Developing E-Modul Based on Flipbook on Advance English in Nursing Anesthesiology (AENA)

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Article Info	Abstract
	The benefit of e-learning is helping the students in learning process. Besides the material is accessible anywhere, the students also become more interested in learning because it is provided with links for games, audio and video. E-modul based on flipbook provides a flip effect which is like real reading and is equipped with sound, video, image and other features. The purpose of this research was (1) to identify the need analysis e-modul in Advance English in Nursing Anesthesiology (AENA) (2) to design and develop e-modul based on digital flipbook in Advance English in Nursing Anesthesiology (AENA). This research employed RnD (Research and Development) with ADDIE model. The material development process was carried out by analysis, design, development, and implementation. Data were collected by using questionnaire and were analyzed descriptively. The result of media expert validation was 88% and material expert validation was 91.6% which meant e-modul was good based on Gregory Formula. The result of implementation showed 81% students stated that they strongly agreed to use e-module in AENA because the material was clear and understandable. In addition, 74.3% of students stated they strongly agreed that the fontsize, colors, and images in the material were appropriate and understandable. It is expected that the results of the research can be used in classroom and for the further research can examine the effectiveness of using modul based on flipbook in the classroom.

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1. INTRODUCTION

Covid-19 pandemic has had a huge impact on changing aspects of people's lives. It also affects the education. Learning activities that were initially carried out face-to-face have changed to learning using e-learning. E-learning (electronic learning) is learning that utilizes information and communication technology, especially those using electronic devices such as computers, laptops, or cellphones (Setiawardhani, 2013). The learning system used allows students to learn without having to meet face to face with lecturers. According to Septiani (2018), the benefits of e-learning are that learning materials can be accessed easily so that learning can be done anytime and anywhere.

One thing that must be considered to support e-learning activities is having appropriate teaching materials. Teaching materials are all materials that are systematically arranged that explain the competencies that will be mastered by students and used in the learning process (Yuberti, 2018). In addition, teaching materials are a set of learning

materials that are systematically arranged according to and refer to the applicable curriculum in order to achieve the predetermined competency standards and basic competencies (Thedjo et al., 2021). One of the teaching materials used is in the form of an e-module. A module is a learning tool or facility that contains learning materials, instructions for learning activities, exercises, and evaluation methods that are designed systematically and attractively to achieve the expected competencies and can be used independently (Susilawati et al., 2020).

Modules are one of the teaching materials that can be given to students as the delivery of learning materials can be accessed by students anywhere and anytime so that it becomes more effective and efficient (Hidayat et al., 2020). In addition, the benefits obtained from e-learning are to facilitate interaction between students and learning materials. Students can share information or opinions with each other regarding various matters relating to material or the needs of student self-development online.

Based on observations in the Advance English in Nursing Anesthesiology (AENA) course at the Bali Institute of Technology and Health, the problem faced by the teaching staff is the lack of teaching materials used to explain the material to students. In addition, students also need materials that are easily accessible online or offline considering distance learning. Likewise, students expect the material given by their lecturers to be easy to understand and comprehend in learning conditions both offline and online. In addition, the D-IV Nursing Anesthesiology study program is a study program that was only established in 2018 so there has not been much research related to teaching materials. The material given by the lecturer is in the form of material with power points and several other learning resources.

One of the digital e-modules that can be used is a flipbook. The digital flipbook-based e-module describes Basic Competencies, Indicators, materials, assignments packaged in an electronic form measuring A4 in portrait form which contains images, hyperlinks, and sound as supporting materials that can be published via website, e-mail, and WhatsApp (Sa'diyah, 2021). The advantage of a digital flipbook is that it is able to provide a flip effect, namely opening or turning the page so that it is like reading for real, equipped with sound, video, image, etc. features, and the resulting product can be published via the website (Asmi et al., 2018). Moving between pages can be done by touching and opening (dragging) the page as a finger turns a page of a book. In addition to dragging, moving pages can also be done by utilizing the available navigation buttons (Susanti, 2020). It is expected that the module can increase students' motivation in learning because it makes it easier for them to study it anytime and anywhere.

Research on the development of e-modules based on flipbooks in AENA courses has never been conducted to date. However, there are several relevant studies, namely research conducted by (Sa'diyah, 2021) entitled Development of E-modules Based on Digital Flipbooks to Facilitate Distance Learning in High Schools. The use of digital flipbooks can increase student learning motivation and facilitate the process of teachers and students in distance learning. The results obtained are that e-modules based on digital flipbooks are theoretically feasible and empirically feasible with readability test results at level 10.

In addition, (Asmi et al., 2018) conducted a study entitled Development of E-modules Based on Flip Book Maker Character Education Materials for Learning Pancasila Courses MPK Sriwijaya University. The research method used is the Borg and Gall model. The results of this study are that this e-module is a solution to the need for innovative teaching materials and is able to shape student character. This is because students in the high-tech era tend to like the concept of learning with electronic media. The results of the

field test stated that this e-module is effective in improving student learning outcomes based on pre-test and post-test scores in the cognitive domain.

Pambudi & Samoal (2022) conducted a study Innovation of ICT-Based English Learning to Improve the quality of education during the Covid 19 Pandemic. It was literature research which analyse and review the knowledge, ideas or findings from the academic literature. The results showed that innovation in education can improve the teaching and learning process. Especially, the development of technology can be felt by the students through some application such as zoom which was commonly used during pandemic. Others online learning media such as google classroom, Babble, and Duolingo application can improve the quality of English language learning since it could make the people easier to access the information.

Based on this explanation, this research would analyse the needs analysis of e-modules in the AENA course and design and develop e-modules based on digital flipbooks in the AENA course. Accordance with the research problem, the objectives of this study are to identify the needs analysis of e-modules in the AENA course and to design and develop e-modules based on digital flipbooks in the AENA course. The urgency in this study is the need for e-modules that can be accessed by students online so as to facilitate the learning process. The targeted output of this study is the availability of e-modules that can be accessed online.

2. RESEARCH METHOD

The development model used is Research and Development, which is a method used to produce certain products by evaluating the effectiveness of the product. The products produced are expected to be able to increase educational productivity, namely creating relevant and quality learning media (Fitriyani et al., 2022). The model used is ADDIE which consists of five stages, namely

1. **Analysis**

   At this stage, the researcher analyzes the needs of teaching materials and analyzes the feasibility and requirements for development. The stages of analysis carried out by the author include three things, namely needs analysis, curriculum analysis, and analysis of student character. Needs analysis is carried out by first analyzing the condition of teaching materials as the main information in learning and the availability of teaching materials that support the implementation of learning. At this stage, teaching materials that need to be developed to help students learn will be determined. Curriculum analysis is carried out by considering the characteristics of the curriculum currently being used. This is done so that the development carried out can be in accordance with the demands of the applicable curriculum. Student analysis is carried out to see students' attitudes towards AENA learning.

2. **Design**

   At this stage, the researcher designs the topics that will be developed in the learning media. The researcher also prepares an instrument in the form of a questionnaire that will be used to assess the developed e-module. The instrument developed contains aspects of content feasibility, language feasibility, and presentation feasibility. Furthermore, the instrument that has been prepared will be validated by experts (expert judgment) to obtain a valid assessment instrument.

3. **Develop**

   At this stage, researchers develop e-modules according to the topics that have been developed. After the product is finished, it is continued with the validation process by expert judges or experts. The validator uses the instrument that has been prepared in the previous stage. Validation is carried out to assess the validity of the content and

design of the e-module. Validators are asked to provide an assessment based on the feasibility aspect and provide suggestions and comments related to the content of the e-module.

4. **Implementation**

At this stage, the researcher implements the e-module to students in the learning process in the classroom. The lecturer will teach using the teaching materials that have been developed. After the learning process, students are given a questionnaire using the questionnaire that has been provided. The questionnaire is carried out to see the students' responses to the appropriateness of the media provided. From the students who will use the e-module, they can also provide an assessment of whether the material presented can be understood.

5. **Evaluation**

At this stage, the researcher makes a final revision to the developed e-module based on input from the questionnaire or notes on the observation sheet. Evaluation is done before the e-module is ready for publication.

This study was analyzed using a qualitative descriptive method. Data from the questionnaire will be analyzed using descriptive statistics. Data analysis is carried out using three stages, namely data reduction, data display, and Conclusion (Miles & Huberman, 1994). Data reduction is summarizing and selecting important things that are needed. Data display is presenting data in the form of tables or charts. Drawing conclusions is making conclusions from the results of the study. Validity testing is carried out to determine the feasibility of a developed teaching material. To test the validity of the content of the experts using the Gregory formula presented in table 1.

Table 1. Gregory Formula

Qualitative Score	Score
0%<NP≤20%	Not Relevant
20%<NP≤40%	Less Relevant
40%<NP≤60%	Quite Relevant
60%<NP≤80%	Relevant
80%<NP≤100%	Very Relevant

After completing the validity test, the teaching materials will be revised if they need revision. This is done before implementing them to students. Data are analyzed using descriptive, namely by describing or describing the data that has been collected as it is (Miles & Huberman, 1994).

3. **RESULT AND DISCUSSION**

   3.1. **Result**

   1. **Needs Analysis**

      AENA (Advance English for Nursing Anesthesiologist) is one of the courses studied by students of the Applied Bachelor of Nursing Anesthesiology study program in semester VI. This course aims to enable students to communicate in English in carrying out anesthesiology nursing activities, for example providing pre-, intra, and post-anesthesia care. This study uses the Research and Development (RnD) model developed with the ADDIE model. The first step taken is Analysis, namely analyzing potential problems faced by students and teaching lecturers. Data were obtained through interviews and questionnaires to students of the DIV Nursing Anesthesiology study program. The results of the study can be seen in table 2.

Table 2. Students' Preference in Learning English

No	Questions	Yes	No
1	Do you like learning English?	71	3
2	Are you interested in learning AENA (*Advance English for Nursing Anesthesiologist)*?	74	

From the data obtained, as many as 71 students stated that they liked English and only 3 students stated that they did not like it. In addition, all students (74 respondents) were interested in studying the AENA course. This initial question shows that students have given a positive response to this course. In addition to liking English, they are also interested in increasing their knowledge in communicating in English in their profession as anesthetists. To support learning, the existence of teaching materials is very important. Teaching materials are all materials that are arranged systematically, which display a complete figure of the competencies that will be mastered by students and are used in the learning process with the aim of planning and reviewing implementation (Dewantara & Nurgiansah, 2020). The results of the questionnaire on teaching materials can be seen in table 3.

Table 3. Teaching Materials Used in the Class

No	Question	Book	Power Point	E-Modul	E-Book	Others
1	What kind of learning media used by the lecturer in teaching AENA? (answers can be more than 1)	8	68	7	14	26

Table 3 shows that students answered that the use of teaching materials that are often used in class is through power point. Power point is a teaching material that is easy to use and can be shared with students. In addition, e-modules and e-books are still very rarely used in class. The advantage of these two teaching materials is that students can access learning anywhere and anytime because they are easy to carry. Electronic modules are computer-based learning media that provide opportunities for students to explore themselves in receiving lessons individually by following the instructions of the program used (Hidayat et al., 2020). After knowing the teaching materials that students already have, it is necessary to develop e-modules so that students have additional material in learning. Teaching materials are a set of learning materials that are systematically arranged according to and refer to the applicable curriculum in order to achieve the competency standards and basic competencies that have been determined (Sa'diyah, 2021). The results of the student questionnaire can be shown in table 4.

Tabel 4. Students' Preference in Using E-Modul

No	Questions	Yes	No
1	Are you interested in using learning media such as e-module in learning AENA?	68	6

Table 4 shows that most students are interested in learning using e-modules. In supporting the learning process optimally, one thing that a teacher must do is create a fun, active, creative, and interesting learning atmosphere, one of which is by

creating interactive learning media (Nurlaela et al., 2023). E-modules are learning media that can be inserted with various additional features such as video, audio, quizzes, and others. This will be interesting for students so that they are not monotonous with the books given. Thus, it is necessary to develop an e-module that can facilitate students to learn independently and can learn anywhere. In addition to analyzing the needs of students, potential and problem analysis was also carried out by interviewing the teaching lecturers. The interview results showed that in addition to using the required books owned by students, lecturers also provided materials with other media in the form of power points in front of the class, videos, and audio listening obtained from downloading on the internet. With the learning strategy not only with textbooks, it is hoped that students can be motivated in learning this course.

In addition, English learning media on the internet sometimes do not suit the needs of students. For example, the pronunciation is too fast so that students cannot understand what the speaker is saying. This is because English is included in foreign languages in Indonesia so that the intensity of English use is still very minimal. Therefore, it is necessary to develop learning media that are in accordance with the abilities of students so that the material can be conveyed properly. Based on the potential and existing problems, it is necessary to develop learning media that are in accordance with the needs and abilities of students. The development of this e-module aims for students to have learning media that can be studied and easily accessed by students.

2. E-module Development

After completing the analysis of potential and problems, the second stage is Design. At this stage, the researcher designs the material to be developed. There are 3 topics to be developed, namely Telling date and time, fill in the pain assessment form, and checking personal hygiene of the patients. After knowing the topic to be developed, the next stage is Develop. At this stage, the product is made into an e-module. Some sub-chapters in the e-module are:

1. **Introduction**

   On the front page there is an introduction that explains the general description of the topic to be discussed. The introduction contains the name of the course, learning outcomes (CPL), Course Learning Outcomes (CPMK), Sub CPMK, course description, and instructions for using the module.

2. **Learning Activity**

   This section contains learning objectives, material descriptions, and practice questions. Each topic will be presented with learning objectives so that students know the achievements that must be achieved in the chapter. The material description is explained well so that it can be easily understood. To train students' understanding, there are practice questions both independently and in groups. On the back page of each chapter there is also an answer key to check students' answers.

3. **Summary**

   At the end of each chapter, there is a summary that aims to summarize the material that has been studied. In addition, students can also read the material in the chapter briefly.

4. **Video**

   On the last page there is a video that is useful to help students understand the material. In addition, so as not to cause boredom in reading the material, a

video display is inserted that can be played by pressing the play button on the e-module.

After the e-module is developed, the next stage is to validate it. To validate the results of this study, expert judgment was conducted on 2 sources, namely media experts and material experts. Based on the results of expert judgment, it can be seen in tables 5 and 6.

Table 5. The Result of Media Expert Judgement

No	Materials	Percentage
1	Telling date and time	86.0%
2	Fill in pain assessment form	90.0%
3	Checking personal hygiene	88.0%
	Average	**88%**

Tabel 6. The Result of Material Expert Judgement

No	Materials	Percentage
1	Telling date and time	89.0%
2	Fill in pain assessment form	94.0%
3	Checking personal hygiene	92.0%
	Average	**91.6%**

Table 5 shows that the average validation from media experts is 88% which is included in the very relevant category. Meanwhile, table 6 shows that the average validation from material experts is 91.6% which is included in the very relevant category. In addition, there are also inputs from media and material experts for improving the e-module. These improvements must be fixed immediately before being implemented to students in class. The next stage is Implementation, which is conducting a small-scale trial in class. Data was obtained by distributing questionnaires to 74 students of the DIV Nursing Anesthesiology study program who took the AENA course. There are 10 questions listed on the questionnaire. The product trial was conducted in class. At the end of the learning, students were given a questionnaire that they had to fill out regarding the validity of the media. The results of the study showed that 81% of students stated that they strongly agreed to use the flipbook-based e-module in the AENA course because it contains clear and complete material and 19% stated that they agreed. This shows that the e-module is one way to motivate students to learn English. In addition to being equipped with interesting images, videos can improve students' imagination and train their listening skills.

In terms of typography, 74.3% of students stated that they strongly agreed that the text size, color, and images in the material presented were appropriate and understandable. In terms of language, 71.6% of students stated that they strongly agreed that the instructions used in the e-module were easy to understand. Clear instructions will make it easier for students to understand the material explained. Effective instructions are using direct instruction, which means focusing on the instructions given by the teacher systematically and clearly (Sidik NH. & Winata, 2016). By providing clear instructions, the learning process will run according to the desired learning objectives. The last stage is evaluation, which is evaluating the e-module according to the input given by students. Input in terms of language and writing is needed to adjust to the needs of students. After the evaluation process is

complete, the e-module can be used in the following semester as teaching materials for the AENA course.

3.2. Discussion

The development of a flipbook-based e-module consists of an introduction that includes the name of the course, learning outcomes (CPL), CPMK, Sub CPMK, course description, and instructions for using the module. Learning activity explains learning objectives, material descriptions, and practice questions. According to (Nurfadzilah & Sudarmaji, 2022) the activity sheet contains a discussion of learning materials that are arranged systematically by dividing them into several sub-chapters and aligned with learning objectives. In addition, at the end of the chapter there is a summary and learning video. In using the e-module, students can use it independently because it is equipped with instructions for using the module that can help students with the steps that must be taken. This is in line with (Susilawati et al., 2020) who stated that e-modules are generally used independently or without assistance because they contain a sequence of activities so that students are able to learn with the instructions in them.

In addition, the role of technology in the world of education is also increasingly important. The use of e-learning media can also facilitate learning and help students think critically. This is in line with Asmi et al., (2018) which states that e-modules with digital flipbooks can help students improve their learning outcomes. Students are not only monotonous in getting lectures in class, but they have to find information through websites or links that have been provided in the e-module. Furthermore, this will increase students' self-confidence in class. One example is the presentation of a conversation between a patient and a nurse. Students will be invited to have conversations or role plays that can increase their confidence in using English.

The feasibility of the digital flipbook-based e-module material in the AENA course obtained an average of 91.6% which is included in the very feasible category. The material is arranged clearly and is easy for students to understand according to their abilities. The feasibility of the digital flipbook-based e-module media is 88%. This shows a very feasible category. The developed e-module obtained valid results or can be used by students for the implementation stage. This product was tested on 74 students of the DIV Nursing Anesthesiology study program. As many as 81% of students stated that they strongly agreed to use the flipbook-based e-module in the AENA course because it contained clear and complete material and 19% stated that they agreed. The results of student perceptions regarding the use of e-modules received a good response. This is in line with the results of research (Sa'diyah, 2021) which stated the results of positive responses from students to digital flipbook-based e-modules, even students wanted to have e-modules on their smartphones to learn more efficiently and effectively.

In terms of typography, as many as 74.3% of students stated that they strongly agreed that the text size, color, and images in the material presented were appropriate and understandable. This is in line with (Nopiani et al., 2021) by stating that text design is very important to pay attention to so that the material is easy to understand and attracts students' interest in learning so that students are motivated when using it during the learning process.

4. CONCLUSION

Based on the results and discussion, it can be concluded that the development of e-modules contains an introduction, learning activity, summary, and video. The results of

media expert validation were 88% and material validation was 91.6%. The results of small group trials showed that 81% of students strongly agreed to use flipbook-based e-modules in the AENA course because they contained clear and complete materials. It is hoped that further researchers will complete the topics that will be developed using e-modules. In addition, further researchers can also test the effectiveness of using e-modules in classroom learning.

5. ACKNOWLEDGEMENT

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