2021)

Practical measures students' levels of convenience and assistance in the learning process using e-modules. The level of practicality of an e-module is determined by the teacher's response questionnaire and the student's response questionnaire. The scope of the assessment aspects includes aspects of appearance, presentation, the practicality of use, the effectiveness of use, and benefits. Practicality Analysis The development of the static fluid physics learning e-module was obtained from research instruments in questionnaires for student and teacher responses. The practicality of developing static fluid physics learning e-modules that have been carried out can be known by analyzing the results of student responses and teacher responses to the developed static fluid physics learning e-modules. Practicality level assessment conversion guide, showed in Table 2.

Table 2. Practicality Level Assessment Conversion Guide

No.	Score range	Category
1	$\overline{X} \geq \overline{Xi} + 1.\mathrm{SB_i}$	Very good
2	$\overline{Xi} + 1.\mathrm{SB_i} > \overline{X} \geq \overline{Xi}$	Good
3	$\overline{Xi} > \overline{X} \geq \overline{Xi} - 1.\ \mathrm{SB_i}$	Enough
4	$\overline{x} < \overline{Xi} - 1.\mathrm{SB_i}$	Not enough

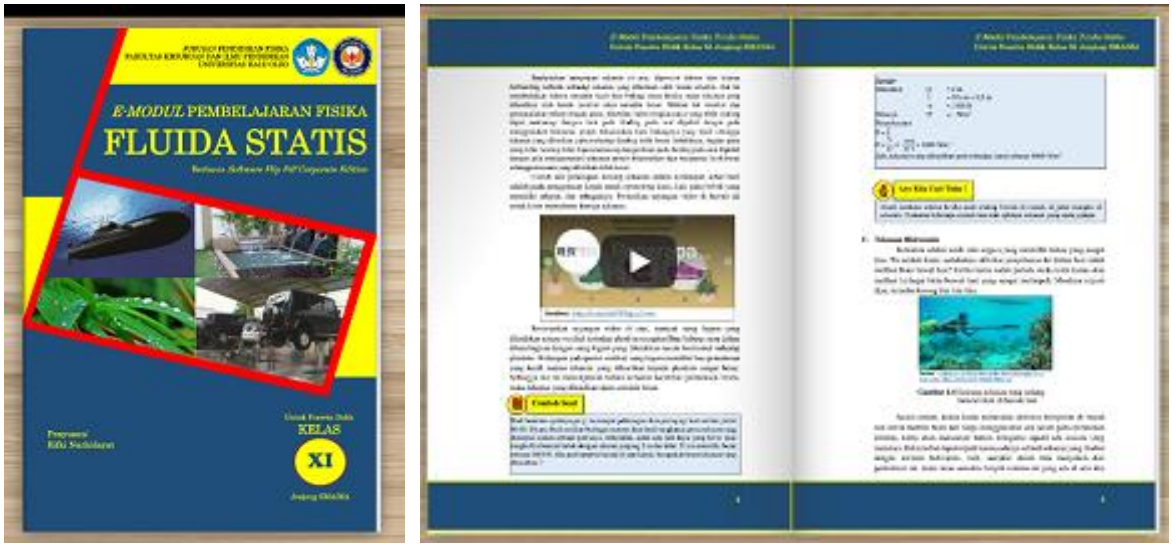
(Wijaya, 2021)

Effectiveness is a measure that shows the level of success achieved, which can be seen from an increase when tested and shown thru increased interest in learning and student learning outcomes after using the static fluid physics learning e-module. The increase in students' interest in learning was obtained based on the level of student interest in learning before using the e-module product for learning static fluid physics and the level of interest in learning after using the e-module product for learning physics. To improve students' physics learning outcomes obtained thru their pre-test and post-test results, increased interest in learning and learning outcomes of students' physics are measured using standard gain.

3. RESULT AND DISCUSSION

Result

The results were obtained in a static fluid physics learning e-module product intended for students at class XI senior high school. The E-module product for static fluid physics learning outcomes is produced and used to increase students' interest in learning and learning physics outcomes. This research is research with the type of research development. This development research uses the ADDIE development model, which includes five stages. The five stages include the analysis, design, development, implementation, and evaluation stages. The following is presented in Figure 2 and Figure 3 of the created e-module products that can be accessed online at the link https://online.flipbuilder.com/FISIKA_FLUIDASTATIS/exgy/



(a) (b)

Figure 2. (a) e-Module Front Page; (b) Presentation of Material in e-Modules

(a) (b)

Figure 3. (a) Presentation of Material with a Combination of Learning Videos; (b) Student Worksheets

Figure 2 and Figure 3 show that Flip PDF Corporate Edition is one of the newest applications that will help us create e-books in the form of flipbooks easily and straightforwardly. The Flip PDF Corporate Edition Full Version application also provides various cool templates that you can use to enhance the appearance of the e-book. You can also add video or audio to the flipbook that you created. The output formats provided are also many, starting from HTML, zip, exe, and apps. So, you can choose the output format according to your individual needs. Furthermore, based on the study results, it was found that the percentage level of validity of the e-module product for static fluid physics learning was 89.95%, with a very good category. Assessment aspects of measuring the level of validity of the e-module for static fluid physics learning include aspects of construct, content, presentation, and language assessment. Furthermore, based on data analysis shows the practicality of the static fluid physics learning e-module obtained from the responses of students and teachers to the development of the static fluid physics learning e-module. Based on the students' responses, the practical level of the static fluid physics learning e-module was 87.42%, with a very good category, while based on the teacher's response, the static fluid physics learning e-module practicality level was 86.25%, with a very good category. The analysis of student responses to the developed e-module shows that all aspects of the effects of student responses are in the very good category, with a percentage of 87.42%. The teacher's responses show very satisfactory results in the very good category, with a percentage value of 86.25%. If combined with the results of student and teacher responses, it can be said that the use of e-modules can already be used in the learning process. Similarly, the level of effectiveness of the e-module for static fluid physics learning is obtained based on the results of

increasing students' interest in learning and students' physics learning outcomes. Based on students' interest in education, an increase in knowledge was obtained by 0.42 in the medium category. The details of increasing student interest in learning can be seen in Table 3.

Table 3. The Results of the Effectiveness of Students' Interest in Learning

No.	Aspects of Assessment	$\bar{X}$	SB_i	Percentage(%)	Category
1	Feeling happy	27,36	4	85,50	Very good
2	Interest	22,48	3,5	80,29	Very good
3	Attention	42,00	6	87,50	Very good
4	Engagement	27,44	4	85,75	Very good
$\bar{X}$ Total				29,82	
SB_i Total				17,5	
Total of percentage				85,20 %	
Total of category				Very Good	

Table 3 shows that the percentage for each aspect of the assessment is in the very good category, with a percentage range ranging from 80.29% to 87.50. This indicates that e-modules are very good at supporting classroom learning. Then, increasing students' interest in learning toward the development of static fluid physics learning e-module products in the form of a bar chart is presented in Figure 4.

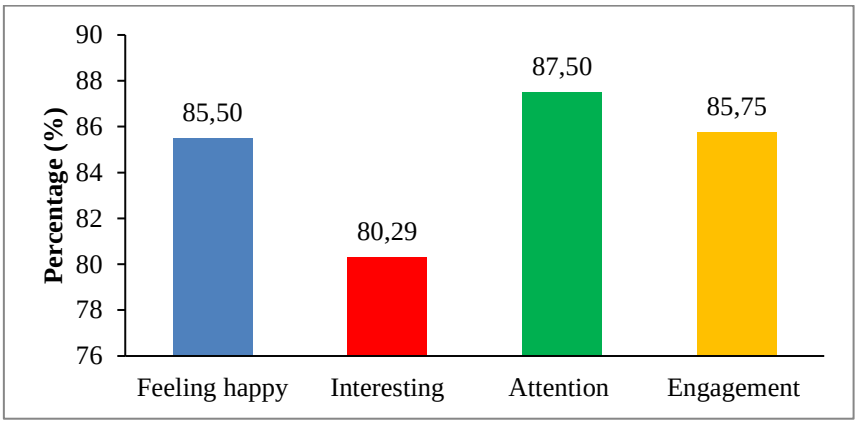


Figure 4. A graph of the Results of the Students' Learning Interests in the Developed e-Module

Based on Figure 4, it is found that the highest aspect of interest in learning is in the attention aspect at a percentage of 87.5%. The involvement aspect is 85.75%, the pleasure aspect is 85.50%, and the interesting aspect is 80.29%. This indicates that using an e-module assisted by a professional flip pdf can capture students' attention. Using a professional flip pdf involves many learning videos or animated animations in other forms, fostering student attention. Students are more motivated to learn. A descriptive analysis of the class being tested was conducted to determine the extent of success and interest in student learning. Based on data analysis, showed that the overall average score of interest in learning is 29 out of all the items in the questionnaire instrument of learning interest. This analysis was conducted to see the response of students' answers in determining learning interest. Based on data analysis, showed an increase in learning outcomes before and after the professional flip pdf e-module trial in the tested class. As presented in Table 9, the students' pretest scores were 47.7, and the posttest scores were 74.2, with a difference between the pretest and posttest of 26.5 and an N-gain value of 0.5, which was in the medium category. The difference in learning outcomes between the pretest and posttest is presented in Figure 5.

From Figure 5, it is found that the difference in learning outcomes does not show a very large change in learning outcomes; this is found by the difference between the pretest and posttest of 26.6, with the N-gain category having a value of 0.5. Furthermore, to see the extent of the impact of the e-module on interest in learning and learning outcomes, hypothesis testing is then carried out, such as the hypothesis formulated in the point (4) research method. The results of the presented hypothesis test have met the aspects of normality and homogeneity showed in Table 4.

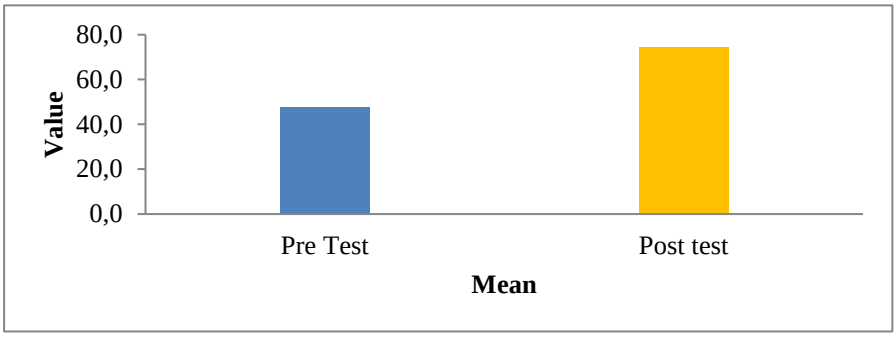


Figure 5. Comparison of Pretest and Posttest Scores

Table 4. Results of the Analysis of Hypothesis Testing (T-test)

Information	*t*	*df*	Sig.(2-tailed)
Learning outcomes	34.446	24	.000
Interest learning	59.337	24	.000

From the results of hypothesis testing using the T-test, it can be seen that Table 10 shows the value of Sig (2-tailed) is less than 0.005. This indicates that the e-module using Flip PDF can influence student interest and learning outcomes in tested classes. These results suggest that interactive and interesting learning media sources can support interest in learning and learning outcomes. The learning process is made more enjoyable. If students are happy with the learning resources provided, it will also impact student learning outcomes.

Discussion

The validity level of the developed static fluid physics learning e-module is assessed based on four aspects of assessment, including aspects of construct feasibility, content feasibility, presentation feasibility, and language feasibility. Based on a detailed analysis of the validity level of the static fluid physics learning e-module, the validity level of the stationary fluid physics learning e-module is in the very good category. Based on this, the static fluid physics learning e-module is said to be valid and feasible for testing its services. It is supported by research conducted in previous studies which stated that the electronic teaching materials produced were valid and could help students learn (R. Seruni et al., 2020; Sriwahyuni et al., 2019; Yulando et al., 2019). So with these data, electronic teaching materials with Flip PDF Professional software are very effectively applied to students and used in the learning process. The same thing was found in several studies, which showed that e-modules using Flip PDF were appropriate as learning reference sources (Zinnurain, 2021). The level of practicality of the developed static fluid physics learning e-module is reviewed based on the results of student responses and teacher responses. Student responses are assessed based on five assessment aspects, including appearance, presentation, practical aspects of use, effectiveness, and benefits. Based on a detailed analysis of the practicality of the development of static fluid physics learning e-modules, it is in the very good category. The overall practicality level of the static fluid physics learning e-module is 87.42%. Based on this, the static fluid physics learning e-module is practical and feasible to use in the learning process. It is supported by research where the research results state that the results of student responses to practical e-modules are straightforward for users to use (Darmaji et al., 2019; Ningsih et al., 2020; Rahayu & Sukardi, 2021; Triwahyuningtyas et al., 2020). The practicality of e-modules can impact students who are more enthusiastic about learning (Nisa et al., 2020; Sriyanti et al., 2021; Syahrial et al., 2021).

The teacher's response is assessed based on five aspects of assessment, including aspects of appearance, presentation, practical aspects of use, service effectiveness, and benefits. Based on this, the static fluid physics learning e-module is practical and feasible to use in the learning process. The level of effectiveness of the developed static fluid physics learning e-module was reviewed based on the results of increasing student learning interest and improving student physics learning outcomes. Student learning interests can determine the effectiveness of learning e-modules (Komikesari et al., 2020; Syahrial, Asrial, Kurniawan, & Damayanti, 2021; Wulandari et al., 2021). Students' interest in learning is assessed based on four aspects: feelings of pleasure, interest, attention, and involvement (Jatmiko, 2015; Pramana et al., 2020; Sidiq & Najuah, 2020). An increase in students' interest in learning was obtained by looking at the students' interest in learning before testing the use of e-modules for learning physics and the results of students' interest in understanding after trials. About the use of e-modules to study static fluid physics. The increase in student physics learning outcomes towards the static fluid physics learning e-module is in the medium category. It is from research conducted by previous research showing that the application of electronic physics modules in learning can improve student learning outcomes

(Dewi & Lestari, 2020; E. Lestari et al., 2022). Students' attitudes and skills also improve based on assessments made through observation; students are more communicative, democratic in group discussions, and care about the environment. Based on this, the development of electronic modules effectively improves student learning outcomes. Studies that support these results find that applying the E-module can improve student learning outcomes (Raharjo et al., 2017; E. D. Susanti & Sholihah, 2021). Meanwhile, using the professional flip pdf e-module can develop students' problem-solving abilities (Seruni et al., 2020). In comparison, they found that using the flip pdf electronic module can foster students' critical thinking skills (Astalini et al., 2019; Tambunan et al., 2020).

Several factors support why flipping a PDF can affect the learning development process. Specifically, Flip PDF Corporate is software that can be used to open module pages like a book. Students will be more interested in learning because Flip PDF looks attractive. It is consistent with the research results, which show that the learning attractiveness test using an e-module based on Flip PDF Professional is exciting and practical when applied to seventh-grade students of junior high school (Nisa et al., 2020). Other studies have concluded that developing digital book learning media using the Flip PDF application can increase students' understanding and interest in theory, especially in junior high school algebra material (Angriani et al., 2020). Meanwhile, e-modules with Flip PDF Professional practice science skills effectively. Has the opportunity to be developed into a good form of learning (Watin & Kustijono, 2017). Therefore, e-modules with the help of professional flip pdfs are an alternative to using media as a reference source for doing modules in learning. The results of this study imply that it can build, trigger, and strengthen student interest in learning independently and that the learning process is more effective and efficient so that there is an increase in the quality of good learning. This study can be used as a supporting reference source in online learning that can be accessed online either via Android or computer. The contribution of the results of this study greatly impacts the blended learning pattern currently applied in limited face-to-face learning. It makes the developed e-module a useful alternative supported by interactive multimedia learning that has gone through a limited trial process of invalidation, practicality, and effectiveness tests. It is declared worthy as a source of learning media. In addition, the limitation of this research is the addition of features in the static fluid physics learning e-module in the form of animation to attract students' interest in learning maximally as a result of the lack of reliable sources that contain animations related to static fluid material.

4. CONCLUSION

Based on the results of the analysis, it can be concluded that the E-Module for static fluid physics learning was developed using Flip PDF Corporate Edition software through the development of material sections adapted to technological developments with the addition of several additional video features so that students can better understand static fluid material in detail. Then a virtual lab was created by utilizing the PhET platform and Learning Houses to support the experimentation process of students. The static fluid physics learning e-module product developed was declared valid and feasible based on the assessment of the expert validator, with a percentage rating of very good category. The research that has been developed implies that the availability of e-modules on static fluid materials based on Flip PDF Corporate Edition software can be used as an effective learning resource.

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