Implementing Blended Learning Model in Teaching English in the Era of the Industrial Revolution 4.0

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Abstract

This study aims to: (1) produce a Moodle-based English e-learning product that is feasible in improving speaking skills in English learning for SMP and SMA in Metro City (2) to find out how effective Moodle-based e-learning is on speaking skills in language learning English, junior high and high school students in Metro City, Lampung. The type of research in this study applies the R&D model through the following three steps: planning, design, and development. The subjects in this study were junior high and high school students. Data collection techniques used was interviews, questionnaires, and tests. Based on the results of data analysis and discussion, it can be concluded that Moodle-based e-learning products can be an alternative learning to which provide students with facilities where they can lean and hone their speaking skills as the learning outcomes, the results of research and development of various Moodle based e-learning products improve students' speaking skills in learning English for both senior and junior high school students.

Keywords: *E-Learning, Moodle App, R&D, Speaking Skill.*

Introduction

The development of information and communication technology goes so fast to all sectors of life. In fact, the development is expected to be faster than originally estimated. If you look for a moment, how the learning process takes place in each individual, it is found that the learning process occurs because of the interaction between the learning person and the messages that are packaged in various specific media. The message may be in the form of a medium that is used only (by utilization), it may also be deliberately designed (by design) to achieve certain objectives. Thus, learning can happen with anything at any time, and certainly anywhere. One of the signs one has learned is a change in that person's actions in terms of knowledge, abilities, or attitudes. If the learning process takes place systematically in a college, the aim is for the changes in the students to take place in a structured manner in terms of all the areas of information, skills and attitudes in line with the demands of the curriculum used. The Industrial Revolution 4.0 is an important subject in Indonesian education today. The industrial revolution 4.0 is defined broadly as a shift in working practices, which focuses on data processing, industrial work processes through technical development, connectivity and improved human interaction-related productivity. Data is the key prerequisite for organizations that are enabled by limitless computing and data storage systems for the organizational decision-making process. The challenges for Indonesia's human capital are work skills, adaptability and a dynamic mentality that should be accomplished both formally and informally through acquiring education.

Non-formal education is geared towards adult learning. Walgito (2010) states that adults are educated and self-employed people. Adults feel more respected for learning which refers to problem-solving, knowledge sharing and not appears patronizing. Adult education focuses on the solution of the issues involved (Sudjana, 2010). Knowless (1977:35) puts forward 5 assumptions about adult characteristics, namely: (1) Self-concept, adults can make decisions for themselves. (2) Experience, almost the entire journey of an adult's life, is an experience that can be re-expressed and greatly influences everyday thinking and behavior patterns. (3) Learning Readiness. Adults are generally ready to learn, both physically and mentally, because what they will learn is what they need. (4) Learning Orientation. Adults learn to solve various life problems that are being faced and will be faced. (5) The motivation to learn from within is very dominant (internal motivation is strong). Adult learning is mainly dominated by internal factors, they believe what will be done

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and what are the benefits, while external factors do not really matter. Thus, non-formal education-based learning methods refer to the definition of adult education. Kampung Inggris or English Village has drawn study and research findings nationally and globally as a non-formal learning resource entity. Mukhroji (2020), Ahsanu, Februansyah & Handoyo (2014), and Oktaviana (2018) studied, among others, the implementation of the English learning process, learning models and student skills. As for Kampung Inggris as a center for non-formal education, Candra & Kuspriyanto(2017) and Asiz (2017) have studied it.

The people in Indonesia and other foreign countries have long been focused on English courses at Kampung Inggris Pare Kediri, East Java. Coursework participants in Indonesia come from all the Provinces of Indonesia, both students and the general public due to the digitally dissemination of information in the internet. Many of the participants coming from abroad, including Malaysia, Singapore, Vietnam, Jordan, Africa and Cambodia (Mukhroji, 2020). The people in Indonesia and other foreign countries have long been focused on English courses at Kampung Inggris Pare Kediri, East Java. Coursework participants in Indonesia come from all the Provinces of Indonesia, both students and the general public due to the digitally disseminated information in the internet. Many of the participants coming from abroad, including Malaysia, Singapore, Vietnam, Jordan, Africa and Cambodia. The creation of learning centres, as Richards (2017) examines, comply with the elements of the European English learning method disebut sebagai English Villages. Richards (2017) notes the growth of English communities in many European countries where English is not their main language. This culture leverages the idea of English Villages as a learning model. If there are tourists whose L1 is English, the community provides facilities for them to choose to stay in their village for free, and the community provides free tour guide services and the needs of those tourists with a stay of 1-2 weeks, respectively. These tourists are required to teach the English Villages English as compensation to the community.

Mukhroji (2020) wrote a thesis in the Kampung English Kediri Informal Education Institution, entitled Pragmatic Study of Verbal Interaction of English Learners beyond Classroom. The study aims to explore the types of speech acts according to Austin's (1972) and Searle's (1979) theory which have shown that Kampung English students ' English skills are not unequal to higher education graduates majoring in English. The key findings of the study show that the pragmatic skills of Kampung Inggris students are equal to those of English graduates. Differences in speech mastery that include the speech acts which include: directive, assertive, commissive, expressive, declarative, and fatigue, which shows that students in Kampung English master the use of English in accordance with the pragmatic approach, which views language mastery as seen not only mastery of sentence forms but more mastery of the function conveys the purpose, function and background of the utterances. In addition, Mukhroji (2020) notes that the success of students in Kampung English is mainly due to learning backgrounds and learning environment that prioritize non-formal approaches which are implemented through learning camps, study cafes and temples to interact with native English speakers.

Departing from the results of a previous study, Richards (2017) & Mukhroji (2020), if there is a Kampung Bahasa of Pare in Kediri, so does the Borobudur Language Village in Magelang. The language village "Payungi" which will be the focus of this study borrows concepts from the English learning method in Java and was developed in Metro City. The language village of "Payungi" is precisely located on Jl. Kedondong RW 07 Yosomulyo, Metro City Center District, Metro. Meanwhile, the word "Payungi" stands for "Pasar Yosomulyo Pelangi". Referring to a review of the research results of previous studies, the researcher found a research gap where previous research emphasized the study of the learning process, curriculum, methods and the role of the English Village separately. As a comparison, studies on the focus of informal education and entrepreneurship have not yet explained how the role of informal education in improving the learning process of English for students in the era of industrial eveolution . The current study is expected to be able to address this gap by integrating informal learning methods into the digitally conducted learning process in courses and their impact on participant learning outcomes. The research context developed in the research conducted by researchers now includes innovative and independent English learning methods. The method was developed from the concept of informal education digitally in the Language Village of Payungi through website-based learning of Moodle application.

Review of Related Literature

Blended Learning

As the times progress, information and communication technology is developing rapidly, including learning technology that supports the learning process. Blended learning is a model of learning which combines face to face learning with e-learning. Blended learning is a new learning model where material can be transmitted in both classroom and online (Bielawski, & Metcalf, 2005). This combination of a face-to - face learning enables both teachers and student to meet face-to - face through an accessible online media. Blended learning is being discussed at the present because many of the classrooms learning process are boring and technology advancement is becoming wider so that more practitioners develop and express their views on the nature of blended learning (Kintu, et al., 2017).

Blended learning is developed because of the weaknesses that appear in face-to-face learning and e-learning. The advantages of blended learning are that learning activities can be carried out in class and outside the classroom by utilizing technology to add to the subject matter and questions given in class and through online which are managed and controlled in such a way by the teacher so that learning activities can take place, as well as communication between students and between teachers and students can be established both in class and beyond the classroom (online) by forming a discussion group that takes advantage of technological developments in this era because learning without communication will not produce results in accordance with the expectations of both teachers and students. Melton, Gran, and Foss (2009) state that the results of student achievement using blended learning are higher than traditional learning (Melton et al., 2009). Thus, the blended learning model is expected to become an alternative learning model as a solution to the problems previously described.

Moodle Apps as an Effective Online Web-based Learning

There are lots of Learning Management Systems for managing e-learning webs. One of the Learning Management Systems (LMS) is Moodle, an average person who is involved in the e-learning field, especially from the fields of education, psychology, and computer science, knows Moodle. Moodle itself stands for Modular Object-Oriented Dynamic Learning Environment. This Learning Management System (LMS) is one of the top LMS. Moodle is a name for a complete application program that can transform a learning medium into a web form. As Jati (2013, p. 283) explained that Moodle is a sophisticated tool for creating and managing courses, checking student attendance and performance, managing quizzes and assignments and surveys.

There are many strong reasons to make Moodle one of the popular LMS used by many educational key members, there are four compelling reasons, according to Darmawan (2014, p.70), with the first reason being Free and open source, Moodle is an open source LMS. Thus, it can be updated by all according to the needs of the institutions using it. Moodled is distributed free of charge, thus purchasing this application doesn't need the slightest amount of funds, except for the funds required to buy the bandwidth used to download the 17 MB Moodle master.

The second reason, based on educational philosophy, is that Moodle is focused on direct experience in the field with a background in educational science. In order to ensure that Moodle is capable of fulfilling almost all traditional educational needs that are converted in the form of online learning. The third reason is that it has a broad and connected community. The Moodlet user group is joining a community www.moodle.org. Every Moodle user can share the benefits and constraints of using Moodle. The fourth reason is small size, maximum capacity. With a limited size (only 17 MB for the Moodle 3.1 version) but capable of handling instructional and learning activities up to the scale of a university.

Method

This study was conducted in Banjarrejo Village, Batanghari District, East Lampung Regency of Lampung Province. The

study period begins from April to August 2020, which methodologically uses research and development methods called Research and Development (R & D). This research and development aim to develop English e-learning products in enhancing song comprehension in English learning at both junior and senior high schools (SMP-SMA) levels) in the city of Metro of Lampung province. A total of 50 people has filled out a questionnaire distributed through the Googgle Form. These quetionnaires are used to find out more deeply the abilities, interests, motivations and opinions of students regarding the use of non-formal education-based English learning methods (Yin, 2017). Interview questions are directed to find out four things: students' backgrounds and experiences in taking courses, student opinions about program implementation in courses, teaching methods and teaching materials, and student opinions regarding website-based English learning models. The obtained pinions from the questionnaire provided to students were used as primary data on the nature of informal learning-based strategies and student learning outcomes during the English course Secondary data in the form of documents consisting of curriculum, teaching materials, student biodata, student academic records and learning regulations at course institutions in Kampung Inggris were collected by means of researchers reading carefully these documents because researchers are the key instrumen (Bogdan & Biklen, 2007).

Results and Discussion

There are still many students who find it difficult to express their ideas using English, as stated by Iskandarwassid & Sunendar (2015, p.94), the difficulties that occur can come from individuals such as language patterns and frequent use of regional languages. The pattern of English which is different from Indonesian is indeed a difficulty for students, especially if students use regional languages on a daily basis, this certainly adds to the difficulty in understanding foreign languages. The difficulties that then arise from learning English, according to Riyanto (2015, p. 6), analyzing the factors that affect these difficulties are as follows: (a) teaching techniques which then determine student interest, creativity and learning outcomes (b) English teacher competence. For this reason, competence and innovation from a teacher are expected to be able to overcome difficulties in learning, with the rapid development of technology teachers have various alternatives in learning to achieve maximum learning outcomes.

Planning Stage

The Need Assessment Test (NAT)

The Need Assessment Test (NAT) is conducted in Metro City for junior and senior high school students. A total of 50 people has filled out a questionnaire distributed through the Goggle Form. The composition of respondents based on education level can be seen in the following graph.
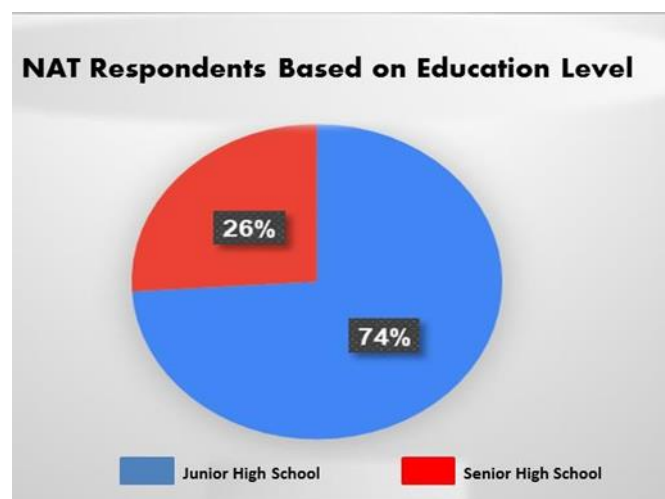
**Graph 1. NAT Respondents based on Educational Level**

Based on the graph above, it can be seen that the most respondents for NAT from junior high school level are more dominant, which is 74 percent. Meanwhile, for high school respondents only 26 percent. The withdrawal of respondents was carried out by snowball sampling using chain messages through the Whatsapps application media.

The survey also asked questions related to the participation of respondents in routine learning English outside the formal education they currently receive. The results of the survey can be seen in below graph.
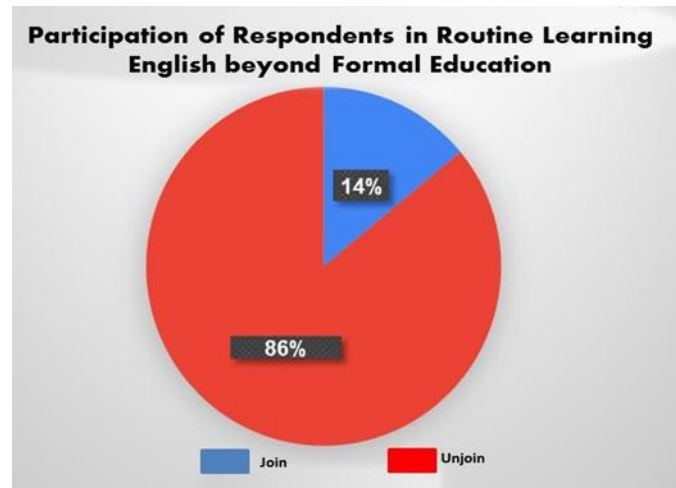
Graph 2. Participation of Respondents in Routine Learning English beyond Formal Education

Based on the graph 2 above, it can be shown that the majority of respondents (86 percent) do not follow routine English lessons outside of their formal education. Only 14 percent are currently taking lessons in the form of courses, study groups and in the community. NAT respondents' knowledge is also measured in this study related to the term blended learning. The extent to which the term is familiar among the public is also an indication that this blended learning model has indeed been implemented a lot. The survey results related to this can be seen in the following graph.
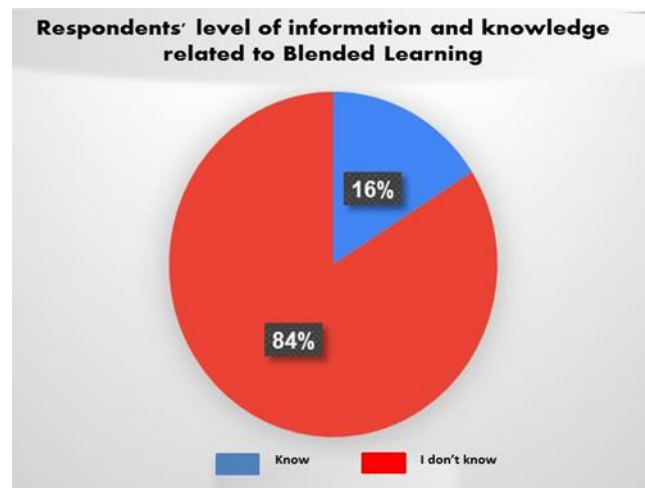
Graph 3. Respondents' level of information and knowledge related to Blended Learning.

Based on Graph 3. above, it can be seen that the level of insight and information of respondents regarding the term blended learning is still low. This is indicated by the majority of respondents (84 percent) who still do not know what blended learning is. This can be said to be reasonable, because for the secondary education level, learning activities are mostly carried out conventionally (face to face).

Product Development

The product developed is a website-based learning application with the Moodle platform. Learning applications can be accessed at www.e-ajar.com. The initial appearance of the learning website is as follows:
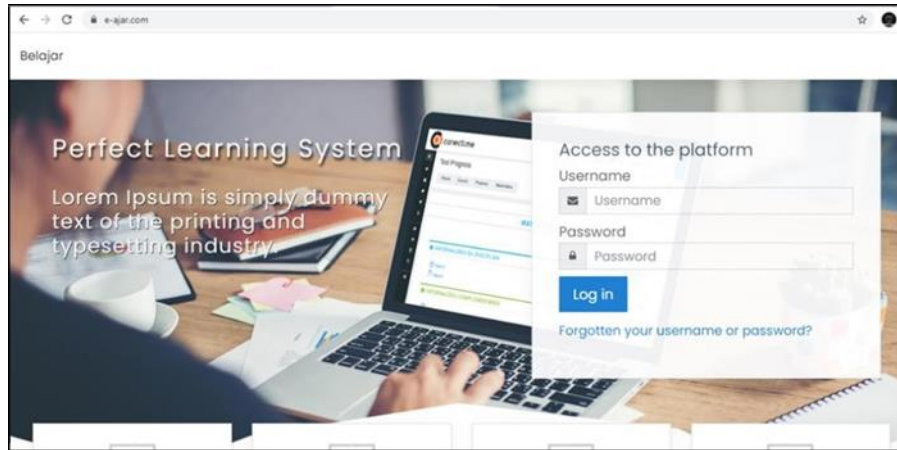

Figure 1. The Front Page of the Learning Application during Early Development (e-ajar.com)

The learning application above features access to learning modules, learning videos as well as face-to-face online applications. The application is equipped with an admin user, tutors and students according to their needs.

Preliminary Testing

Validation of Research Instruments

The validation of the research instruments was carried out with the test and non-test instrument experts. The result of the expert's assessment of the test instrument is 3.71 points, which means that the instrument is said to be "feasible" to be used as a measurement instrument in learning. In addition, the results of the non-test instrument expert assessment were 3.81 points which also indicated that the observation and interview forms as well as the questionnaire were "appropriate". Overall, the mean of the two instrument experts is at 3.77 points, which means the instrument is "feasible" for use in research.

Product Validation

The product built is a website-based online learning application. The product was validated by three experts, namely: learning media, learning design and English language experts. The results of the assessment by instructional media experts are at 2.73 points. This shows that the aspect of the product in terms of learning media can be said to be "very feasible". There are several notes related to instructional media, including: a) the appearance of the interface as much as possible is refined to make it more attractive to students; b) the use of video content is adjusted to the age category of students; c) the instructions or instructions in each content must be clarified, so that students can understand what must be done in learning; use of letters as much as possible to contrast with the background of the application; reduce application load as much as possible by not uploading content directly, but by embedding it; optimize the use of the Googgle Drive application to store the material contents.

The learning design expert gave an assessment of 3.89 points, which means that the learning design that was built was categorized as "feasible". The use of applications has been considered appropriate to support blended learning that uses a combination of face-to-face and online systems. The result of the assessment by an English expert show "feasible" with 3.80 points. However, there are notes related to emphasizing the visualization aspect in the form of pictures in the module and reproducing English learning videos that need

to be reproduced to make it more interesting. Moreover, the learning objectives are school age children.

Large Sample Testing

The large sample testing was carried out on 40 of the students in the Banjarrejo Language Village. In this test, face-to-face and online classroom learning was carried out in four meetings. The first meeting was conducted face-to-face related to the introduction of website- based learning media, then for the second and third meetings it was held online. The fourth meeting was held face-to-face where at that time the product was evaluated. Students are asked to fill out a questionnaire related to the attractiveness of the product and after that a direct discussion is conducted to enter into product development.

The results of the attractiveness test on a large sample are at 3.10 points. This shows that the product can be categorized as "Fairly Attractive". There were several suggestions that were obtained from the results of the direct discussion, where the input of students consisted of several things such as: a) The appearance of the module was made as more interesting as possible; b) equipped with the Zoom Meeting plugin to facilitate face-to-face online meetings.

Field Testing

Field testing was carried out for one semester (14 times) of meetings with 30 participants. Participants are children at the junior and senior high school education levels who study in Banjarrejo Language Village. Meetings are held face-to-face and online. Face-to-face meetings were held four times, twice at the beginning of the meeting and twice at the end of the meeting. The 10 meetings were conducted online with a learning application.

The beginning of learning begins with students filling out the Pre-Test sheet provided by the researcher. The pre-test results showed that the students' mean score was 37.7 points from the highest total score of 100 points. After that, students then get an introduction and instructions in using the learning application. The second meeting to 13 is the core learning material, and then ends at meeting 14 by conducting a Post-Test and learning evaluation. The material and number of meetings in learning can be seen in Table 1 below.

Table 1. Material, Number of Meetings in Learning

No.	Materials	Meetings of
1.	Pre-Test, Introduction to Learning Apps and Q&A	1
2.	Introducing	2-3
3.	Tell Me About Yourself	4-5
4.	About People	6-7
5.	May I	8-9
6.	How Much Is It?	10-11
7.	Where Are You From	12-13
8.	Post-Test and Discussion Related to Learning Evaluation	14

The Post-Test results showed that the students' mean score increased to 70.0 points. There is an increase of 32.3 points from the Pre-Test average score. The results of the calculation of the gain index (g) produce a score of 0.52 which can be interpreted that the benefits obtained from blended learning are in the "Medium" classification. The participant attractiveness test was measured using a questionnaire instrument which was also given at the testing stage with a large sample, where the results obtained were 3.15 points. This indicates that the product can be categorized as "Fairly Interesting " for the participants. Discussions related to product evaluation (revision) are as follows: a) the appearance of the website is made as attractive as possible; b) add a discussion forum; c) add a chat forum to ask questions directly to the tutor during lessons; d) add interesting photos related to learning in the Banjarrejo Language Village.

Product Revisions

After going through a series of tests by both users and experts, several revisions and improvements were obtained from the existing product. The revised recapitulation can be seen in Table 2.

Table 2. Product Revision Recapitulation

No.	Aspects	Revisions
1.	Learning Media	- Shows an improved appearance of an attractive website - resenting clear Instructions / directions in
		learning content - Reducing application load by simply embedding content - Adding discussion forums and conversation rooms (chat)
2.	The Substance of Learning English	- Emphasizing visual aspects such as in modules and learning videos that are equipped for each unit / subject of learning
3.	Learning Design	- The learning design has been adjusted to the use of existing learning media. Especially the combination of the use of material content, video and assignments. In addition, features that support learning through online interactions have also been facilitated

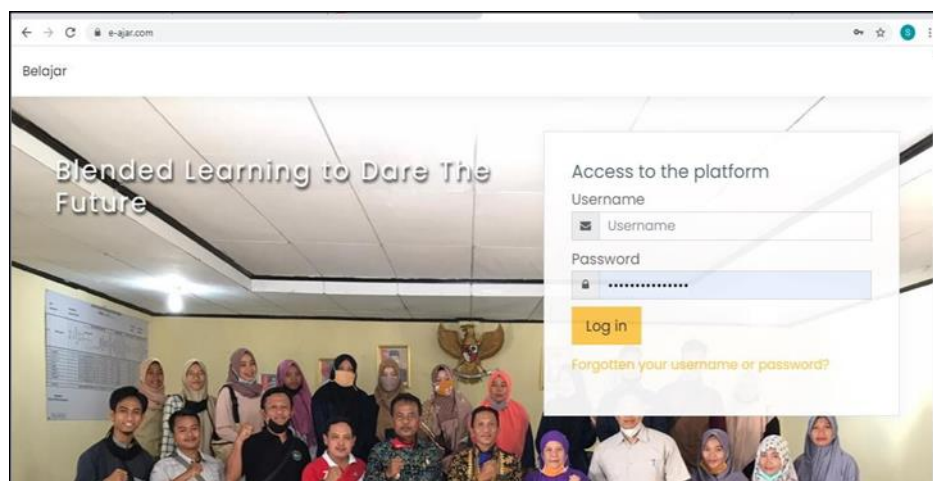Furthermore, it can be seen that the appearance of website-based learning media has been enhanced as follows:

Figure 2. Website Front Page Display

Figure 3. Display Learning Materials Page

Figure 4. Views of Learning Video Pages and Room for Learning Via Zoom Meeting

Figure 5. Display of Assignments Page, Discussion Forums and Chat (Conversation) Rooms

Conclusion

Based on 50 respondents who have filled out questionnaires distributed through the Goggle Form, the most respondents for NAT from junior high school level are more dominant, which is 74 percent. The majority of respondents (86 percent) do not follow routine English lessons outside of their formal education. Only 14 percent are currently taking lessons in the form of courses, study groups and in the community. The level of insight and information of respondents regarding the term blended learning is still low. This is indicated by the

majority of respondents (84 percent) who still do not know what blended learning is. Based on the results of data analysis and discussion, it can be concluded that Moodle-based e-learning products can be an alternative learning to which provide students with facilities where they can lean and hone their speaking skills as the learning outcomes, the results of research and development of various Moodle based e-learning products improve students' speaking skills in learning English for both senior and junior high school students.

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