Jurnal Pendidikan Ekonomi, Perkantoran, dan Akuntansi
E-ISSN: 2722-9750
Volume 5 No. 1 (2024)

DEVELOPMENT OF FLIPBOOK BASED ELECTRONIC MODULES ON BUSINESS AND LOGISTICS SERVICE ELEMENTS AT VOCATIONAL SCHOOLS

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ABSTRACT

The purpose of this study is to ascertain whether or not the creation of electronic modules (e-modules) based on flipbooks that focus on aspects of logistics and business operations is a viable option. This research uses the Research and Development (R&D) method with the ADDIE (Analyze, Design, Development, Implementation, and Evaluation) development model. The subjects of this review comprised of three validators (material specialists, etymologists, and media specialists), and 71 understudies of class X Office Management and Business Services (MPLB). Observation and a questionnaire were used for data collection. Validation and practicality tests were the methods of data analysis used. Material experts passed the validation test with a score of 98%, which was considered very feasible; language experts passed with a score of 88%, which was considered very feasible; and media experts passed with a score of 80%, which was considered very feasible. During the practicality test that 71 students in class X took, MPLB went through three stages of trials: one-on-one evaluation, small group trials, and large group trials. The aftereffects of this innovative work demonstrate that the Flipbook-Put together E-module with respect to Business and Operations Administration Components is pronounced truly achievable and reasonable for use in learning.
Keywords: Business and logistics services, E-module, Flipbook, Learning media

ABSTRAK

Penelitian ini untuk mengetahui kelayakan dan kepraktisan pada penhgembangan modul elektronik (e-modul) berbasis flipbook pada elemen layanan bisnis dan logistik. Penelitian ini menggunakan metode Research and Development (R&D) dengan model pengembangan ADDIE (Analyze, Design, Development, Implementation, and Evaluation). Subjek penelitian ini terdiri dari tiga validator (ahli materi, ahli bahasa, dan ahli media), serta 71 siswa kelas X MPLB. Teknik pengumpulan data yang dilakukan, yaitu observasi dan angket. Teknik analisis data yang dilakukan, yakni uji validasi dan uji praktikalitas. Uji validasi dilakukan oleh ahli materi dengan persentase 98% yang dikategorikan sangat layak, ahli bahasa dengan persentase 88% yang dikategorikan sangat layak, dan ahli media dengan persentase 80% yang dikategorikan layak. Pada uji praktikalitas yang dilakukan oleh 71 siswa kelas X MPLB melalui tiga tahap uji coba, yaitu one to one evaluation, uji coba kelompok kecil, dan uji coba kelompok besar. Hasil penelitian dan pengembangan ini menunjukkan bahwa E-modul Berbasis Flipbook pada Elemen Layanan Bisnis dan Logistik dinyatakan sangat layak dan sangat praktis untuk digunakan dalam kegiatan pembelajaran.
Kata kunci: Media pembelajaran, E-modul, Flipbook, Layanan bisnis dan logistik

INTRODUCTION

The outside world, including education, has undergone a rapid revolution triggered by Industry 4.0. Indonesia, with its diverse society and the fourth-largest population in the world, must be prepared for challenges in the industrial revolution 4.0 era. The advancement of technology and information will be given top priority in the 4.0 era. Therefore, Indonesia's survival depends on the quality of its workforce. Education is one way to develop high-quality human resources.

One of the benefits of providing the next generation with a high-quality and capable education that will propel the nation and state forward is education. Progresses in Science and Innovation (IPTEK) in the realm of schooling will influence the nature of Human Reasource (HR), this is in accordance with the National Schooling System Regulation No. 20 of 2003, to be specific schooling is a cognizant and arranged work to make a learning air and growing experience so understudies effectively foster their capability to have strict otherworldly strength, restraint, character, insight, honorable person, and abilities required without anyone else, society, country and state. Academics have had to adjust to new circumstances as a result of social change as a result of the advancement of science and technology in the field of education. School is one of the closest impacts. The definition of a school as a learning environment includes not only a building but also a network system that incorporates information technology into learning.

The development of information technology requires teachers to utilize technology to facilitate student learning. In the realm of education, the integration of digital technology is one of the effective methods to improve the quality of learning. The use of technology in the development of learning media can motivate students to better understand the material being taught. This is in line with Buchori and Harun (2020), the use of a variety of appropriate learning media can turn students who were previously passive into active in the learning process. This can also improve students' ability to understand the material which in turn will have a positive effect on student learning outcomes.

Learning media, as defined by Suharsono et al. (2023), is anything that may be utilized as a conduit for educators to communicate with students in order to stimulate their thoughts, feelings, attention, and interests in order to facilitate learning. In a similar vein, Nuritta (2018) claims that learning media are a tool that can support teaching and learning activities in order to facilitate the achievement of educational or learning objectives and clarify the meaning of the contents transmitted.

The development of digital learning media is considered effective and practical. With digital learning media, the learning process can be used anywhere, anytime, and follows a “Student Centered” approach that emphasizes student activeness in the learning process. This statement is supported by Gulo and Harefa (2023) who define learning media as instruments or tools in education that function as intermediaries in the learning process with the aim of increasing effectiveness and efficiency in achieving teaching objectives. The form of digital media development is very diverse, one example is electronic modules (e-modules).

Gulo and Harefa (2023) explain that e-module is an independent learning platform arranged in digital format. The aim is to achieve the desired learning competencies and increase learner engagement with the application. E-modules can help learners learn independently from the subject of their use with electronic media. E-modules have an important role in learning. The use of electronic modules allows learning to be effective, because electronic modules can help students who have learning difficulties, make it easier for students to learn subjects in a structured and systematic manner, and present material in an ordered format. In the e-module there are materials and practice questions that make it easier for students to learn the material (Hendrik & Dewanto, 2020). Therefore, e-modules are suitable for use as learning media in all elements, one of which is the element of business and logistics services. By using e-modules,

teachers can provide examples in the form of videos and images so that students can better understand how the concept of logistics business services. However, based on the facts seen during the learning process, the learning resources used are relatively few.

Based on the results of research observations on learning problems that arise at Public Vocational High School 1 Bogor Class X Office Management and Business Services (MPLB) in the element of business services and logistics, the teaching materials used are sufficient to support learning activities in the classroom. That is, there are textbooks provided by the school and each student has a copy of the book, but the problem that arises is that students' interest in reading is low because students are more interested in using gadgets than using printed books in their learning activities due to the development of increasingly sophisticated times. This is supported by Widiana and Rosy (2021) which reveals that the existence of printed modules often has few enthusiasts, especially among teenagers today because it is considered too monotonous, so here the researcher took the initiative to innovate the e-module as a learning medium, namely by making a flipbook.

Flipbook is a digital book that can present text, images, sounds, and videos that are designed as interesting as possible to increase student interest and understanding in the teaching and learning process. The use of flipbooks can assist teachers in presenting electronic teaching materials more interestingly with interactive elements. This includes animation, video, audio, and others that make the learning process interesting and not monotonous. According to Wulandari et al. (2023) Flipbook learning materials are a useful tool for teaching and learning. This is due to the fact that flipbook learning materials are straightforward, portable, and practical. They display graphics, animations, music, and video. Therefore, on this occasion the researcher will develop an interactive learning media to assist teachers in providing more interesting and varied material so that students more easily understand the material in class. Thus, the purpose of this study is to ascertain whether or not the creation of electronic modules (e-modules) based on flipbooks that focus on aspects of logistics and business operations is a viable option.

LITERATURE REVIEW

Learning Media

According to Irsan et al. (2021) learning media is a means used to transmit messages to recipients so that they can experience the learning process efficiently and effectively according to plan with the aim of creating a conducive learning environment. This allows students to understand the material more quickly and also increases their interest in learning further. Hamdan (2020) state that learning media is a tool that supports the teaching and learning process to achieve learning objectives more effectively and optimally. In general, educational media serves as a tool for the process of teaching and learning. Additionally, everything that can be used to pique a learner's emotions, attention, thoughts, or skills in order to support the learning process is considered learning media. This restriction covers a wide range of topics, including the idea of sources, settings, individuals, and techniques used in training and education (Irsan et al., 2021).

E-Modules

Rocha et al. (2023) define e-modules as self-contained learning materials that are organized and shown electronically, incorporating features such as audio, animation, and navigation. According to Nurhidayat et al. (2022), explain that e-module is a learning tool that is digitally organized, aiming to achieve the expected learning competencies. The use of this media is also intended to stimulate active interaction of students during the learning process. Sawarynski and Baxa (2019) define e-modules is a form of media used in independent learning to develop certain learning skills. Created in a digital format, e-modules involve elements, such

as animation, audio, and navigation to encourage learners to be actively and interactively involved in using this application during the learning process (Widiana & Rosy, 2021).

Flipbook

According to Tarigan et al. (2023), flipbook is a professional software that can convert various types of files, such as PDF, images, text, and videos into a form that resembles a book. Flipbook also can define as a type of media that resembles a book where each page is equipped with animation or movement (Rahayu et al., 2021). According to Sukma et al. (2022), flipbooks are sheets of paper that resemble an album or calendar with the presentation of information, which can be in the form of pictures, letters, diagrams, flowcharts, concept maps or numbers arranged in order leading to the top. The use of interactive flipbook learning media can improve understanding of material and the quality of learning in a more interactive manner. An attractive media display can also increase student motivation to learn. The use of this media can also create effective and efficient learning, and allow the learning process to be carried out independently anywhere (Rahayu et al., 2021).

Logistics

In order to meet customer needs, logistics is a process component of the supply chain that plans, executes, and controls the management, storage, and procurement of goods, services, and information from the point of origin to the point of consumption. Therefore, everything that is used to support organizational activities in order to achieve goals whether it be materials, goods, tools, or facilities is considered a part of logistics (Afifah & Setyantoro, 2021). Nabilah and Vikaliana (2022), outlines how logistics is a strategic process that manages the acquisition, transportation, and warehousing of components, materials, and completed goods as well as the flow of pertinent data across the organizational structure of the business for both present and future requirements. From this definition, it can be concluded that logistics management is the application of management functions in logistics activities to coordinate labor and goods more efficiently and effectively (Gumelar et al., 2020). Thus, logistics is everything in the form of materials, goods, tools, or facilities used to assist organizational activities in order to achieve goals. In general, it can be said that logistics is the flow of goods or services from source to destination (Gumelar et al., 2020).

METHOD

In order to develop and validate goods, this research approach makes use of the Research and Development (R&D) method (Nuryani & Abadi, 2021). The ADDIE model is the development model that was applied in this study. According to Nuryani and Abadi, (2021), specifies the five processes that make up the ADDIE model: analyze, design, development, implementation, and evaluation. The subjects in this study were one material expert, one linguist, and one media expert, as well as 71 students in class X MPLB. The data analysis technique in this study uses quantitative data analysis, namely data in the form of calculations or formulation of numbers. This data is obtained from the validator and student assessment questionnaire scores to measure the feasibility and practicality of the media through validation tests and practicality tests. To get this data, a questionnaire based on a Likert scale consisting of five assessment scores (Goliah & Jamaludin, 2023).

Formula used for calculate data from expert materials, media experts, and experts Language *e- module* is as following:

$$P = \frac{f}{n} \text{ x } 100\%$$

Description:
P = Percentage of questionnaire data

f = Number of scores obtained
n = Maximum number of scores

Then to find out whether the tested product is feasible and practical or not, it is necessary to find a category based on the following criteria (Table 1).

Table 1. Eligibility and Practicality Criteria

Results	Category
81% - 100%	Very Worthy / Very Practical
61% - 80%	Worthy / Practical
41% - 60%	Decent Enough / Fairly Practical
21% - 40%	Not Worthy / Not Practical
0% - 20%	Totally Not Worthy / Very Impractical

Source: (Ramadhina & Pranata, 2022; Af'idah et al., 2023)

RESULTS AND DISCUSSION

Analyze

Currently, needs, issues with learning activities, and the learning medium being used are all being analyzed. It is possible to get the analysis from the prior pre-research test, which revealed that 93.3% of students would choose to use e-modules over physical books or textbooks. According to this analysis, the only learning resource utilized for the Business and Logistics Services element is a textbook because not all teachers possess the necessary technological know-how to be creative in how they present the information. In order to increase students' interest in engaging in the learning process, it is imperative that changes be made to both the methods and learning models used in the educational process (Ramadhina & Pranata, 2022). Looking at the development of today's times, students prefer to use gadgets to find learning resources rather than reading printed books. Therefore, students need electronic-based and more varied learning media such as e-modules.

Design

At this stage, researchers began designing the e-modules to be developed, namely formulating the material and determining the product design. Researchers formulated element 8 material, namely Business and Logistics Services by adjusting the learning objectives and learning outcomes of the elements, and continued by compiling a description of the material that would later be displayed on the e-module. Then start designing the cover of the e-module and designing the background design of this media. Then the next process, is to include materials, images, learning videos, and things that support the making of e-modules.

Development

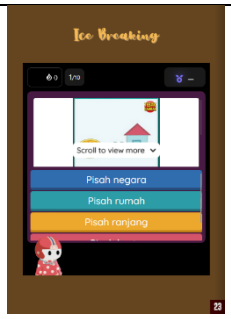
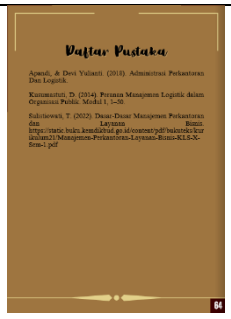
At this point, the researcher develops a product, an electronic flipbook module, or e-module, that is utilized in the educational process. The generated e-module must undoubtedly go through a number of phases, such as e-module creation, product validation, and revision.

Making e-modules

The development phase comes after the e-module has been designed. The media cover, content, and closing have started to be polished during the development phase. Additionally, researchers connect quizizz-made quizzes with photos, videos, and practice questions. The e-module looked like this when it was still in development, E-Module display can be seen in Table 2.

Table 2. E-Module Display

No	Description	Appearance
1	Cover	
2	Learning objectives and outcomes	
3	Discussion material	
4	Content	

No	Description	Appearance
5	Learning video	
6	Assignments or Practice questions	
7	Ice breaking using quizizz	
8	Quiz using quizizz	
9	Bibliography	

Product validation

This validation stage was carried out by several validators (Table 3), including media experts from Universitas Negeri Jakarta lecturers, material experts, and language from Public Vocational High School 1 Bogor teachers. The results of the material expert validation test were 98% with a very feasible category, followed by the linguist validation results of 88% with a very feasible category and the media expert validation results of 80% with a feasible category, according to the data. It is clear that using flipbook-based electronic modules in the classroom is a viable option.

Table 3. Expert Validation Test Results

Expert	Assessment Score	Maximum Score	Percentage	Category
Material	78	80	98%	Very Worthy
Language	62	70	88%	Very Worthy
Media	56	70	80%	Worthy

Revision

The next stage is revision. This flipbook-based e-module is declared very feasible and can be tested on grade X MPLB students because it has been assessed by material, language, and media expert validators. However, before being tested, of course, revisions need to be made according to suggestions and improvements by three validators.

Implementation

The e-module product has been produced and tested for viability, after going through a revision process, it is then put into use and tested to see how practical it is. This is the continuation of the development stage. 71 MPLB class X students conducted this trial. The following actions were done to practically this e-module's viability:

One to one evaluation

Individual trial is the first step in testing the practicality of e-module development. This trial involved three students from class X MPLB 2 and three students from class X MPLB 3 who had low, medium, and high motor skills. The results of the individual trial using a questionnaire, as can be seen in Table 4 and Table 5. Based on Table 4 and Table 5, class X MPLB 2 obtained a percentage of 90.8% with a very practical category, while class X MPLB 3 obtained a percentage of 89.2% with a very practical category. The average of these two percentages was 90%, falling into the very practical category. It can be interpreted that the e-module developed is very suitable for use or testing at the next stage, namely small group trials.

Table 4. Results of One to One Evaluation Data Analysis for Class X MPLB 2

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 1	36	40	90%	Very Practical
Student 2	36	40	90%	Very Practical
Student 3	37	40	93%	Very Practical
Amount	109	120	90,8%	Very Practical

Table 5. Results of One to One Evaluation Data Analysis for Class X MPLB 3

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 1	33	40	83%	Very Practical
Student 2	37	40	93%	Very Practical
Student 3	37	40	93%	Very Practical
Amount	107	120	89,2%	Very Practical

Small group trial

Following individual trials, a small group trial stage may be conducted. 12 class X students participated in this trial, six came from class X MPLB 2 and six from class X MPLB 3. The students were selected at random, with no consideration for population strata. The following are the small group trial's findings (Table 6 and Table 7).

Table 6. Results of Small Group Trial Data Analysis for Class X MPLB 2

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 1	65	70	93%	Very Practical
Student 2	49	70	93%	Very Practical
Student 3	65	70	100%	Very Practical
Student 4	65	70	89%	Very Practical
Student 5	70	70	97%	Very Practical
Student 6	51	70	96%	Very Practical
Amount	397	420	94,5%	Very Practical

Table 7. Results of Small Group Trial Data Analysis for Class X MPLB 3

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 1	70	70	100%	Very Practical
Student 2	49	70	70%	Practical
Student 3	65	70	93%	Very Practical
Student 4	51	70	73%	Practical
Student 5	65	70	93%	Very Practical
Student 6	65	70	93%	Very Practical
Amount	365	420	86,9%	Very Practical

Based on the information in Table 6 and Table 7, the percentage of students in class X MPLB 2 and class X MPLB 3 is 94.5% and 86.9% respectively in the very practical category. 90.7 is the average of these two percentages and falls into the very practical category. It is clear that the built e-module will most likely be tested or used in large group trials, which is the next step.

Large group trial

The next stage is to carry out a big group trial following the completion of a small group trial. All 53 students in classes X MPLB 2 and X MPLB 3 participated in this trial, with the exception of those who had completed large group trials and one-on-one evaluation. Can be seen in Table 8 and Table 9, are the outcomes of the large group trial.

Table 8. Results of Data Analysis of Large Group Trials for Class X MPLB 2

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 1	70	70	100%	Very Practical
Student 2	65	70	93%	Very Practical
Student 3	68	70	97%	Very Practical
Student 4	66	70	94%	Very Practical
Student 5	55	70	79%	Practical
Student 6	68	70	97%	Very Practical
Student 7	68	70	97%	Very Practical
Student 8	66	70	94%	Very Practical
Student 9	65	70	93%	Very Practical
Student 10	70	70	100%	Very Practical
Student 11	70	70	100%	Very Practical
Student 12	68	70	97%	Very Practical
Student 13	68	70	97%	Very Practical
Student 14	70	70	100%	Very Practical

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 15	66	70	94%	Very Practical
Student 16	64	70	91%	Very Practical
Student 17	70	70	100%	Very Practical
Student 18	58	70	83%	Very Practical
Student 19	67	70	96%	Very Practical
Student 20	65	70	93%	Very Practical
Student 21	66	70	94%	Very Practical
Student 22	60	70	86%	Very Practical
Student 23	70	70	100%	Very Practical
Student 24	65	70	93%	Very Practical
Student 25	70	70	100%	Very Practical
Student 26	67	70	96%	Very Practical
Student 27	65	70	93%	Very Practical
Amount	1790	1890	94,7%	Very Practical

Table 9. Results of Data Analysis of Large Group Trials for Class X MPLB 3

Respondents	Assessment Score	Maximum Score	Percentage	Category
Student 1	66	70	94%	Very Practical
Student 2	65	70	93%	Very Practical
Student 3	67	70	96%	Very Practical
Student 4	67	70	96%	Very Practical
Student 5	65	70	93%	Very Practical
Student 6	68	70	97%	Very Practical
Student 7	67	70	96%	Very Practical
Student 8	70	70	100%	Practical
Student 9	69	70	99%	Very Practical
Student 10	58	70	83%	Very Practical
Student 11	67	70	96%	Very Practical
Student 12	42	70	60%	Fairly Practical
Student 13	69	70	99%	Very Practical
Student 14	64	70	91%	Very Practical
Student 15	61	70	87%	Very Practical
Student 16	69	70	99%	Very Practical
Student 17	66	70	94%	Very Practical
Student 18	66	70	94%	Very Practical
Student 19	50	70	71%	Practical
Student 20	58	70	83%	Very Practical
Student 21	56	70	80%	Practical
Student 22	70	70	100%	Very Practical
Student 23	63	70	90%	Very Practical
Student 24	60	70	86%	Very Practical
Student 25	62	70	89%	Very Practical
Student 26	62	70	89%	Very Practical
Amount	1647	1820	90,5%	Very Practical

Based on the data results in the Table 8 and Table 9, the percentage obtained in class X MPLB 2 was 94.7%, while in class X MPLB 3 obtained a percentage of 90.5%. From these two data, then accumulated to 93% which is included in the very practical category. It can be concluded, that the e-module developed is very practical to use or can be used.

Evaluation

The evaluation stage comes after the practicality and validation tests are completed. In the ADDIE model, evaluation is the last phase. The purpose of evaluation is to give the product practicality and viability, or the other way around. It is clear from the outcomes of the validation test, which was evaluated by three validators, and from the student trials in classes X MPLB 2 and X MPLB 3, that the constructed e-module is very practicable and feasible to use. The

acquisition of workable and useful Flipbook-Based e-modules on Business and Logistics Service Elements is the ultimate outcome of this step. The designed e-modules satisfy the following requirements:

E-module link : https://heyzine.com/flip-book/fc7dd40d14.html
Number of pages : 69 pages (cover + contents)
Material : Business Services and Logistics

Discussion

The developed e-module can be said to be feasible if it has gone through a validation test from several experts. A number of experts completed validation assessments, and the results showed that 98% of material experts, 88% of language experts, and 80% of media experts fell into the very feasible category. When the average score from all three validators was 87%, the value fell into the very feasible category. The developed e-module is highly feasible to use and test, it may be concluded. However, in order to enhance the e-module's quality, it must undergo an improvement stage prior to being tested on students, in accordance with the advice and criticisms of experts (Holland, 2018).

The study by Ramadhani et al. (2023) supports this. It reports that the material expert validation results averaged 85% with a very feasible category, media experts achieved 92% with a very feasible category, and linguists achieved 88% with a very feasible category. Stated differently, this e-module is legitimate and excellent for educational purposes. It is clear from comparing this studies and previous research that creating flipbook-based electronic modules is a very practical approach. The two studies' validation test findings, which demonstrate the viability and authenticity of the created e-modules, demonstrate this.

After conducting a practicality test on class X MPLB 2 and class X MPLB 3 students, the development of flipbook-based e-module products on business and logistics service elements at SMK Negeri 1 Bogor can be declared very practical. The practicality test assessment has three stages, namely, one to one evaluation conducted by six students, small group trials conducted by 12 students, and large group trials conducted by 53 students. The results of the practicality test at the one to one evaluation stage were 90%, the small group trial was 90.7%, and the large group trial was 93%.

An average percentage value of 91% may be obtained from these three processes, and it is considered to be extremely practical. This indicates that the e-module is highly useful and appropriate for educational purposes. This is consistent with study by Sofya & Adzkia, (2023) that e-modules that have undergone practicality testing must be employed in learning activities in order for learning to be effective and can increase learning outcomes.

The practicality test results align with the findings of a research study by Gulo & Harefa, (2023), the study tested the product three times: individually, in small groups, and in the field. The practicality rating was 86.1% with a very practical category in the solo experiment, 85.4% with a very practical category in the small group trial, and 86.4% with a very practical category in the large group trial. The trial's outcomes demonstrate how very useful the designed e-module is to utilize (Keehanan & McCrum, 2020). From the results of the studies, it shows that this flipbook based e-module is very practical to use in learning activities.

CONCLUSION AND RECOMMENDATION

Based on the results of the development that has been carried out, the following conclusions can be drawn: (1) the results of the validation test conducted by experts, namely material experts, linguists, and media experts stated that the flipbook-based e-module developed obtained an average percentage of 87% with a very feasible category. This means that the flipbook-based e-module on Business and Logistics Service Elements at SMK Negeri

1 Bogor is very feasible to use and test; (2) The results of the practicality test have been carried out through three stages of trials, namely one to one evaluation, small group trials, and large group trials. Based on the data obtained at the one to evaluation stage, class X MPLB 2 obtained a score of 90.7%, while class X MPLB 3 obtained a score of 90%. From these two percentages, an average value of 90.3% was taken with a very practical category. At the small group trial stage, class X MPLB 2 obtained a score of 86.9%, while class X MPLB 3 obtained a score of 91.4% so that the average of the two percentages was 89.2% with a very practical category. At the large group trial stage, class X MPLB 2 obtained a score of 94.1%, while class X MPLB 3 obtained a score of 93.8% so that the average of the two percentages was 94% with a very practical category. This means that the flipbook-based E-module on Business and Logistics Service Elements at SMK Negeri 1 Bogor is very practical to use in learning activities.

Based on the results of the above research, the researcher's recommendations or suggestions for future researchers, namely (1) can deepen and broaden the scope of research because in this study the subject for practicality was only conducted on grade X students at SMKN 1 Bogor; (2) Can develop e-modules for a broader and more comprehensive subject matter for learning activities. In addition, there are limitations to the research, including (1) The e-module developed is only related to one element, namely element 8 of Business and Logistics Services; (2) This research and development was conducted at SMK Negeri 1 Bogor so that its generalization only applies to students of SMK Negeri 1 Bogor.

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