DEVELOPMENT OF E-LEARNING LEARNING MODELS IN ENGLISH SUBJECTS

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Abstract: This research aims to develop and test an E-learning model for effective English teaching for class XI students in the Computer Network Engineering program at SMKN 3 Batam. This model aims to improve the quality of English language learning in the digital era. It follows a research and development (R&D) process that includes four stages: define, design, develop, and disseminate. Based on the evaluation results, this E-learning learning model has succeeded in increasing interactivity between students and teachers, increasing access to learning materials, and raising students' enthusiasm for learning English. It helps the independent development of English language skills through interactive activities, exercises, and online exams. Based on research findings, the effectiveness of the E-learning model is in the medium category, with a Gain Score test score of 0.54 indicating its success in improving student learning outcomes. Based on the findings of this research, it can be concluded that this e-learning model is valid, practical, and effective, offers an alternative English language learning that is innovative, effective, and relevant in the digital era, and can serve as a model for other schools interested in implementing language learning. Technology-based UK.

Keywords: Learning model, E-Learning, English, Passive Voice, Conditional Sentences
INTRODUCTION

English occupies an important position in the daily lives of our society. This is visible in the world of education in Indonesia. English is one of the subjects taught to students from elementary to tertiary level (Williams, 2018) (Wilson, 2017). The Indonesian government began introducing English as early as possible for students in Elementary Schools (SD) or Madrasah Ibtidaiyah (MI) through the 1994 Basic Education Curriculum which made English subjects a local content lesson taught starting in grade IV (four) SD/MI(White, 2019). Even though the 2013 curriculum, which has been implemented in SD/MI in Indonesia, excludes English language lessons, this does not mean that English language lessons are prohibited from being taught in schools. Schools are still allowed to provide English lessons through extracurricular programs.

Learning English is still very difficult for most people, and sometimes even scary for some groups even though English has become a subject that must be taught from junior high school to university. (Walker, 2017) (Thomas, 2018). Seeing the very long learning time to master one skill area. In reality, most of us cannot communicate in English, even in the simplest structures. Even a population that does not know English cannot be accumulated. However, your ability to speak good English can be used to develop yourself.

The penetration of English properly and correctly in Indonesia is still very low, namely below eight percent. Based on research conducted by the World Education Institution, EF English First announced the English Language Proficiency Index or EF English Proficiency Index (EF EPI) in 44 countries. English proficiency in Indonesia is very low, namely in 34th place, while Malaysia is in 9th place. EF EPI is a ranking of the largest countries or regions in the world based on adult English proficiency which is used as an international benchmark for English proficiency. This index uses unique test data (special methodology) on more than two million people in 44 countries, who used free online tests over three years, namely 2007-2009(Fisher, 2010).

For students who rely entirely on pure English lessons from school and the curriculum, you can get a picture of English language education in Indonesia today. The first focus is on whether the curriculum that has been set at school has been able to contribute to improving English language education or not. In general, the curriculum created by schools has not been able to enable students in Indonesia to be able to actively speak English. Furthermore, if we look at the intensity of English language learning in Indonesia, currently children have a lot of time to learn English. Logically and theoretically, the implications can easily be understood, if children have a lot of time to learn English, then they should quickly be able to speak English, especially if they learn English from an early age.
Regardless of the school curriculum and teaching methods, one can see one very crucial issue as the main key to boosting English language skills. Paying close attention to the position of English as a foreign language is the main reason why our children's abilities are low (Turner, 2017) (Thomas, 2018). In theory, we can understand that the perspective on English as a foreign language is certainly different from English as a second language or L2 (second means of communication) such as in Malaysia and Singapore where English is used in public life in addition to the main or official language. (Patel, 2017) (Smith, 2019). In Indonesia, English is only studied at school but is not used in everyday life. That's why English in Indonesia is generally taught as a foreign language. The term 'foreign language' in the field of language teaching is different from 'second language'. A foreign language is a language that is not used as a means of communication in the particular country where the language is taught (Miller, 2018). Meanwhile, a second language is a language that is not the main language but is one of the languages commonly used in a country. This is certainly not in line with the definition of language as a system of communication in speech and writing used by people of a particular country. So, language, whether as a mother tongue, second language, or foreign language, will also have an impact on the purpose of the language being studied (Martinez, 2021) (Lee, 2019). English as a foreign language means that English is only used and has a role in learning in an educational institution, both formal educational institutions and non-formal educational institutions, and is not used as a language in social life and daily life interactions nor is it used as a language. basis in a country. So, it shows that English is only studied to the extent of theory and science.

This is in contrast to the concept of learning a language: where learning a language means learning 4 language skills: listening, speaking, reading, and writing. (AN Johnson, 2018) In the learning process of a foreign language, each student must obtain an approach that emphasizes familiarity and ability (speaking, reading, writing, and listening) to use the language they have learned.

The basic principle that is used as the principle of learning English as a foreign language is the application of English itself which is used in a social context, meaning, the language is used in interactions carried out in social life. So, if language is a skill that must be used then using English in real life is the key to success in mastering the language (Sotiriou, 2018). For example: a student who has a large vocabulary may not necessarily be able to speak or understand English well, a student who has memorized all types of tenses or grammar may not necessarily be able to write English well, and a child who knows many English expressions not necessarily able to use it correctly.

Many students find it difficult to express their ideas using English, as stated by Sunendar (2015), the difficulties that occur can originate from individuals, such as language patterns and
frequent use of regional languages. (Bates & Sangra, 2011). The pattern of English which is different from Indonesian is indeed a difficulty for students, especially if students use regional languages in their daily lives, this certainly adds to the difficulty in understanding foreign languages. The next difficulty comes from learning English, according to Riyanto (2015), analyzing the factors that influence these difficulties are as follows: (a) teaching techniques which then determine students' interest, creativity, and learning outcomes (b) the competence of the English teacher. For this reason, a teacher's competence and innovation are expected to be able to overcome difficulties in learning.

With the rapid development of technology, teachers have various alternatives to learning to achieve maximum learning outcomes.

The revolution and development of technology and current information system services, especially computers and the internet, have changed the way we view and think practically and efficiently in our society, and with the internet developing so quickly, it will inevitably have an impact on everything, and society is faced with a gateway. technology-based transition, where speed in delivering information (information sender) and receiving and/or processing information (information processor) becomes very important, one of which is to advance the world of education. In the management of education, especially at the school level, there has been a shift from being centralized to decentralized, which has had consequences in the management of education. Sutrisno (2007) emphasized that this policy can be interpreted as providing the widest possible autonomy to schools or education providers in management and including being able to innovate in curriculum development and learning models.

The internet has great potential in learning, both as a learning resource, media, and support for managing the teaching and learning process. Effective learning activities require a medium that supports the absorption of as much information as possible. Along with developments, information technology plays an important role as a means of obtaining sources of information related to the subject matter being taught.

Internet technology has emerged as a multi-faceted medium, internet communication can be done interpersonally, such as email and chat, or known as one to many communication such as mailing lists. The internet is also able to be present in real time like conventional methods with teleconference applications(PAK Johnson, 2020). Based on this, the internet as a teaching medium can have unique characteristics, namely as an interpersonal and mass media, is interactive and allows communication synchronously or asynchronously or delayed, and with these characteristics it allows students to communicate with a wider range of knowledge sources. , when compared to using conventional media.
Utilizing communication and information technology in the world of education, namely in schools, is one effort to improve the quality of education in Indonesia, by utilizing teaching materials packaged in the form of Information and Communication Technology-based media, such as E-learning. E-learning is a learning media based on Information and Communication Technology and its use is still not widely developed and utilized in Indonesia (Chandrawati, 2010) (Bates & Sangra, 2011).

Efforts to develop and utilize the internet are also always being made, including implementing E-learning, where with E-learning a teacher can create and implement interactive learning, and the implementation of E-learning can be used in the form of distance learning or blended learning.

The use of a learning model with an E-learning system will make it easier for every student to search and find information related to learning anywhere, not limited by space or time, and easily accessible (Chandrawati, 2010) (Long & Siemens, 2011). The change in perspective and teaching method from teacher-centered to student-centered triggers students to use E-learning as a student-centered teaching pattern. The use of E-learning teaching patterns is believed to be able to motivate and improve the quality of teaching and learning and teaching materials, the quality of activities and independence of students, as well as the existence of two-way conversations between educators and students.

Learning through E-learning has been widely researched and then used in the learning process, including research by Wilda Susanti et al 2020 designing a multimedia-based English E-learning learning application by combining concepts consisting of text, images, animation, and video for high school students. X uses Moodle as a medium for learning English for beginners with the theme of learning by doing (LE Brown, 2018; PE Brown, 2018). The application is expected to help improve the process of learning English, especially in reading, memorizing, and pronouncing vocabulary.

Based on initial observations made by researchers on Thursday, 01 September 2022 - Monday, 12 September 2022 at SMKN 3 Batam, it can be seen that the learning plans prepared by teachers are not optimal as measured by the creation of learning administration, some teachers use monotonous, less interesting methods. In the implementation of learning carried out in the classroom, some teachers are also less creative in creating teaching media so that the learning material is not well understood by students, and teaching and learning facilities are somewhat limited and inadequate for all students to use.

In English KI/KD, 10 KD must be achieved in one year of learning where 5 to 6 basic competencies must be completed per semester, but the school only provides 3 hours per week, with
1 hour of lessons lasting 35 minutes. This is due to the school's limited learning space for students, so the learning process must be divided into morning and afternoon shifts.

Responding In this case, researchers took the initiative to conduct learning by using and developing the E-learning model. With the hope, that students will not only learn with teachers at school but can also access learning materials and activities anytime and anywhere so that they can maximize the learning process which will have an impact on better learning outcomes. Apart from that, SMK Negeri 3 Batam has not utilized the E-learning learning model; and most of the learning process is still centered on the teacher, and the use of media by teachers also has limitations. Therefore, researchers want to carry out and analyze the "Development of an E-learning learning model in English class XI Computer Network Engineering at SMKN 3 Batam".

METHODS

This research is a type of RND research with the research subjects being class The experimental group consisted of 40 participants in class XI TKJ 3, while the control group consisted of 40 participants in class X TKJ 1. Research instruments are tools or facilities used in research to collect data. According to Arikunto (2010), the approach is used as an instrument in learning. In this scenario, a questionnaire is used to collect data. A questionnaire is defined as a data collection tool where respondents are asked to answer several questions or write statements. The validators are expert lecturers in the E-learning derivative teaching pattern segment.
RESULTS AND DISCUSSIONS

Results

Based on observations made during English language learning at SMK Negeri 3 Batam. Researchers found several problems and obstacles in the learning process. The problems found include the low learning outcomes of students in class.

Teachers still use the lecture method in presenting learning material, this is due to the limited use of educational media. Presenting learning material using the lecture method like this causes learning to take place in a monotonous manner. Students are passive because they only rely on the teacher to obtain learning materials and this results in a lack of active participation of students in the learning process.
Based on the description above, it is proposed to develop a learning model using the internet, namely E-learning, to help overcome these problems. Then the researcher analyzed the English syllabus and books. A syllabus analysis was carried out to determine the development of the E-learning learning model in English subjects. This analysis refers to the syllabus for English class XI TKJ 3 semester II. There are several basic competencies in one semester, namely consisting of basic competencies in the areas of knowledge and skills which are separated by the names KD 3 (Knowledge) and KD 4 (Skills) with details: 3.19 Analyzing social functions, text structures, and linguistic elements of oral and transactional interaction texts writing that involves the act of giving and asking for information related to circumstances/activities/events without needing to mention the perpetrator in the scientific text, according to the context of its use. 4.19 Compose oral and written transactional interaction texts that involve the act of giving and asking for information related to circumstances/activities/events without needing to mention the perpetrator in a scientific text, taking into account the social function, text structure, and linguistic elements that are correct and appropriate to the context. 3.20 Analyze social functions, text structures, and linguistic elements to state and ask about presuppositions if a condition/incident/event occurs in the future, according to the context of its use. 4.20 Compose oral and written texts to state and ask about presuppositions if a condition/incident/event occurs in the future, taking into account the social function, text structure, and linguistic elements that are correct and appropriate to the context.

Delivering teaching material to students requires skills so that students can follow all the learning and the results obtained can be even better. Therefore, to overcome this problem can be overcome with the E-learning learning model. The e-learning learning model can be used to deliver teaching material and practice questions, as well as as a means for discussions and tutorials.

Based on the problem identification and analysis described above, it is concluded that the development of an E-learning learning model can improve student learning outcomes.

The results of the analysis from the discovery (define) stage are used for the next stage, namely the design stage. At this stage, the following steps are carried out:
1. Creating an E-learning Learning Model

The creation of e-learning is carried out after the prototype design has been carried out. On the front page or main page, there is a login link that students can use to log in and access/download learning materials. Before logging in for the first time, students must register themselves by filling in the registration form by clicking register first and entering their personal data. Students can access the E-learning learning model by logging in using the username and password that are registered and confirmed by the teacher concerned. After logging in, students will go to the SMKN 3 Batam online class page. The online page of SMKN 3 Batam can be seen in Figure 2 below.

![Figure 2. View of the E-learning page at SMK Negeri 3 Batam](image)

On the learning material display page (Figure 4.3) above there are basic competencies and main material regarding learning material, which can be opened/downloaded by students. Apart from that, several E-learning learning activities are also available, such as discussion forums (one of the discussion forums can be seen in Figure 4).

![Figure 3. Learning Material Display](image)
Assignments and practice questions, as well as posttests/evaluations that students will later carry out to determine the level of student learning outcomes after using the E-learning learning model, can be seen in Figure 5 below. The number of students taking part in e-learning can be seen in Figure 5 below.

In the next stage, the researchers carried out development. At this stage, the following steps are carried out:

a. Validation stage

The validation used is validation of E-learning models and learning materials. Model validation functions to see whether the E-learning learning model that has been designed is by the elements that make up the E-learning learning model. The E-learning learning model that has been designed is consulted and discussed with experts. Material validation to see whether the learning material that has been designed is by the subject syllabus.

Validation activities are carried out in the form of filling in validation sheets and discussions in the form of model and material validation questionnaires until an E-learning learning model is obtained that is valid and suitable for use. Serving as validator here is one lecturer who is an expert on learning models and also a material expert (Dr. Ir. Yunesman, M.Pd.T and two subject teachers Deza Zalia, S.Pd. MM and Nurlaili, S.Pd).
The assessment results for each aspect of the indicators given by the validator are added up and the percentage of the assessment according to the aspects that have been made is calculated. The results of the learning model validation can be seen in Appendix 4 and are summarized based on validation categories as seen in Table 1 below:

**Table 1. E-learning Learning Model Validation Results**

<table>
<thead>
<tr>
<th>No</th>
<th>Validation Aspect</th>
<th>Valuation Percentage</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V1</td>
<td>V2</td>
</tr>
<tr>
<td>1</td>
<td>Content Eligibility Standards</td>
<td>86.67</td>
<td>86.67</td>
</tr>
<tr>
<td>2</td>
<td>Model Supporting Theory</td>
<td>85.00</td>
<td>90.00</td>
</tr>
<tr>
<td>3</td>
<td>Language Eligibility Standards</td>
<td>84.44</td>
<td>88.89</td>
</tr>
<tr>
<td>4</td>
<td>Aspects of E-Learning Website Components</td>
<td>83.33</td>
<td>86.67</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>84.86</td>
<td>88.06</td>
</tr>
</tbody>
</table>

Source: Author data processing, 2023

From Table 1, the average validation of the learning model from the three validators is 85.28%, so it can be concluded that the E-learning learning model is included in the "Valid" category. Furthermore, the results of material validation can be seen in Appendix 5 and are summarized based on the validation category aspects as seen in Table 2:

**Table 2. Material Validation Results**

<table>
<thead>
<tr>
<th>No</th>
<th>Validation Aspect</th>
<th>Valuation Percentage</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>V1</td>
<td>V2</td>
</tr>
<tr>
<td>1</td>
<td>Content Feasibility Aspect</td>
<td>87.27</td>
<td>89.09</td>
</tr>
<tr>
<td>2</td>
<td>Aspects of Feasibility of Presentation</td>
<td>85.45</td>
<td>85.45</td>
</tr>
<tr>
<td>3</td>
<td>Aspects of Linguistic Feasibility</td>
<td>87.69</td>
<td>86.15</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>86.81</td>
<td>86.90</td>
</tr>
</tbody>
</table>

Source: Author's data processing, 2023

From Table 2, the overall average of material validation can be taken, namely 85.69%, so it can be concluded that the material is in the "Valid" category.

Furthermore, the Validation Results of the Student Study Guide can be seen in attachment 6 which is then summarized in Table 3:
Table 3. Validation of Student Study Guide

<table>
<thead>
<tr>
<th>No</th>
<th>Validation Aspect</th>
<th>V1</th>
<th>V2</th>
<th>V3</th>
<th>x</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>Writing Format</td>
<td>85.00</td>
<td>85.00</td>
<td>80.00</td>
<td>83.33</td>
<td>Valid</td>
</tr>
<tr>
<td>B</td>
<td>Use of Language</td>
<td>86.67</td>
<td>93.33</td>
<td>86.67</td>
<td>88.89</td>
<td>Valid</td>
</tr>
<tr>
<td>C</td>
<td>Introduction</td>
<td>85.71</td>
<td>88.57</td>
<td>82.86</td>
<td>85.71</td>
<td>Valid</td>
</tr>
<tr>
<td>D</td>
<td>Content Aspect</td>
<td>86.67</td>
<td>83.33</td>
<td>80.00</td>
<td>83.33</td>
<td>Valid</td>
</tr>
<tr>
<td>E</td>
<td>Evaluation System</td>
<td>83.33</td>
<td>86.67</td>
<td>83.33</td>
<td>84.44</td>
<td>Valid</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>85.48</td>
<td>87.38</td>
<td>82.57</td>
<td>85.14</td>
<td>Valid</td>
</tr>
</tbody>
</table>

Source: Researcher data processing, 2023

From Table 3, the overall average validation of student study guides is 85.14%, so it can be concluded that the guide is in the "Valid" category.

b. Development Trial (Developmental Testing)

A trial of the device that has been developed is carried out for evaluation. At the evaluation stage, activities are focused on evaluating whether the prototype (initial design version) can be used according to expectations and is effective in improving the quality and learning outcomes of students. At this stage, the following steps are carried out:

1) Practicality stage

At this stage, a trial was carried out, limited to 40 class XI TKJ 3 students and 2 teachers with one test. The trial was carried out to see the practicality of the E-learning learning model that had been designed by filling out a questionnaire that had been provided to students and teachers. Based on the practicality questionnaire that has been tested, the following practicality results were obtained by teachers which can be seen in Table 4 below:

Table 4. Practicality Assessment Data According to Teacher Responses

<table>
<thead>
<tr>
<th>No</th>
<th>Practicality Variable</th>
<th>G1</th>
<th>G2</th>
<th>Average</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attractiveness</td>
<td>86.67</td>
<td>80.00</td>
<td>83.33</td>
<td>Practical</td>
</tr>
<tr>
<td>2</td>
<td>Development Process</td>
<td>80.00</td>
<td>80.00</td>
<td>80.00</td>
<td>Practical</td>
</tr>
<tr>
<td>3</td>
<td>Ease of Use</td>
<td>86.67</td>
<td>86.67</td>
<td>86.67</td>
<td>Practical</td>
</tr>
<tr>
<td>4</td>
<td>Functionality and Usability</td>
<td>83.33</td>
<td>86.67</td>
<td>85.00</td>
<td>Practical</td>
</tr>
<tr>
<td>5</td>
<td>Reliability</td>
<td>80.00</td>
<td>86.67</td>
<td>83.33</td>
<td>Practical</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>83.33</td>
<td>84.00</td>
<td>83.67</td>
<td>Practical</td>
</tr>
</tbody>
</table>

Source: Author's data analysis, 2023

The table above is a practical analysis by the teacher. From the analysis, the overall recapitulation average was obtained: 83.67%. By the table of practicality achievement levels, it can
be concluded that the E-learning learning model developed is "Practical". For more details, see Attachment 7.

Then the results of assessing the practicality of the E-learning learning model based on student responses can be seen in attached 8. and summarized in Table 4.5 below:

<table>
<thead>
<tr>
<th>No</th>
<th>Practicality Variable</th>
<th>Assessment percentage</th>
<th>Category</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Attractiveness</td>
<td>86.34</td>
<td>Practical</td>
</tr>
<tr>
<td>2</td>
<td>Use Process</td>
<td>85.95</td>
<td>Practical</td>
</tr>
<tr>
<td>3</td>
<td>Ease of Use</td>
<td>86.80</td>
<td>Practical</td>
</tr>
<tr>
<td></td>
<td>Average</td>
<td>86.36</td>
<td>Practical</td>
</tr>
</tbody>
</table>

Based on the data in Table 4.5 above, the overall recapitulation average is 86.36%. By the table of practicality achievement levels, it can be concluded that the E-learning learning model developed is "Practical".

2) Effectiveness stage
At this stage, the aspect of effectiveness observed in the learning process using the e-learning learning model is the learning outcomes of students in the learning process.

The evaluation tool that will be used to measure the success of the learning process is prepared with the following steps:

a) Create a grid of questions, and determine the distribution of cognitive domains to be measured.

b) Question Validity and Reliability Test Results

The validity of an instrument shows the level of accuracy of an instrument to measure what must be measured. So the validity of an instrument is related to the level of accuracy of a tool to measure what is to be measured.

The use of the Point Biserial Correlation formula is widely applied to test the validity of a trial result of a learning outcomes test (instrument), in this case, multiple choice questions. In the form of a correct answer = 1 and incorrect = 0. Test validity using the Point Biserial Correlation formula, in general:

\[
r_{pbis} = \frac{M_p - M_t}{S_t \sqrt{p \cdot q}}
\]

- \( r_{pbis} \) = Koeffisien korelasi point biserial
- \( M_p \) = Mean skor dari subjek-subjek yang menjawab benar
- \( M_t \) = Mean skor total
- \( S_t \) = Simpangan baku
- \( p \) = Proporsi subjek yang menjawab benar
- \( q \) = 1 - \( p \)
The results of calculations with point biserial correlation are then consulted with \( r_{table} \), if \( r_{pbis} > r_{table} \), then the item is valid, if \( r_{pbis} < r_{table} \) the item is invalid. In this case, the significance level is 5\% with a total of 40 respondents, namely class XI TKJ SMKN 3 Batam students. The reason for selecting these respondents is to use a Random Sampling technique which is probability sampling where every person in the entire target population has the same chance of being selected. The sample was selected randomly intended to be an unbiased representation of the total population. After determining the area and place of research at SMKN 3 Batam, draw up a sampling frame for all classes determined as the population and take the number of samples using the lottery as a means of determining the sample and take XI TKJ 3 as the number of samples that is fulfilled.

Furthermore, in reliability testing, test reliability is a measure of whether the test carried out can be trusted. The results of reliability calculations can be seen in attachment 14 which is summarized in Table 6 table below:

<table>
<thead>
<tr>
<th>Reliability Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cronbach's Alpha</td>
</tr>
<tr>
<td>N of Items</td>
</tr>
<tr>
<td>0.738</td>
</tr>
<tr>
<td>40</td>
</tr>
</tbody>
</table>

Source: Author's data analysis, 2023

In the Cronbach alpha table above, it can be seen that the Cronbach alpha value is 0.738, this result is greater than 0.70. Based on the results of the question reliability test, it can be concluded that the questions created have a high level of reliability, namely 0.738 attachment 8.

c) Difficulty Index Test Results

The question difficulty index is created to see whether the questions created fall into the categories of very easy, easy, medium, difficult, and very difficult. Based on all the questions that had been tried out, analysis was then carried out and results were obtained based on the question difficulty test. The results showed that out of the 40 questions, there were 0 questions in the "difficult" category, 29 questions in the "medium" category, 11 questions in the "easy" category, and 0 questions in the "very easy" category. The resulting data from the difficulty index can be seen in Attachment 15.

d) Difference Power Test

Based on the test of the differentiating power of questions on 40 trial questions, it is known that 7 questions have a differentiating power score in the "not good" category, 2 questions in the "bad"
category, 1 question item in the "fair" category, 23 questions in the "good" category, 7 questions in the "very good" category.

**Discussion**

The development of e-learning-based learning media is a series of processes or activities carried out to produce e-learning-based learning media based on development theory. This development aims to produce valid, practical, and efficient learning media. This development model uses the 4-D development model (Define, Design, Develop and Disseminate). This development model was developed by Thiagarajan as contained in the book Trianto (2010).

1. **Definition Stage (Define)**

This research resulted in improved learning outcomes by developing learning models for the English subject class XI TKJ 3 SMKN Batam. As explained by Susanto (2013), regarding the meaning of learning outcomes are changes that occur in students, both regarding cognitive, affective, and psychomotor aspects as a result of learning activities. (Anderson, 2020). In simple terms, what is meant by student learning outcomes are the abilities that students obtain after going through learning activities and one of them is improving learning outcomes. Because learning itself is a process of someone trying to obtain a relatively permanent form of behavior change.

The development of this model is based on analysis needs. Firstly, the problems found in English lessons were identified, the main problem was the low learning outcomes of students in English class XI Computer and Network Engineering at SMKN 3 Batam. This is caused by several factors, including limited use of learning media which is still less than optimal to improve student learning outcomes. As explained in Ulfia (2011), the learning model is a design that describes the process of detailing and creating environmental situations that allow students to interact so that changes or developments occur in students. This means that the learning model used is one of the factors that influences student learning outcomes.

The E-learning learning model can be applied to students/learners who have easy internet access facilities and can use computers and the internet. For this reason, before development is carried out, it is necessary to analyze the development potential which includes the availability of internet facilities and facilities as well as the potential ability of students to use the E-learning learning model. Nowadays the internet is very popular and has become something that cannot be separated from students' lives. The E-learning learning model can train students to be skilled in using technology in learning and show students that learning can also be done via the internet. So students’ interaction with the internet is not only for social media but also for learning.
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This e-learning learning model has several advantages, including those stated by Heinick et al (in Husamah 2014) stated several advantages that exist in learning using computers and the internet, computer and internet applications as tools to help the learning process provide several advantages (Hidayati, 2010). Computers and the internet enable students to learn according to their abilities and speed in understanding the knowledge and information displayed. The use of computers and the internet in distance education institutions gives students the freedom to determine the pace of learning and choose the sequence of learning activities according to their needs. This is the reference for researchers to develop an E-learning learning model for English language learning.

There are several stages in developing an E-learning learning model, namely, the first is the discovery, design, and development stages. At the discovery stage, observations were carried out which aimed to find out what problems, obstacles, and phenomena were faced in the field of English subjects. From the research, problems were found, including the low learning outcomes of students, this was due to one factor, namely the lack of teacher expertise in using facilities in the learning process, then analyzing and studying English subject books, which aims to adapt learning objectives to the learning material that will be provided.

2. Planning Stage (Design)

The second stage is the design stage, at the design stage a prototype is made by paying attention to the components of the learning model. Developing an E-learning learning model using the CMS Wordpress Learning Management System. The LMS application in the form of CMS Wordpress is used because it can create online learning materials with various types of interactivity like a real classroom. Starting from presenting material, assignments, and various other classroom activities.

CMS WordPress is the name for an application program that can convert learning media into a web form (Pelgrum, 2001). This application allows students to enter a digital "classroom" to access learning materials. By using WordPress CMS, we can create learning materials, quizzes, electronic journals, and so on.

3. Development Stage (Develop)

The third stage is the development stage. This development of the E-learning learning model has gone through the validity, practicality, and effectiveness testing stages. The validity trial was carried out by asking for expert opinions through a validation sheet. The components validated in E-learning are the E-learning learning model and learning materials (Wahyuni & Makmur, 2011.). From the trials carried out, the results showed that all of these components had valid values.

The practicality trial aims to determine the level of practicality of developing the E-learning learning model. Practicality trials are carried out by asking teachers and students for opinions through
practicality questionnaires. From practicality tests by teachers and students, it is known that the E-learning learning model is in the practical category for use as a learning model. The results of the assessment of the practicality of the E-learning learning model based on teacher responses showed that the components of attractiveness, development process, functionality, and reliability were included in the practical category, as stated Husamah (2014), among others: E-learning learning must be followed by teacher skills.

Next is the effectiveness trial, the effectiveness trial aims to see the effectiveness of developing the E-learning learning model. The effectiveness trial was carried out by looking at the comparison of the improvement between the learning outcomes of the two groups of students/students who used the E-learning learning model and students/students who did not use the E-learning learning model. Data collection was carried out by pretest and posttest using Quasi-Experimental Design.

4. Dissemination Stage (Dissemination)

At this stage the learning media developed in the form of e-learning is ready to be used by educators and students in learning, the ready media can be distributed or used by other classes.

CONCLUSION

The e-learning-based learning model developed is included in the valid, practical, and effective category. The e-learning-based learning model can improve the learning outcomes of class XI TKJ 3 English Subjects at SMK Negeri 3 Batam.

REFERENCES


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