Al-Ishlah: Jurnal Pendidikan
Vol.15, 1 (April, 2023), pp. 271-286
ISSN: 2087-9490 EISSN: 2597-940X, DOI: 10.35445/alishlah.v15i1.2566

E-Module of Meaning in Interpersonal Context in Online Learning: Implementation and Students' Feedback

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ARTICLE INFO

Keywords:

E-module;
Interpersonal context;
EFL;
Feedback;
ADDIE model.

Article history:

Received 2022-06-09
Revised 2022-10-11
Accepted 2023-01-22

ABSTRACT

This study aims to develop an e-module of meaning in an interpersonal context for English foreign language (EFL) students studying Semantics. This study was a research and development following the ADDIE model from Branch (2010). The e-module was a pre-lecture consisting of written text, video lectures, videos linked to YouTube, pictures, animated stickers, full of colours and interactive tests. Experts in related fields validated the developed e-module. This study's participants were thefourth-semester undergraduate students majoring in English education at Universitas Riau. The revised version of the e-module was implemented, and the results show that the implementation of the e-module in Semantics learning was effective in improving students' learning outcomes in Semantics Course. Students' feedback showed that the e-module is easy to understand, easy to use, attractive, interesting, and easy to remember. The videos in the e-module were perceived to increase their understanding. The participants of this study claimed that their interest, enthusiasm, and motivation in learning increased.

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1. INTRODUCTION

Education in Indonesia is currently influenced by the industrial revolution 4.0, namely technology, information and communication (ICT). ICT advances have altered classroom interaction toward a portable, learner-centred, and multi-environment learning platform. The development of ICT in education requires teachers and lecturers to be creative and innovative. The innovative product is required in the format of electronic educational resources that are conceivably incorporated into online or face-to-face learning processes. Educational resource development must also meet the features of being innovative in competency development circumstances. Being innovative is the main factor in getting used to ICT advances in this 4.0 era in the field of education (Stachová, Papula, Stacho, & Kohnová, 2019). The quality of education nowadays depends on

teachers' ability to use or integrate ICT in the process of teaching and learning. ICT advances reinforce both educators and students to access learning resources, and the use of ICT results in better performances (Asrial, Syahrial, Maison, Kurniawan, & Piyana, 2020).

The rapid development of ICT and its widespread employment in daily life has considerably transformed how we live. This ICT-driven growth provides a challenge to the statements about what learners should learn in school and how education should be delivered (Voogt, 2010, as cited in Lim, Chai, & Churchill, 2011). The digital transformation of the education system at all levels has enabled the incorporation of a new teaching-learning ecosystem called e-learning which is compatible with the development of ICT. Using technology in online learning, educators have the opportunity to communicate performance support to the students at any time and anywhere. E-module is an instance of online learning technology. E-modules are lessons that allow the learners to do activities such as reading texts, listening to narrated content, observing videos, and responding to questions. The format is in the form of multimedia that is intended to increase engagement and memorization (Patel, Margolies, Covell, Lipscomb, & Dixon, 2018). Pombo et al. (2012) claim that the e-module enhanced new skills, such as ICT skills. Both the educators and the students recognized the advantages of employing an e-module that allow them to make an adjustment to their individual needs by considering diverse learning styles and paces. According to Wulansari et al. (2018), e-modules allow students to independently enhance their learning performances.

Modules in electronic form or e-modules are innovative teaching materials. E-modules allow displaying or loading images, audio, video and animations as well as completing tests or quizzes provided with feedback automatically. Teaching materials in the form of e-modules are intended to facilitate students' learning so that they can comprehend materials independently and according to their learning speed. Based on the results of several studies, learners respond positively to e-modules because e-modules are considered more interesting. Multimedia elements embedded in e-modules make learning more interesting (Chong, Yunos, & Spahat, 2005). E-modules in e-learning or blended learning are in the form of online pre-lectures or online materials that must be studied before face-to-face meetings, which allow learners to be better prepared for face-to-face lectures (Chen, Stelzer, & Gladding, 2010), and subsequent face-to-face lectures that can adopt active learning strategies (Georgiou & Sharma, 2015). The results of Hill, Sharma, and Johnston's (2015) research show that e-modules used as pre-lectures can make a difference in students' conceptual understanding and make students more aware of their learning process. E-modules in this study are e-modules that must be accessed and done by undergraduate students before face-to-face lectures, either face-to-face or online.

According to Cobb, Watson, and Ellis (2018), e-modules are sustainable and reusable educational products that provide an alternative or addition to traditional lectures. From a practical point of view, e-modules provide significant flexibility. Learners can access the module without restrictions. E-modules are educational products that are easy to document, review and revise. As a result of these benefits, it is very important to establish best practices for producing effective e-modules. Chong et al. (2005) state that e-modules are considered suitable as alternative learning materials that will help to learn. The research respondents feel that e-modules are suitable to support the learners in learning the materials.

From the results of their research, Cobb, Watson and Ellis (2018) state that the clarity of the e-module text is important. Then, consistent feedback provided in e-module applications can keep learners engaged, guide independent critical reflection of their content understanding, and help them understand why their approach to assessment questions is adequate or inadequate. E-modules need to be simplified by adjusting the number and need to be careful in choosing text, images, and questions. Research on developing e-module in the area of EFL teaching has increasingly developed. Agustina and Efendi (2021) developed and implemented an e-module for teaching speaking. Experts involving media and material experts validated the e-module that involved multimedia elements such as videos made by the researchers. The finding of the implementation showed that the e-

module got an average score of 81% in the good category that was considered to have the feasibility to be implemented in learning. Aini, Sari and Rikarda (2020) also developed and implemented a content-based instruction e-module involving Islamic values in the Reading for Academic Purpose course. Multimedia elements of the e-module were not described, but it involved cover, content, assessment design, and the integration of Islamic values. The findings showed that, based on students' evaluation of the e-module in trials 1 and 2, the e-module had the feasibility to be used in online and offline systems. Similarly, Berlin, Apriliaswati and Rezeki's (2022) study on developing e-module also integrated Islamic values in recount and narrative English reading texts. The e-module involved multimedia elements such as videos from YouTube, pictures and links for the exercises. The e-module was still in the stage of self-validated by the researcher.

In a similar vein, Novia, Rozimela, and Zaim (2022) investigated students' motivation and English ability by implementing an e-module based on mobile learning in teaching English at Senior High School. The study was action research with two cycles. The finding showed that the use of e-module could improve the students' motivation and English ability. There were some factors considered to affect students' motivation and English ability in the implementation, such as the teacher, method of teaching, material, and media. Rahman, Wibawa, and Sumantri (2022) trained students to have better English skills by producing an English e-module for tourism based on an Android smartphone. The study was an analysis of learners and context for developing an e-module for English for tourism involving four language skills. The prototype of the e-module has been published on the Google play store.

These studies were all research and development design that has several phases. Scholars can publish the whole phase, some phases or only one phase of their research. Studies conducted by Agustina and Efendi (2021)and Aini, Sari and Rikarda (2020)evaluated the feasibility of the e-module in a small and large trials, but did not test the effectiveness of the developed e-module on students' achievement. They tested the e-module and gathered the data based on the e-module evaluation sheet. On the other hand, Novia, Rozimela, and Zaim's (2022) study implemented an e-module in teaching English to investigate its effect on students' motivation and English ability. There was no description regarding the e-module. In Berlin, Apriliaswati and Rezeki's (2022)study, the e-module was only validated by researchers. In contrast, Rahman, Wibawa, and Sumantri's (2022) e-module has been published on the Google play store, but their study was an analysis of the learners and context for developing the product. Regarding the multimedia elements equipped in the e-module in those studies, the e-modules were equipped with videos made by the researchers (Agustina & Efendi, 2021), and videos from YouTube (Berlin et al., 2022). The current study is different from those discussed previously. The present study equipped the e-module with self-developed video lectures as well as videos from YouTube. YouTube videos were from the selected L1 speaker of English talk show programs to complement the video lectures so that students did not only listen to the language from the lecturers but also from L1 speakers of the language. Thus, students were provided with a model of how L1 speakers of English use the language. The e-module in the current study was an interactive e-module equipped with written text, video lectures, videos from YouTube, animation, stickers, interactive quiz/test, and full of colors. Besides, the current study presents validation results from the experts; the effectiveness of e-module on students' outcomes, and students' feedback after using e-module in the implementation phase. The effectiveness and students' feedback from the interview were not available in those studies previously discussed.

Semantics is one of the English content subjects offered at the English Study Program, FKIP – Riau University. Students consider Semantics a difficult subject, and the materials are difficult to comprehend. Moreover, the textbooks used are not interesting. Besides, textbooks which are conventional cannot motivate students to learn (Novia et al., 2022). Therefore, the learners do not seem to read the materials provided when they are asked to read the material from the handout (pdf) provided for face-to-face preparation. As a result, students attend lectures with minimal preparation because they are not interested in reading the textbooks. This condition will certainly disrupt the

quality of interaction and knowledge transfer in the process of teaching and learning. To solve this condition, lecturers have to be creative and innovative because they face and teach Generation Z, who is digital natives and smart use of technology. They prefer to open something that can be accessed by their gadgets or cell phones rather than having to carry books. One of the creativities that bridge the gap is to provide the students with an e-learning media that matches to their interest and meet the current demands. Thus, an e-module, a learning media, is required to be developed to facilitate both the students and the lecturers in the learning process both in online and face-to-face classes. E-module provides the students not only written text but also video lectures, videos from YouTube, audio materials, animation, stickers, pictures, interactive quizzes/tests, and full of colours. Both students and lecturers may have benefits from the e-module as it may present L1 speakers of English via videos or audios equipped. Thus, students get the model of how English is used by L1 speakers. It is expected that e-module may interest the students to study at their pace and help lecturers be more creative in teaching. Research on e-modules shows that e-modules are effective in increasing students' knowledge, understanding, and interest (Thompson, Nelson, Marbach-Ad, Keller, & Fagan, 2010). Thus, in this study, the researchers developed and implemented an e-module of meaning in an interpersonal context for EFL undergraduate students learning Semantics online. The aims of this research were to investigate:

1) The significant effect of e-module on improving students' learning outcomes.
2) The students' feedback after using the e-modules in learning Semantics online.

2. METHODS

This investigation is a research and development design employing the ADDIE model intended to design and develop an e-module in EFL Semantic Course. ADDIE is a product development paradigm and a model that is not only appropriate for developing education, but also other learning resources (Branch, 2010). The population of this research involved three semantic classes consisting of 118 students. Using cluster random sampling, one class consisting 41 students was selected for the implementation phase in this study. The data were gathered from the primary source using questionnaires, tests, and interviews. Thus, there were quantitative and qualitative data. The quantitative data that required inferential statistics were analyzed using SPSS version 25, unless descriptive statistics was used. Content analysis was used to analyze the qualitative data by constructing relevant codes and themes. The development stage of the ADDIE model involves five phases of the instructional design model, namely (1) Analysis, (2) Design, (3) Development, (4) Implementation, and (5) Evaluation (Branch, 2010).

(1) Analysis Phase

Students and lecturers were involved in this phase. In the analysis phase, a needs analysis was conducted to ascertain the students' and lecturers' needs for e-modules in Semantic class. To gather students' needs for the e-modules in Semantic courses, a questionnaire was distributed to the students who took the subject in the previous semester. From the lecturer side, three lecturers who taught Semantic Courses were interviewed. Besides, examining the curriculum to make out Semantic teaching content. At this stage, the researchers also made the concept of an e-module framework developed, identified e-modules that were suitable for the target learners, the objectives to be achieved, and strategies of delivery in learning. Semester Learning Plan (RPS) and student worksheets were also reviewed and analyzed. The analysis results were taken into the consideration for initial drafting the concept for e-module development.

(2) Design Phase

The design phase was directed to determine components of e-modules involving: a) E-module design; b) Learning objectives; c) Learning content; d) Type of activities; e) Multimedia design (self-developed video lecture/video from YouTube, stickers); f) The length of each chapter and video g) Blueprint of materials in e-module; h) Tests and tasks delivery; i) Instructional strategies.

(3) Development Phase

Development activities involved: a) Drafting material based on the syllabus; b) Developing video lectures, c) Making e-module; c) E-module editing. When the e-module was ready, expert validation was carried out. A team of experts involved two experts in the content, one in ICT, and one in education. The experts were provided with an evaluation sheet for the validity of the e-module regarding the content, e-module presentation, multimedia elements, and user-friendliness. The evaluation sheet was adapted from Chong et al.'s (2005) and the e-learning module rubric from the University of Nebraska (https://www.unmc.edu/search/?s=e-learning+module+rubric). There were eight indicators in each variable evaluated. A five-point Likert scale evaluation sheet was employed to obtain the evaluation. The score should achieve at least 3.0 for the e-module to be classified as valid. The e-module was amended by the suggestion provided by the experts.

(4) Implementation Phase

After getting the results of the evaluation regarding the quality of the e-module from the experts, the e-module was implemented in the online learning process of the Semantics course. At this stage, a pre-experimental method was used with a one-group pretest-posttest design. In this implementation, a pretest was carried out before the implementation and a posttest after the implementation. The results were statistically analyzed using SPSS version 25. The research subjects of the implementation phase were selected using random cluster sampling (Fraenkel, Wallen, & Hyun, 2011). The sample involved 41 students. After the implementation, the participants were requested to provide written feedback on the e-module used.

(5) Evaluation Phase

The evaluation encompassed evaluations of the process and the outcome. The former was concentrated on how the e-module could be accomplished. The last one was utilized to ascertain the effect of implementing an e-module in a Semantic course and to find out students' achievement in learning using the e-module.

3. FINDINGS AND DISCUSSION

3.1 Findings

Results of Analysis Phase

The results of students' needs for an e-module in Semantic class showed that the e-module had never been used in Semantic class. Chart 1 displays the media that had been utilized in Semantic class. 87 students from the previous year's class responded to the questionnaire.

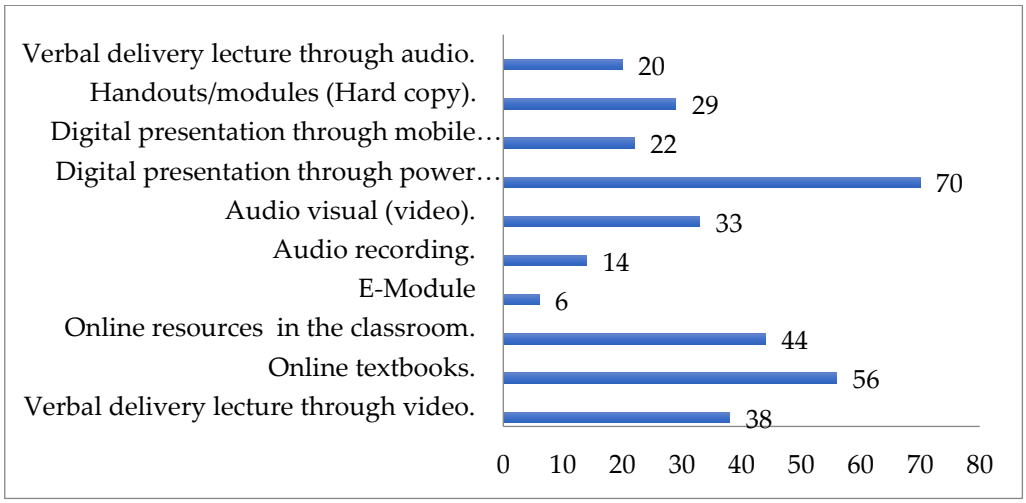

Chart 1. Media used in Semantic class.

Chart 1 presents that the students predominantly selected digital presentations through PowerPoint (70, 80%), online textbooks (56, 64%), and online resources in the classroom (44, 51%) as the media that the lecturers used in Semantic class. Chart 1 also displays that six students responded that an e-module had been used in Semantic class. However, an interview was conducted with those six students to gather information regarding the e-module used. From the interview, it was revealed that the students had misunderstood what the e-module was. Based on their understanding, they classified the materials in the form of PDFs uploaded by the lecturers in their Google Classroom as an e-module. Furthermore, based on the interview with the lecturers, it was revealed that e-module has never been used in teaching semantics. Besides, none of the lecturers has developed an e-module for their Semantic class.

Students were also requested to select the media that would develop their understanding of learning semantics. Chart 2 displays students' choices.

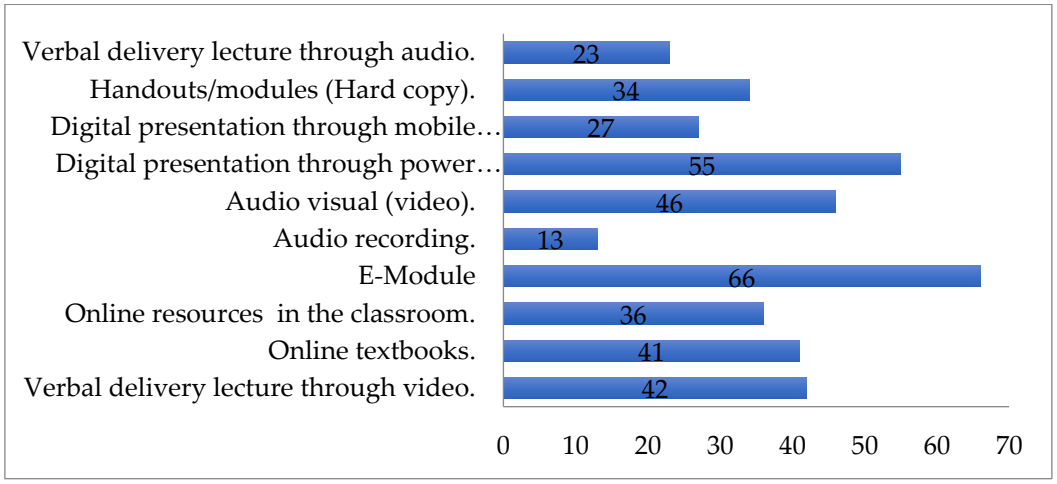

Chart 2. Media that is/are necessary to be developed

Chart 2 portrays that most students pointed out that e-module (66, 76%), digital presentations through PowerPoint (55, 63%), audio-visual (46, 53%), and verbal delivery lectures through video (42, 48%) were considered necessary to be developed to increase their comprehension of the subject matter. On the other hand, only 13 (15%) students selected audio recordings to enhance their comprehension.

Based on the level of importance, most students opted for e-module (58, 67%), digital presentation through PowerPoint (54, 62%), and a digital presentation using video (50, 57%). Chart 3 displays students' perspectives of media based on the level of importance.

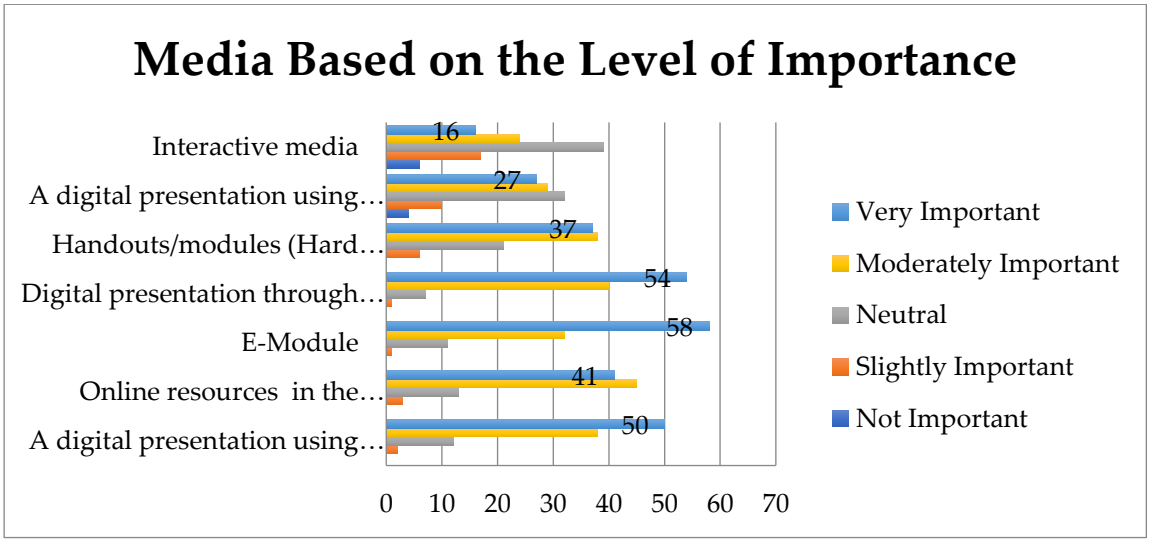

Chart 3. Media based on the level of importance

The E-Module Developed

The e-module developed consists of 2 chapters covering Speech Acts and Implicature. The e-module is facilitated with a user guide that provides some guidance for the users when reading the module. The presentation of the e-module involves written text and multimedia. Each chapter consists of an introduction, relevance, learning objectives, contents, references and an online test. In terms of multimedia, Chapter 1 provides the students with one video from YouTube, three lecture videos, and one online test. Chapter 2 includes one video from YouTube, two lecture videos, and one online test.

The cover of the e-module comprises the title, level, user, and university name.

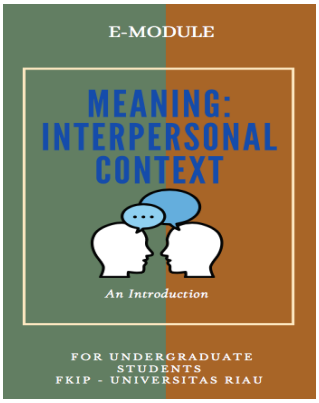

Figure1. Cover

The e-module user guide contains directions for the users on how to use the e-module, especially the interactive elements provided.

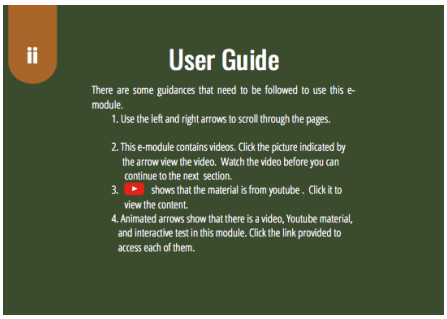

Figure 2. E-module user guide

The introduction and relevance of the topic are available on the first page of each chapter. Besides, the first page of each chapter also presents the learning objectives of each topic. Animated pictures are also displayed in each chapter.

Figure 3. Introduction, relevance, and objective page

A video from YouTube is also presented in each chapter. It is accessible by clicking the YouTube symbol. The arrow before the YouTube symbol in the e-module is moving to attract the students' attention.

Figure 4. Video from YouTube in the e-module

The e-module also provides lecture videos in each chapter. The lecture videos are accessible by clicking Click Me sign provided. The arrow above the Click Me sign in the e-module attracts the students' attention as it's moving. Besides, there is a sign showing that there is a video to watch. The aim is to make the readers aware that they have to watch the video to obtain an explanation.

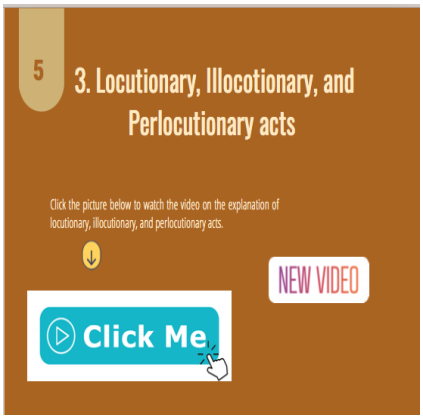

Figure 5. Lecture video in the e-module

A test/quiz is provided to measure the students' comprehension of the materials. The students can do the test/quiz more than once if they want.

Figure 6. Link for the quiz/test

Expert Validation

The results of the validation of the e-module content by experts showed that the e-module content was comprehensive and easy to understand. The content fitted the topic of the syllabus and was logically delivered in the e-module. The content was also fragmented into units of information. Furthermore, the examples given were easy to understand. The content presentation was assessed to have good language, citations, and references. Overall the content of the e-module was rated High (4.46).

The validation results of the presentation and interactive navigation of the e-module showed that the learning objectives clearly stated the content being studied, and the learning objectives used indicator verbs. The e-module was evaluated to have a good introduction to the topic, navigation went well, and was systematic. Furthermore, the presentation of the content matched the students' learning styles and was interesting. Overall, the presentation and interactive navigation of the e-module got Very High, with a mean score of 4.66.

The validation of the use of multimedia elements showed that the interface was well designed, the videos matched the subject matter, the interactive elements functioned well, and the audio quality was good. Furthermore, the selection of colours according to the content and the use of text were also suitable for the e-module content. Overall, the validation results of the use of e-module multimedia elements were rated High (4.46).

The validation results of the user-friendly elements showed that the e-module was user-friendly, and the user guide was helpful and easy to reference. Furthermore, the navigation buttons, in terms of function, were consistently used and the navigation assistance in the e-module was easy to understand, and the e-module was stable. Overall, user-friendly elements for the e-module obtained a mean score of 4.56 (Very High).

Table 1. The results of experts' evaluation

No.	Components	Chap. 1	Chap. 2	Average
1.	Contents	4.5	4.46	4.46
2.	The presentation	4.6	4.68	4.66
3.	The usage of multimedia elements	4.6	4.53	4.56
4.	User friendliness	4.6	4.53	4.56
	Average score			4.56

In Table 1, it can be seen that the average value of all e-module components got a grand mean score of 4.56 (Very High), which means that the content, presentation, use of multimedia, and user-friendly elements are highly valid. As it was considered very feasible, there was no revision made. However, there was a suggestion from one of the experts that the font of the letters needed enlarging and for that, the font size was increased.

Implementation phase

Before the implementation phase, the link of the e-module was uploaded to Google Classroom so that the students could access the e-module whenever and wherever they wanted. The students' scores before and after the implementation phase can be seen in Table 2.

Table 2. Descriptive statistics

N		Minimum	Maximum	Mean	Std. Deviation
Pretest	41	40	70	54.12	7.096
Posttest	41	57	90	72.54	7.887

Table 2 shows the average score of the pre-test (54.12) and post-test (72.54) and the number of research subjects was 41 students. Furthermore, the table displays the standard deviation of the pre-test (7.096) and post-test (7.887). It shows that the mean scores of the pre-test and post-test in the two groups are descriptively different.

Normality test was also conducted. The result shows that the scores on the pre-test and post-test are normally distributed as the Sig. 0.116 for the test before the treatment and .200 for the one after the treatment > 0.05. Thus, the Paired Sample Test for the implementation phase could be carried out.

Table 4. Paired samples test

	Paired Differences							
				95% Confidence Interval of the Difference				
	Mean	Std. Deviation	Std. Error Mean	Lower	Upper	*t*	df	Sig. (2-tailed)
Pair 1 Pretest – Posttest	-18.415	8.547	1.335	-21.112	-15.717	-13.796	40	0.000

Based on the output of Paired Sample Test in Table 4, the value of Mean Paired Differences is -18,415. It means that there is a difference between the average scores of pretest and posttest learning outcomes and the difference is between -21,112 and -15,717. Furthermore, the value of Sig. (2-tailed) is 0.000 <0.05, which means that the application of the e-module is effective in improving students' learning outcomes. Furthermore, if the value of t-count (13,796) is compared with the value of t-table with df 40 (2,021), then the value of t-count (13,796) > from the value of t-table (2,021). So it can be

concluded that the application of the e-module in Semantic learning is significantly effective in improving students' learning outcomes.

Students' Feedback

After the implementation phase, the students were requested to evaluate and provide their written feedback on the e-module used. 31 students provided written feedback on the implementation of the e-module. The following present some of their responses that the e-module was easy to understand or comprehend.

S23 The e-module is so creative and easy to understand the point the lesson… In my opinion utilizing technological sophistication during online learning is very effective and liked by students.

S21 I'm thankful that we have this e-module provided in Google classroom since the materials are sometimes hard to find in the internet and this e-module make it easier for me to learn and comprehend the materials.

S16 With the e-module, I can learn the material that has been provided to in the e-module easily, the discussion is also easy to understand and I am happy with the very interesting e-module. Thank you ma'am.

S9 Very good e-module because its easy to use, not making any confusion when we use it, easy to understand, good choice for the colour of the e-module, so we are comfort to read…

Another perspective expressed by the students was that the e-module was easy to use. Besides, they also conveyed that the e-module was attractive, interesting, impressive and easy to remember. Some of their perspectives are as in the followings:

S14 E-module is very good, has an attractive appearance and easy to use.

S8 The e-module is very interesting and easy to use, easy to remember and easy to learn.

S15 My first impression is very impressive because it is very easy to use whenever we want.

S3 The e-module is very easy to use, because there are navigational that can help in the module is easily understood, it has well design with colourful background.

The role of multimedia in the e-module was the other point expressed by the students. The videos were useful, helped them to easily understand the content, and increased their understanding. Here are some of their expressions as presented in the following quotations.

S19 The module provided is very interesting and easy to use. There are also many videos that related to the materials so it can be understood well.

S26 It is interesting e-module because we can learn the material easily with the best explanation by the text and video.

S18 The video included in the e-module is also very very useful, the delivery is easy to understand

S11 Thank you for creating interesting content like this, using colourful e-modules, and not boring. So far, I am very interested because the reading is not long-winded and clear and clear, complete with videos to increase understanding.

The students also conveyed the design of the e-module. They perceived that the e-module made them not only keep reading; but also motivated in learning. Besides, they also expressed that not only their enthusiasm increased, but also they did not feel bored.

S18 The designed e-module is very useful for me, with design techniques and colors that are very interesting to look at so that it makes me not bored while reading.

S17 I think it's so interesting for me. Because I have never used these media and method before during online classes. So, I feel curious to know more about that and also feel motivated to learn the material.

S15 Learning using e-module is very interesting. In addition, it can increase enthusiasm in learning because there are colors and images that attract attention.

S7 The module makes me really easy to understand the topic both speech act and implicature. I love all the color and animation because it makes the module not boring. Overall, I really enjoyed the material.

The students also communicated their expectation to be provided with e-module in other subjects as in the following expression.

S25 I hope that this e-module will continue to be used in other learning subjects.

S1 I wish other subjects will provide the students with e-modules

S24 I look forward to have e-modules used in other subjects.

S22 I hope that other lecturers will have e-modules used in their class.

The students also commented on network connection and full of storage of their devices when using the e-module. Network connection and full of storage were considered as a problem when using the e-module.

S6 The e-module very interesting and helpful. Overall the e-module is very good, looks attractive. Only sometimes it can't be opened without Internet and must be saved first. For me it's okay, but maybe there are some friends who can't save the e-module because the network or storage is full.

3.2 Discussion

The components of the developed e-modules were perceived by experts to have a very high extent of validity. This means that the content, e-module presentations and interactive module navigation aspects, use of multimedia, and user-friendliness of the developed e-module were highly valid. The developed e-module was intended to aid the students to accomplish their goal of learning. According to Kirschner, Sweller, and Clark (2006), a stable layout and artistic of online learning modules decrease the extraneous cognitive load. Thus it will make the students learn with ease. E-module is not only a source of learning but also a medium to motivate and encourage students to read and learn independently before face-to-face interaction in an online class. Besides, multimedia instructional modules were aimed to enhance and broaden the students' learning experiences (Ganesan, 2009). The characteristics embedded in the e-module allow the students to study independently and enhance their learning performance.

Furthermore, the results of the implementation show the application of the e-module in Semantics learning at the implementation stage was effective in improving student learning outcomes in Semantics Courses. The e-module is not asynchronous that stands by itself, but it is a supplemented pre-lecture material that students should study before attending the class. Thus students did not only get explicit explanations from the e-module; but also explicit guidance or explanations from the lecturer in class when they needed it. For that reason, it is possible the students got a better score. Gagnon (2015) investigated the adaptation of online self-learning modules. The results showed that the score of the participants' overall knowledge score enhanced significantly after the intervention and they felt satisfied with the course. Besides, the use of e-modules provides the instructors with the advantage of multimedia modules in classrooms. E-modules increased the participation of students in the classroom so that the instructors can make the class to be more student-oriented in the classroom (Koeber, 2005). The combination of text, multimedia (such as video

lectures, and YouTube) and online face-to-face instruction improved the students' learning experience as well as their knowledge. Dankbaar et al.'s (2017) study revealed that the effectiveness of video lectures from a serious game and text-based lectures from an e-module are equal in enhancing the participants' knowledge and the e-module was perceived as easier to utilize. The present study corroborated Dankbaar et al.'s (2017) and Gagnon's (2015) studies that e-module was effective to enhance the students' knowledge and learning experience. Similarly, Lamb and Annetta's (2013), Thompson et al.'s (2010) and Gaikwad and Tankhiwale's (2014) findings also revealed that the online modules enhanced students' skills and understanding of the concept.

Students perceived that the e-module was easy to use and easy to understand. Besides, they stated that the e-module was interesting, impressive, and attractive. This implies that the students received the developed e-module favorably. Chong, Yunos, and Spahat's (2005) research also demonstrated that their students' perception of the developed e-module was supportive as the characteristics incorporated in the e-module fitted the students' desires. Students also perceived the e-module positively as they have no problems when learning using the e-module. These students are the Z generation who are familiar with technology and Internet things. Thus, they find it interesting to have an e-module that was designed with the inclusion of video lectures, YouTube materials, online tests, stickers, pictures and full of colors. This finding is consistent with Victoria et al.'s (2018) finding in their study of an e-learning web-based module. They revealed that their participants also perceived that the e-module was useful and easy to use. It was presumed that the participants were familiar with ICT in their daily life.

The e-module also seems to increase students' interest in reading or learning the content in the e-module as they stated that the e-module made them keep reading, motivated in learning, and feel not bored. This implies that the e-module increases students' motivation in learning. They could read the e-module for a longer time, which may not happen when they read the content from a conventional book or PDF. Previous research has shown that the use of technology makes it possible to provide students with active learning and increase their interest and motivation (Thompson et al., 2010). Students' motivation may be enhanced due to new technologies and the environments of learning (Haghighi, Jafarigohar, Khoshsima, & Vahdany, 2019). The present study is relevant to Thompson et al. (2010) and Asrial et al. (2020) in this matter. Besides, the e-module is very convenient for students as they can access the e-module from their cellphones or gadgets anywhere and anytime. Furthermore, as a supplemented pre-lecture material, students could check their understanding of the content in online meetings.

The students also felt that the videos included in the e-module were useful, helped them to easily understand the content, and increased their understanding. Naffi et al. (2020) and Purwanti et al. (2022) suggested that lecture videos promote the effectiveness of online learning. Therefore, instructors are suggested to get the benefits of its potency as a powerful instrument in online learning (Roehling, 2018). Furthermore, according to Noetel et al. (2021), supplemented pre-lecture material videos followed by in-person teaching promote the students' higher learning development. The inclusion of video lectures in the e-module may become the strength of the e-module as they provide the students with text or pictures and oral explanations. According to Leis et al. (2015), the explanation is the main element that facilitates students' achievement enhancement.

4. CONCLUSION

The e-module was possibly developed e-module is to meet the students' need for online pre-lecture material not only for virtual learning but also for blended and conventional learning. The e-module covers two topics involving Speech Acts and Implicature. The e-module was evaluated to have very high validity by experts and proved to be effective in increasing students' performance. The students find the e-module motivating and interesting. Furthermore, students felt that the videos inserted in the e-module could enhance their understanding of the subject matter. Besides as pre-lecture material, students can learn the e-module independently. Future researchers could develop e-

modules with different topics in Semantics. Moreover, it's possible to develop and investigate the effectiveness of e-module based on problem-based, case-based, or project-based learning.

Acknowledgements: The authors felt thankful for the support of FKIP Universitas Riau in conducting the research.

Conflicts of Interest: The authors declare no conflict of interest.

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