DEVELOPING AN INTERACTIVE ELECTRONIC ENGLISH SUPPLEMENTARY MODULE FOR EIGHTH-GRADE STUDENTS UNIVERSITY MUHAMMADIYAH OF PURWOKERTO

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Abstract

This research aimed to describe: (1) the teacher and students' needs before developing the module, (2) the development validation of the product,(3) the evaluation to the use of the product. ADDIE Models was used as the research model. Interview, observation, questionnaire (expert, students, teacher), and test were used as the instrument. Qualitative and quantitative were used as the data analysis. Findings from the need analysis indicated that teachers and students require an additional module to facilitate the teaching and learning process. Each module had exercises, resources, and interactive activities. The development of an e-module was needed because printed books were expensive and had limited availability. Moreover, the five processes of the ADDIE model-analyze, design, develop, implement, and evaluate were applied in the process of creating the e-module. In addition the findings of module validation of the media expert, the design expert, and the content expert all came into the "Very Good category. Finally, the Mann Whitney U test was used to determine the product's effectiveness where Asymp was depicted, If the significance level was higher than α (0.000) > (0.05), then it was considered significant. Additionally, the results of the product evaluation indicated that the product fell into the "Very Good category" since the percentage of teachers and students who achieved a result was between 76% - 100%. To augment teaching and learning resources, an electronic module might be utilized as an additional book.

Keywords: E-module, ADDIE model, Need analysis, Interactive learning, Development Process, and E-learning.

Abstrak

Penelitian ini bertujuan untuk mendeskripsikan: (1) kebutuhan guru dan siswa sebelum mengembangkan modul, (2) validasi pengembangan produk, (3) evaluasi penggunaan produk. Model ADDIE digunakan sebagai model penelitian. Wawancara, observasi, kuesioner (ahli, siswa, guru), dan tes digunakan sebagai instrumen. Analisis data kualitatif dan kuantitatif digunakan. Temuan dari analisis kebutuhan menunjukkan bahwa guru dan siswa memerlukan modul tambahan untuk memfasilitasi proses belajar mengajar. Setiap modul memiliki latihan, sumber daya, dan kegiatan interaktif. Pengembangan e-modul diperlukan karena buku cetak mahal dan ketersediaannya terbatas. Selain itu, lima proses model ADDIE-analisis, desain, pengembangan, implementasi, dan evaluasi diterapkan dalam proses pembuatan e-modul. Selain itu, temuan validasi modul oleh ahli media, ahli desain, dan ahli konten semuanya masuk dalam kategori "Sangat Baik". Terakhir, uji Mann Whitney U digunakan untuk menentukan keefektifan produk yang menunjukkan Asimetri. Jika tingkat signifikansi lebih tinggi dari α (0,000) > (0,05), maka produk tersebut dianggap signifikan. Selain itu, hasil evaluasi produk menunjukkan bahwa produk tersebut masuk dalam kategori "Sangat Baik" karena persentase guru dan siswa yang mencapai hasil berada di antara 76% - 100%. Untuk melengkapi sumber belajar mengajar, modul elektronik dapat digunakan sebagai buku tambahan.

INTRODUCTION

In the 21st century, technology and science are developing rapidly. These technological increasing can be utilized in Education. To face the development of science and technology, education needs to be prepared the challenges (Atiah, 2020). The emergence of Industry 4.0 aims to integrate technology into the educational process so that students must prepare to use technology to support their talents in the future. In that instance, According to (Kobayashi, 2023) preparing to teach is assumed to have a potential role in the suggested conceptual framework of learning through the development of teaching materials. The utilization of teaching material is one factor that influences the learning process (Martatiyana et al., 2023). Teaching material facilitate the students to achieve the learning objective.

Teachers need to prepare their teaching materials before students start learning. According to (Horsley et al., 2010), learning resources are considered to be valuable resources that may be used to enhance students' learning. Teaching materials are a crucial component of the implementation of learning runs because they facilitate the delivery of material to students and facilitate their learning. Teaching materials must be organized in a methodical way for the students can learn independently (Aisyah et al., 2020). The process of creating instructional materials must take consideration of the requirements of the content to be covered and be tailored to the individual learning styles of each student (Magdalena et al., 2020).

Teaching materials include all kinds of materials that are organized in a methodical way and that can be used to enhance learning activities. According to (Onajite et al., 2019) there are several kinds of learning materials that show the existence of two categories of teaching materials: printed and non-printed. Printed material is teaching materials that include textbooks, handouts, modules, posters, and materials displayed on paper. Besides, Non-printed teaching materials can display images, text, and sound simultaneously in the form of radio, images, audio-visual materials like films and videos, and interactive computer. The benefits and role of e-learning to education is able to easily access the educational resources without having to taking excessive time to search for these resources (Alenezi, 2020).

Meanwhile, a significant barrier to effective learning is the lack of printed books in educational settings. The lack of textbooks and other printed materials limits students' access to critical knowledge and information in many areas, particularly in schools with limited resources. Due to this lack, teachers are less prepared to deliver organized lessons, which frequently mean that students focus significantly on verbal instruction and note-taking. Students lose out on the physical and visual aspects of reading without printed books, which can improve comprehension and memory

Teaching and learning process at Junior High School also still use a traditional method. Traditional lecture-based teaching approaches, in which teachers speak mostly and students listen only to hear, fail to engage students' interest or encourage active engagement. Teaching in elementary school should be centred on helping students become more proficient communicators, and in junior and senior high school, equal emphasis should be placed on oral and written discourse (Putra. A. K, 2014). A significant problem in education that causes students' boredom and disinterest is the lack of active and engaging classroom activities. This monotonous method frequently makes the students difficult to understand the importance of the material without opportunities in collaboration, critical thinking, and practical use.

Due to the problems above, the researcher is interested to develop an electronic module through learning management system. E-module is an innovative and interactive module to

be used because of it can incorporate multimedia elements, provide flexibility for students to study anytime and everywhere, and can reduce physical materials which can be cost effective. Moreover, this research aims to identify the need analysis, validate module development, and evaluate the use of the product developed. This research contributes to a broader understanding to the use of technology related to the utilization of E- module as a supplementary in order to expand teaching and learning resources. The goal of the supplementary book is to assist English teachers who are not affiliated with the Department of Undergraduate English Education in overcoming issues related to distributing and using instructional resources (Rahmia et al., 2022).

Through electronic modules, subject matter can not only be read through printed books. This will make it easier for students to study anywhere in accordance with the conditions when online learning applies (Charlina et al., 2022). Digital tools called electronic English modules are made to make learning the language easier. The developed digital module puts a strong emphasis on content and design and receives positive feedback from students who have adapted well to its use. Electronic module can support teaching and learning process dealing with assignment or test from the teaching (Winita et al., 2020). The majority of students express satisfaction with the implementation of the electronic module in the class (Sumandiyah et al., 2023).

E-modules, being technology-based, offer a more interactive learning experience, making content navigation easier and presenting multimedia elements such as images, audio, video, and animation. Additionally, e-modules incorporate formative tests and quizzes that provide immediate and automated feedback. Consequently, it is essential that e-modules be designed in a clear and attractive to facilitate students' comprehension and information can be captured easily. The developed e-module offers several benefits to its users, including save learning time and enhanced reader engagement (Adriani et

The development of an electronic module (e-module) for English learning materials necessitates the consideration of students' requirements as well as the needs of graduate users, specifically tourism stakeholders. The development of an electronic module also necessitates the cultivation of creativity, the adoption of productive thinking habits, the establishment of an active, effective, innovative, and enjoyable environment (Rahman et al., 2022). The effectiveness of incorporating Information and Communication Technology (ICT) in the learning process has been proven in terms of improving student learning outcomes. This is primarily attributed to its ability to stimulate students' interest and motivation (Indrawati et al., 2022).

Learning Management System is one of the strategies that might be used in e-learning. As a result, the learning management systems are described in many literary works as being involved in technology, websites, e-learning strategies, software, a platform, and e-learning objectives. LMS creates a welcoming learning environment in the classroom that supports professional development, teamwork, and communication among LMS users. The using a learning management system as a tool in the teaching-learning process are generally acceptable (Garcia & Abaratigue, 2021).

According to (Bassam & Alshorman, 2018) state that the Learning Management System is a useful tool for sharing ideas and communicating with classmates and teachers. Teachers transfer their instructional ideas to students via the Learning Management System, and the students must complete the assignments like the presentations, videos, and other resources that are available there. A Learning Management System (LMS) is a dedicated and effective way to learn as a sustained interaction that uses less time and resources while facilitating in fast administration and usage of remote learning as a sustainable interaction (Alturki & Aldraiweesh, 2021).

METHODE
Participants

The research methodology for this study is based on research and development (R&D) design. R&D is a type of research that is used to develop a specific product and test its effectiveness (Borg & Gall, 2003). They also state that the product requires field testing, evaluation, and development to fulfill specific effectiveness and quality standards. Research and development aim to ensure a high-quality final product in terms of both the material and the process (Kustiawan et al., 2021).

For supporting the need analysis data, there was an observation conducted in order to know the teaching and learning process situation and interview 2 teachers from SMP Muhammadiyah 1 Purwokerto in order to know their perspective towards English learning and students' knowledge.

During the development of the product, the researcher distributed questionnaires to the experts. There are material, learning design, and media expert. The researcher define the expert based on the relevant experience that proven by track record and educational background in relevant fields. The experts are lecturers from Muhammadiyah University of Purwokerto that teach English education. One expert evaluated 2 questionnaires and one expert evaluated one questionnaire. There was also IT team from EDDES to develop the E-module.

In the implementation stage, the subject that researcher used was 23 students from control group and 24 students from experimental group of eighth-grade of Junior High School students. In evaluation process, the researcher used questionnaires to evaluate the use of the product. There were a questionnaire to the teacher and the questionnaire to five students.

The product of this study was an Electronic module that was integrated with Learning Management System called "ALBAYEN". This platform was created by EDDES (Education Development and Solution Specialist Sdn) organization from Malay that provides several schools to be integrated with Digital Education. Meanwhile, the development of an Electronic module was elaborated from "English for Nusantara" book and 9 aspects. There were 5 topics such Save the Earth, Put the Trash in the Trash bin, I'm Happy with me, Revel in Joy, and Zero waste lifestyle. Meanwhile, the implementation stage, the study was conducted at SMP Muhammadiyah 1 Purwokerto, focusing on eighth grade as a subject.

Data Collection Technique

To gather the data, the researcher used observation sheet, interviews, questionnaires and test. Firstly, interview and observation were used to collect data for need analysis. Secondly, first questionnaire was used to get suggestions and opinions from the expert to determine the appropriateness of the designed material. Thirdly, for getting the data towards the implementation of the product, the researcher used test. Fourthly, to evaluate the module, the researcher used questionnaire for teacher and students.

Table 1. Form of Data Collection Instrument

No	Stages	Subject	Instrument
1	Needs Analysis	➤ Teacher ➤ Classroom	➤ Interview ➤ Observation sheet
2	Product Development	➤ The Material, Learning & Media Expert	➤ Questionnaire
3	Implementation	➤ Students	➤ Test

| 4 | Evaluation | ➤ Students ➤ Teacher | ➤ Questionnaire |

Data Analysis Technique

The data were divided into qualitative and quantitative data. Qualitative data was analyzed descriptively. The qualitative data include the result from teachers' interview, observation, and comment from expert validation.

Data collected through a questionnaire and tests were analyzed using quantitative methods. The result obtained at each step by using an expert validation analysis, teacher & students' response through questionnaire, and pre & post test.

Table 2. The Interpretation of Likert Scale and Interval

Scale	Descriptive Categories	Percentage	Interval
1	Poor	0% - 25%	$1 \leq x \leq 1.74$
2	Fair	26% - 50%	$1.75 \leq x \leq 2.24$
3	Good	51% - 75%	$2.25 \leq x \leq 3.24$
4	Very Good	76% - 100%	$3.25 \leq x \leq 4.00$

Adopted from Suharto, 2006

To determine whether there was a significant difference between two independent samples, the researcher used The Mann-Whitney U test. This test was a non-parametric statistical test because it did not assume a normal distribution of the data. The standard of Mann Whitney decision is if Asymp.Sig value is less than α=0.05 means that the null hypothesis is rejected (If Asymp.Sig value < 0.05) and f Asymp.Sig value is greater than α=0.05 means that the null hypothesis is accepted (If Asymp.Sig value > 0.05).

DISCUSSION

This research aimed to develop an electronic English module for eighth-grade students in Junior High School based on the English for Nusantara book combined with 9 aspects of the EDDES curriculum. The development of the textbook was approved based on validation by a material expert, media expert, design expert, Implementation of the product, English teacher response, and students' response. The topics are Save the Earth, Put the Trash in the Trash Bin, I am Happy with Me, Revel in Joy, and Zero Waste Lifestyle. In each lesson, some aspects were provided like a Rubric, Teacher Guidelines, the Placement Exam, Multimedia Notes, Practical in the Classroom, Quiz (objective test), Examination (formative test), Homework, Checkpoint Quiz.

There were some activities on every topic like (1) Interactive Quizzes such as quizzes with multiple-choice, true/false questions that provided an instant feedback. It helped the students to assess their understanding of the material by getting immediate feedback. (2) Multimedia content provided videos, audio, and animations related to the topic that could cater to different learning styles, and could simplify complex. (3) Interactive activities could make learning fun and engaging.

This research and development used the five-stage analysis, design, development, implementation, and evaluation that were called the ADDIE model. Therefore, the researcher discussed the results of developing an Electronic English module using the ADDIE model as

follows:

1. **Analysis**

Analysis was the initial stage that must be done because it aimed to identify the learning needs, goals, and objectives. The needs analysis stage was done through observation to the classroom and interview the teachers. This step was done to gain detailed qualitative information from teachers related to the use of existing textbooks and students' interest during teaching and learning process. Based on the result of observation sheet and interview, the module should be developed.

1.1 Observation

The first steps in conducting the data for need analysis was observation, it showed that the researcher conducted an observation 2 times based on some indicators such as Students Engagement, Material Understanding, the Use of the Material, Teaching Method, Interaction, Class Management, and Feedback. In the first observation, the researcher observed students engagement, retention of the material, and the use of material. The result of class observation result could be seen in the following:

In the first observation, the researcher observed student engagement indicator it showed that during the teaching and learning process some students didn't actively participate in learning activities and they didn't interest on the material that have been taught. Meanwhile, some of students didn't follow the class well because they were busy with their own business. That made some students didn't get the instruction given by the teacher. Meanwhile, the use of the material, learning material weren't available and accessible to all the students because of the limited of the printed book. The teacher used another material support by giving a paper that consisted of the material for a day meeting.

In the second observation, the researcher observed teaching methods, interaction/ collaboration, time management and feedback. The teaching method that teacher used was traditional method. The teaching and learning process was teacher-centred where the teacher was the primary source of knowledge and authority in the classroom. Meanwhile, in the end of the lesson the teacher asked the students to participate in interactive learning but the teacher used a paper as the teaching media. It made some of the students didn't interest because of the sources that the teacher provide.

Interaction and collaboration of the students was going well because they can make a good collaboration to guess the quiz in a group. Otherwise, the teacher gave an opportunity to the students to ask and discus together also manage the class well during the teaching and learning process. After that the teacher gave a necessary support and guidance to students and evaluated the class.

Based on the interview and observation result showed that to enhance the students' interest in learning English, it should use an interesting module that consisted of picture, audio, and video. A module also should have a lot of exercises and interactive activities. Meanwhile, the use of the book nowadays was limited exercises and teacher used other sources from internet to support teaching and learning process. In addition, almost the students didn't get a printed book because of a limited book stock and some books were easily broken. Because of that reason, it could be concluded that E-module is the best way to be used as the supplementary book. It could serve activities, accessible, and cost effective.

1.2 Interview

Interviewed to the teacher was conducted to gain an information in order to get the data for need analysis. The researcher interviewed two teachers. The teachers from SMP Muhammadiyah 1 Purwokerto were interviewed in order to gain a comprehensive understanding of the many opportunities and problems in teaching English. These differences

could have a big impact on instructional strategies and student outcomes. The aspects that be measured were about necessities, lacks, wants, input and procedure. Here were some results from the interview with the teacher **(1)** *Necessities*: An interview result from the first aspect was almost all the students' lack English and cannot speak English well so they must master four skills. Moreover, a module should consist of a lot of activities in order to enhance student's motivation to practice. **(2)** *Lacks*; The lacks of the module are less activity in 4 skills, and lack of integration material such as video and audio to support listening activity **(3)** *Wants*; the students and teacher must follow the 21st century era. Nowadays, technology is very important and crucial to support learning activity. It will be good if there are games, interesting activities, Apps, Learning management system, and etc that can enhance student's English competencies. **(4)** *Input*; The use of technology in teaching and learning process are the students will feel comfortable, enjoy, and enthusiast to follow the class running**. (5)** *Procedure*; the teaching and learning process that should be applied is students centre in order to they have a lot of practice. Providing an interesting learning can make students more engage to follow the class running.

2. Design

The design phase was a crucial step where detailed planning for instruction was carried out. Defining teamwork, layout appearance, and content were delivered in this stage. The first step was defining the teamwork. The teamwork was divided into layout developer and content developer. Enhancing user experience (UX) and developing aesthetically pleasing design that can attract user was the job desk of layout developer. Meanwhile, developing engaging materials and ensuring the material meet the current educational standard were the job desk of content developer.

The second step was defining layout developer. The layout developer used Canva and Figma application for designing the layout. Combining the use of Canva and Figma was because of it gave a quick and simple approach to make visually stunning graphics in a simple design. Meanwhile, Figma was used for the complex design. There was one specialist layout developer that developed the layout. The developer comes from English undergraduate student that have an experience in designing.

The third step was defining content developer. There were 3 content developers that graduated from English education. The content developer made a product based on the content based on English for Nusantara Book and 9 aspects from EDDES Malaysia. The content developers adopted the topics from English for Nusantara then changed the name of the topic but still had the same meaning and some of words were also adopted. Meanwhile, the 9 aspects from EDDES Malaysia were used to support the development of the E-module. Here were several activities were carried out such as creating Rubric, Teacher Guidelines, the Placement Exam, Multimedia Notes, Practical in the Classroom, Quiz (objective test), Examination (formative test), Homework, Checkpoint Quiz (summative test). The detailed steps of creating content could be seen as followed:

2.1 Rubric

This was a stage where the development of the product was design based on the core competencies. There are level, score, indicator, and follow up plan. The researcher designed the rubric aimed to establish the essential skills, knowledge, and attitudes that learners should acquire to succeed in a particular field or subject area.

2.2 Teacher Guideline

Teaching and learning process guideline was arranged based on the need of the students and teacher. It also refers to the core competencies, achievement targets, time

allocation and learning activities.

2.3 The Placement Exam

This stage aimed to determine the student's existing understanding and basics knowledge. It consisted of pre-test using *True-False* questions. The steps that the researcher used to make True- False questions were focus on one idea in one statement, use simple language that easy to read and understand.

2.4 Multimedia Note

Multimedia Notes aimed to enhance understanding of content and increased engagement and interest in teaching and learning process. In this step, the researcher designed the appealing visual slide description, made an interactive activity, and incorporated multimedia element such as audio, video, and picture description. The activities were arranged based on the students' need by implementing an interactive and engage learning.

2.5 Practical in the classroom

In this stage, the researcher designed the teaching and learning procedure in a simple way. It took from the teacher guideline aspect and simplified the steps in order to make the teacher easy to use the activities during the teaching and learning process.

2.6 Quiz (Objective Text)

The researcher designed the fill in the blank questions that aimed to assess comprehension and the ability to use context clues. This activity could be used as an objectives test that could measure students' competence and understanding of the material. The way that was used to create questions were avoiding an ambiguity, using context clue and using for higher order thinking that require application of knowledge.

2.7 Examination (Formative Text)

In this stage, the researcher created 10 multiple choice and 5 essay questions. Multiple choice questions aimed to assess knowledge, comprehension, and application of concepts. Meanwhile, essay questions aimed to assess higher-order thinking skills, such as analysis and evaluation. Examination stage could be used as a formative test that aimed to measure monitoring and improving the learning process.

The researcher designed multiple choice questions by ensuring the question should be clear and simple, created one answer and some distraction, ensured the question was straightforward and faired by avoiding common pitfalls such as always/ never. Moreover, the development of essay questions was open-ended by providing a clear instruction, and aligning the learning objectives with what the teacher intend access.

2.8 Homework

In this stage, the researcher designed 10 multiple questions, 3 essay questions, and project based learning activities. This activity can help the students to increase learning habits and Independent Learning.

2.9 Quiz Checkpoint (Summative Test)

The researcher designed 10 multiple choice questions in this aspect. The teacher could use this aspect as summative assessment that can evaluate the student's learning at the end of the teaching and learning process.

3. Development

In this stage, the researcher validated the draft module and revision based on expert judgment. There were two experts that have been validated the module based on material expert, design experts, and media experts. The material experts validated the material presentation and content, the learning design experts validated the accuracy of the material, and the media experts validated presentation and graphic. There were two steps expert validation. Because of the first development didn't match the qualification then the researcher revise the product. The result could be seen on the expert validation.

3.1 Validation Result from Material Expert

Before the product was implemented at school, this module needed to be validated by the material expert. Material validation was carried out by an English Education lecturer at Muhammadiyah University of Purwokerto who had a background in that field. The aimed of validation material was to get accuracy, innovation, information criticism, and suggestions in order to create a good product from material, language, and design aspects. Here were the results of expert validation that could be seen as follows:

Table 3. Validation Result from Material Expert 1

No	Aspect	Score	
		Result 1	Result 2
1	The accuracy of the chapter title with the contents in each chapter	4	4
2	Conformity between concepts and content	2	4
3	Conformity between competency standards and learning objectives	3	4
4	Operational learning objectives.	2	4
5	Conformity between learning objectives and material exposure	3	4
6	Clarity of material description	3	4
7	Clarity of examples given	3	4
8	Conformity between tables, charts, drawings / illustrations and material	2	4
9	The accuracy of the selection of summary content	3	4
10	Conformity between the final chapter test and learning objectives	3	4
11	The accuracy of the bibliography that can be used as a reference search reading resources	2	3
	Sum	30	43
	Maximal Score	44	44
	Percentage	68,1 %	97.8 %
	Mean	2.73	3.91

According to the table above, the score of material aspect in the result was 2.73. It had a mean 2.73 which in the range of 2.25 < x <3.24. The material aspect was considered as Good by the expert. Moreover, the total score of 44 with a percentage of 68.1% means "Good" category. Then the researcher would to improve the expert suggestion in order to get better product. The product was revised and distributed to the expert for the second time.

After revising the product, based on the second result that the score of material aspect

was 3.91. It had a mean 3.91 which in the range of $3.25 \leq x \leq 4.00$. The material aspect was considered as "Very Good" by the expert. Moreover, the total score of 44 with a percentage of 97.8% means "Very Good" category. Based on the second result, it didn't need any revision.

3.2 Validation Result from Learning Design Expert

The result from learning design validation could be seen in the table below:

Table 4. Validation Result from Learning Design Expert

| No | Aspect | Score | |
		Result 1	Result 2
1	Cover quality	3	4
2	Pull cover design	3	4
3	The accuracy of typing layout	3	4
4	Consistent use of spaces, titles, subtitles, and typing material	4	4
5	Writing / typing clarity	2	4
6	Completeness of the components in each chapter of teaching material.	3	3
7	The accuracy of the way the material is presented	2	4
8	The accuracy of placement of charts, tables, or images illustration	2	4
9	Clarity of order of material presentation	3	4
	Sum	25	35
	Maximal Score	36	36
	Percentage	69.4%	97,2%
	Mean	2.78	3.89

According to the table above, the score of material aspect of result 1 was 2.78. It had a mean 2.78 which in the range of $2.25 < x < 3.24$. The material aspect was considered as Good by the expert. Moreover, the total score of 35 with a percentage of 69.4% means "Good" category. Meanwhile, the second result after revising has met the score of material aspect was 3.89. It had a mean 3.89 which in the range of $3.25 \leq x \leq 4.00$. The material aspect was considered as "Very Good" by the expert. Moreover, the total score of 35 with a percentage of 97.2% means "Very Good" category.

3.3 Validation Result from Media Expert

Validation by media expert aimed to get information, suggestion, and criticism. The result of the validation could be seen on the table below:

Table 5. Validation Result from Media Expert

| No | Aspect | Score | |
		Result 1	Result 2
1	The accuracy of the illustrations used in the cover	3	4
2	Conformity between material and media used	3	4
3	Quality of charts, tables, or images	2	3

	used		
4	Accuracy in size of charts, tables, or images	2	3
5	The accuracy of the placement of charts, tables, or images	2	3
6	Text quality	3	4
7	Quality of binding	3	4
	Sum	18	25
	Maximal score	28	28
	Score Percentage	64.3%	89.3
	Mean	2.57	3.57

4. Implementation

The implementation of a teaching and learning process was aimed to find out the effectiveness of the product. The implementation was carried out in 2 groups that called as control and experiment. There were 23 students that belong to control group and 24 students that belongs to experiment group. Both of the groups did a pre test and post test.

The implementation of the product was conducted 3 times. The researcher just implemented 1 topic as the product test because there were several activities that could be tested. Zero waste lifestyle was the topic chosen. The steps of the meeting could be seen as followed:

- Meeting 1 □ (Pre test, Placement test, Multimedia Note)
- Meeting 1 □ (Multimedia Note, Quiz, Homework)
- Meeting 1 □ (Examination, Post test)

After both of two groups conducted a test, the researcher would to know the effectiveness of the product by using The Mann-Whitney U test. It was used because the data was not a normal distribution. This test belonged to non parametric statistical. The result was counted by using SPSS as follows:

- Control group

Test Statistics[a]

	Hasil
Mann-Whitney U	189.500
Wilcoxon W	465.500
Z	-1.674
Asymp. Sig. (2-tailed)	.094

Based on SPSS result, the Asym.Sig (2-tailed) value of control group showed 0.094. The result was less than 0.05 meant that the null hypothesis was rejected. There was no effect from pre test and post test of control group.

- Experimental group

Test Statistics[a]

	Hasil
Mann-Whitney U	94.500
Wilcoxon W	394.500
Z	-4.059
Asymp. Sig. (2-tailed)	.000

According to the counting of SPSS, it could be seen that the Asym.Sig (2-tailed) value of experimental group showed 0.000. The result was greater than 0.05 meant that the null hypothesis was accepted. There was an effect from pre test and post test of experimental group.

Based on the differences between control and experimental group result, it showed that the use of E-module was effective.

5. Evaluation

This stage was carried out by distributing the questionnaire to the teacher and students after product implementation in order to get the responses about the module. The result of English teacher responses could be seen on the table as follow:

Table 6. Response from English Teacher

No	Aspect	Score
1	The level of relevance on the textbook to its mapping material	4
2	Facilitate the teacher in the English teaching and learning process	4
3	Help the teacher deliver the material	4
4	The suitability of the contents of the material and Core competencies	4
5	Appropriate size and type of font used in the textbook	3
6	Compatibility of pictures/ illustration with the material	4
7	The appropriateness of the exercise presented	4
8	The suitability of the choice of activities to train students' creativity	4
9	The suitability of the material with daily life	4
10	Students are motivated to take part in learning English	4
	Sum	39
	Maximal score	40
	Score Percentage	92,5 %
	Categorized	Very Good

Table 9 showed the response from the English teacher related to the development of the module. From the result evaluation criteria of the module, it showed that the teacher's response was 97.5 %. Based on the result, it means that the module is "Very Good".

Table 7. Response from Students

No	Questions	Student's Assessment				
		1	2	3	4	5
1	Physical appearance of module	4	3	4	4	4
2	The size and type of letters used	4	4	4	3	4
3	Clarity of learning objectives	4	4	4	3	4
4	Clarity of material exposure	4	4	4	4	4
5	Compatibility between pictures and material	3	4	3	3	4
6	The examples provided help you understand the material	3	4	4	4	4
7	The activities provided is interesting	4	4	4	4	4
8	Suitability of language	4	4	4	4	4
	Sum	30	31	31	29	32
	Maximal score	32	32	32	32	32
	Score Percentage	93,8 %	96,9 %	96,9 %	90,1 %	100 %
	Categorized	Very Good	Very Good	Very Good	Very Good	Very Good

Table 10 showed the response from the students. The researcher took 5 students' response in order to know their opinion after implementing the module developed. From the result evaluation criteria of the module, it showed that the percentages of five students response were 93.8 % from response of student (1), 96.9 % response of student (2), 96.9 % response of student (3), 90.1 % response of student (4), and 100 % response of student (5). Based on the result, all of the student responses showed a percentage score above 76 % that means the categorized of the module is "Very Good".

CONCLUSION

The process of the development book based on ADDIE model used the five-stage such as analysis, design, development, implementation, and evaluation. Firstly, the researcher used an interview and observation to identify the students' and teacher needs in order to get a data information to support the development of the product. Based on the result of interview and observation, it showed that the teacher needs a supplementary book to support teaching and learning process in a creative way. A module that consists of a lot of exercise, an interesting appearance, and accessible module would help the students to enhance their engagement and motivation in learning English.

Secondly, the researcher designed a module based on 9 aspects and English for Nusantara Book then developed a module based on the need analysis data. The development of the product have formulated through questionnaire to the experts in order to get validation and suggestion. Based on the expert validation, the development of the module was valid and eligible to be used for teaching at 8 grade students. The validity was achieved after 2 time validation. The first validation result required some revision, and the second validation result has met the standard.

Thirdly, to evaluate the development of the product, the questionnaires were distributed to the students and teacher in order to get their responses after implementing the product. It showed that both of the teacher and students gave a positive response to the use of the product. It could be seen that the percentage was around 76% - 100%, that means the product was "Very Good". So it could be concluded that the eighth grade Supplementary English module was feasible to be used.

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