

Original Research Paper

Development and Assessment of the English Grammar Asynchronous Online Learning Module before Being Applied in Real Lesson

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Abstract: Currently the orientation of higher education in Indonesia has shifted to online-based education. Unfortunately not all universities are ready to implement asynchronous online teaching. The question is whether the developed asynchronous online teaching module can meet the desired quality qualifications. Therefore the objective of this study is to conduct an assessment of the asynchronous online learning module before it is applied to actual learning so that there is no trial and error of the learning module in learning. Three stages of assessment were carried out in this study. This research is a combination of qualitative and quantitative research methods. This study concludes that: Building online instructional of English grammar not only needs to be accompanied by an explanation of the subject matter in English but also accompanied by using the mother tongue language especially if English is as foreign language for the students. Students prefer asynchronous online learning modules along with animated images that represent lecturers presenting teaching material. Most students agree that asynchronous online of English grammar lesson makes it easier for students to understand learning material and achieve good learning outcomes (up to 67%) as well as meets student learning needs. Unfortunately, asynchronous online of English grammar lesson do not raise some students' enthusiasm for learning.

Keywords: Assessment, Online Learning, English Grammar, Asynchronous

Introduction

Most universities in Indonesia have tried various ways to organize online education in response to the decision of the Ministry of Education and Culture of the Republic of Indonesia regarding the Covid-19 pandemic, which basically recommends that students no longer learn through face-to-face classes but learn from home. In fact, online education allows students not only to study from home, but from anywhere via the internet. The form of online education besides synchronous online is asynchronous online learning. The advantage of asynchronous online learning is that students can learn anytime and according to the student's learning pace. Unfortunately, not all universities are ready to implement asynchronous online teaching immediately (Kamal *et al.*, 2020). So the question is how about the asynchronous online teaching module, whether it can meet the needs of students who have to study independently at home and

meet the qualifications of quality teaching modules. Therefore the objective of this study is to conduct an assessment of the asynchronous online learning module before it is applied to actual learning so that there is no trial and error of the learning module in learning. In other words, the context of this research is the assessment and development of asynchronous online teaching modules, or Research and Development (R&D) of asynchronous online learning products.

In development of asynchronous online learning module, the learning module needs to be evaluated or assessed, which is known as a formative assessment so that the learning module meets the desired requirements. Assessment of learning modules is categorized as formative assessment and summative assessment (Dick *et al.*, 2015). Formative assessment is used for solutions to find out the weaknesses and shortcomings of the teaching modules that are developed, so that it has the credibility and feasibility of

successful learning achievements when used in real learning. Meanwhile summative assessment is used to test student learning achievement whether it meets expectations or not (Dick *et al.*, 2015).

The formative assessment of the teaching module developed has gone through three stages of assessment before it is feasible to become a teaching module in real learning. The teaching module developed is a learning module for English grammar subjects for students in the first semester of the 2019/2020 academic year of Bumigora University. The three stages of formative assessment are one-on-one assessment, small group assessment and field trial assessment (Dick *et al.*, 2015). Whereas related to the development of an online asynchronous module, it always begins with designing, compiling and revising the subject matter, the media used, the assessment methods and others in the learning being developed and to realizing the developed learning modules into learning products that are more effective and meet the qualifications expected then a formative assessment is undertaken (Dick *et al.*, 2015). So, it does make sense, if (Simonson *et al.*, 2012) said that, the formative assessment becomes an important aspect in the design process of learning module. Therefore, in this study, formative assessment of the product or module development of asynchronous online learning was conducted.

Beside formative assessment, the development of teaching module becomes a major part of asynchronous online learning. According to (Dick *et al.*, 2015), developer of teaching module development not only provides the learning material, but also pays attention to characteristic of students. To identify the characteristics of students, it must pay attention to the learning style of learners (Indriana, 2011). By using text, video, audio, image and other interactive components, those are more effective media in accommodating characteristic of students and various learning styles of students (Kharb *et al.*, 2013). Therefore, students learning styles, namely kinesthetic, visual, auditory, sequential and pace learning is important attention and part in this asynchronous online learning developing involved media components: Audio, video/image, text and graphic interface. So it is not surprising, if previous research asserted, the important aspects that must be considered in language and grammar lessons are not only learning approaches and learning styles of students, but also the environment and other learning support factors (Mantiri, 2015).

Regarding learning styles, the environment and others learning support, actually, there are still many lessons that still use teaching methods with speech styles and textual teaching, while at the same time, to improve the achievement of learning outcomes, English education is faced with using computer technology (Suppasetsee and Dennis, 2011). Online education is the advancement of computer technology in teaching methods (Liu *et al.*,

2010), as a continuation of a long tradition of learning with media technology and becoming new strategies, practices, tools, applications and resources to realize ubiquitous learning (Januszewski and Molenda, 2008). Moreover, all learning styles of students can be realized in asynchronous online learning (Suparman, 2014). Despite the fact that online learning is currently booming acceptance all over the world (Al-hajri *et al.*, 2018), more importantly, online learning has become one of the best ways to generate the substitution effect for classroom learning (Han, 2014). Previous research revealed that there was no difference in the influence of students' cognitive domains between conventional face-to-face teaching and online learning (Anggrawan and Jihadil, 2018). Previous research has also revealed that asynchronous online teaching as part of blended learning provides good learning achievement for students and can replace face-to-face classroom teaching (Anggrawan *et al.*, 2018). That is why, the method of delivering teaching materials online has become the concern of many circles and higher education institutions (Suwais and Alshahrani, 2018).

In essence, there are still problems in learning English grammar in face-to-face classroom method at universities. This is reflected in the affirmation that there is growing dissatisfaction with classroom practices in grammar teaching (Myhill and Watson, 2014). It is also important to know, some reasons why students should learn grammar, are to increase student's grammatical competence, to give performance support (in writing, reading, speaking, listening), to underpin thinking skills, end others (Hudson and Walmsley, 2005). In turn, English grammar is very crucial competence to be acquired by English students. That's why, linguists have suggested to place grammar knowledge as a worthy and relevant body of knowledge (Myhill and Watson, 2014). In general, grammar would force everyone to define exactly righteous meaning. Nonnative English speaker is crucial role in the development and improvement English grammar (Sabti and Chaichan, 2014). In the meantime, online learning is a modern method of teaching and is recognized as one of the innovative learning that is implemented through the internet (Król, 2016). Moreover, the embodiment of innovative online learning products is to answer the information needs of society and show autonomy and impartiality to gain knowledge beyond cultural and social barriers (Raza and Murad, 2017). Therefore, the development of asynchronous online learning module of English grammar is very important in meeting the demands of today's learning.

Research Methodology

Instructional Development

Due to in performing asynchronous online learning of English Grammar, it needs to develop online English

grammar teaching module to accommodate each student or group of students to be self or in group learning at outside of the class. Therefore, the first step in this research is to develop an online English grammar module. The learning material presented in the developed online learning module is a complete duplicate of the face-to-face learning material that already exists at Bumigora University. The developed asynchronous online learning module was equipped with multimedia (text, tables and sound as well as animated images) to facilitate students' auditory, visual and kinesthetic learning styles. Figure 1, shows a block diagram of the developed English Grammar asynchronous online teaching module.

An asynchronous online learning module is developed with the help of an application Learning Management System (LMS) or Virtual Learning Environment (LVE). LMS for higher education is not only a medium for passing on subject matter to students but also important in managing and in assessing student work (Almarashdeh *et al.*, 2018). LMS of Moodle has been installed on a computer server and connected to the internet in this study, so students and lecturers are registered as members can access the online learning module anytime and anywhere.

The subject matter in each sub-module of each group of asynchronous online learning material for English grammar is equipped with an interaction interface, so that students can repeat learning certain materials, or jump back and forth to the next and previous discussion of material according to the wishes of students when studying subject matter.

Formative Assessment Process

The formative assessment steps of the asynchronous online learning module as follows:

- a) One-on-one assessment with experts: Asking for opinions from an instructional expert and an English language expert about the online learning program module after previously demonstrated the asynchronous online learning module and the explanation of the learning module, as well as the purpose of each subsection of the asynchronous online learning module. Then the asynchronous online learning module is refined (revised) in accordance with the advice or direction of the experts
- b) Small group assessment with several third semester students, who have studied English grammar in the previous semester in face-to-face classes. After students get presentations and explanations and students try the asynchronous online learning module, students are asked for their opinion about the asynchronous online teaching module, then revisions are made to the learning module according to the opinions and suggestions of students

- c) Field trials with 60 students, who were taken randomly from two different classes with each class consisting of 30 students, were the first semester students of the English study program. All field trial students are given time to study the asynchronous online learning module independently or in groups. Then a survey was conducted to determine student responses to the asynchronous online learning module. In a survey of the first 30 students, students answered in the form of written sentences (qualitative data) to the questions asked related to asynchronous online learning of English grammar. Meanwhile, in a survey of 30 other students, students select answers to the questions posed in the survey with the choice of answers in the form of a Likert scale (quantitative data). With the revision of the English grammar asynchronous online learning module at this stage, the formative assessment process has been completed

The stages of the formative assessment process are shown in Fig. 2.

Figure 3 shows the relationship scheme between the developed modules, the LMS, the evaluator of the learning module and the application of the learning module in real learning in this study.

Data Collection

The data collected from two experts (that was prepared by Bumigora University) in one-on-one assessment is qualitative data. The first qualitative data was obtained from an expert in education and the second qualitative data was obtained from an expert in English grammar. Both expert data were obtained from interviews with their suggestions and opinions on the asynchronous online English grammar module developed in this study.

The data collected from several students (five randomly selected students from 50 students) in small group assessment is qualitative data from interviews about the students' suggestions and opinions about the asynchronous online English grammar module developed in this study.

The data collected in the field trial is in the form of sentence data from 30 students who were randomly selected from 50 students from one class and in the form of ordinal data from 30 students who were randomly selected from a total of 50 students from another class. There are five classes of 2019/2020 first semester students who are the population in this study. Two classes were randomly selected from 5 existing classes as the sample class for the formative assessment field trials. Data triangulation from qualitative data and quantitative data carried out in the field trial is intended to validate student opinions about the developed asynchronous online learning module.

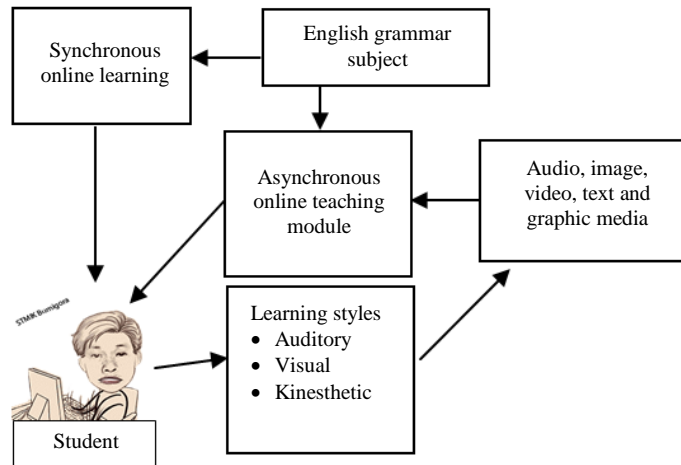


Fig. 1: Block diagram of the developed English grammar online teaching module

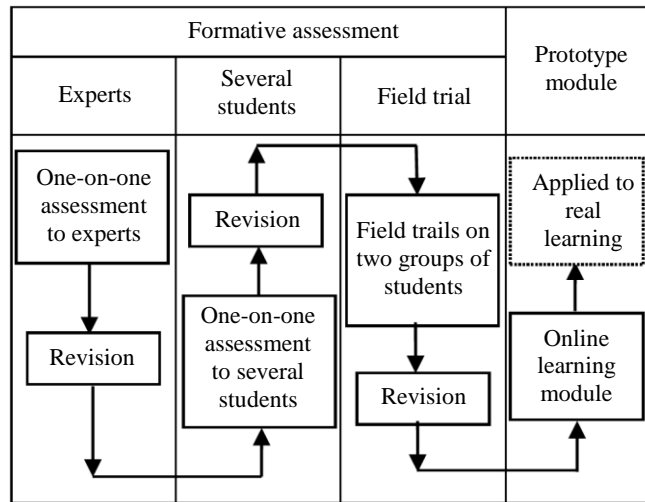


Fig. 2: Block diagram of formative assessment of the developed English grammar online teaching module

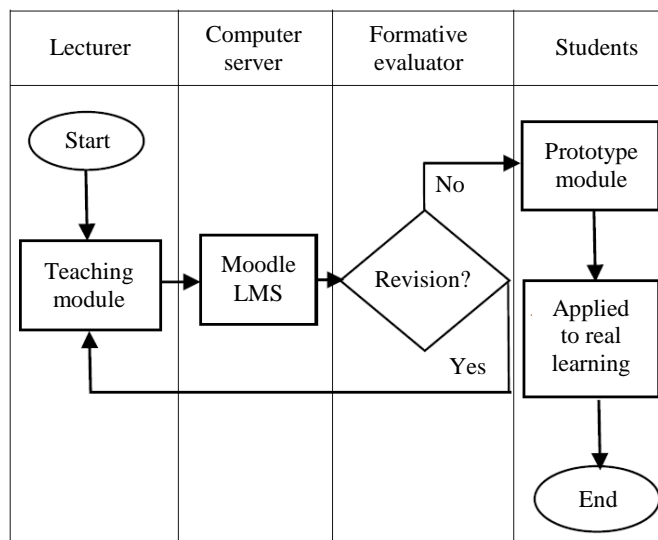


Fig. 3: Block diagram of the relationship between the developed module, LMS, evaluator and prototype module

Qualitative data (sentence data) in the Field Trial was obtained from a survey of students about how their response to the asynchronous online learning module is developed in support of learning styles, enthusiasm and ease of mastering learning materials as well as meeting student needs. Meanwhile the quantitative data (ordinal data) on the field trial was obtained from a survey on students which contained several questions, with a choice of answers strongly agree, agree, quite agree, disagree and strongly disagree.

Research Result and Discussion

Identification and Analysis

Identification and analysis are the first steps in the instructional development process for asynchronous online module and formative assessment is the final stage of the development process for asynchronous online module for English grammar lesson.

The entire process stage of the development and assessment of the English grammar asynchronous online

learning module before it is applied to real learning to students as shown in Fig. 4.

Student learning styles have been equipped in the learning module and are a concern in this study, as suggested by previous researchers to be the attention of researchers (Liu *et al.*, 2010). Students with auditory learning styles who like voice-based learning (Rhouma, 2016), such as lectures have been accommodated by the presence of sound accompanying the text presentation in the learning module. Students with visual learning styles that rely on learning with written media, images and similar media (Rhouma, 2016; Pekić, 2017), have also been facilitated in the module learning. Meanwhile, students with a kinesthetic learning style like learning in the form of activities or practice (Rhouma, 2016), this has also been accompanied by a learning module in the form of examples of English sentences every tense that can be practiced by students.

The online learning module is packaged with an interactive learning interface where students are free to access the sub-window interface to select the sub-material or sub-module to be studied and can repeat studying the desired material with Moodle learning management.

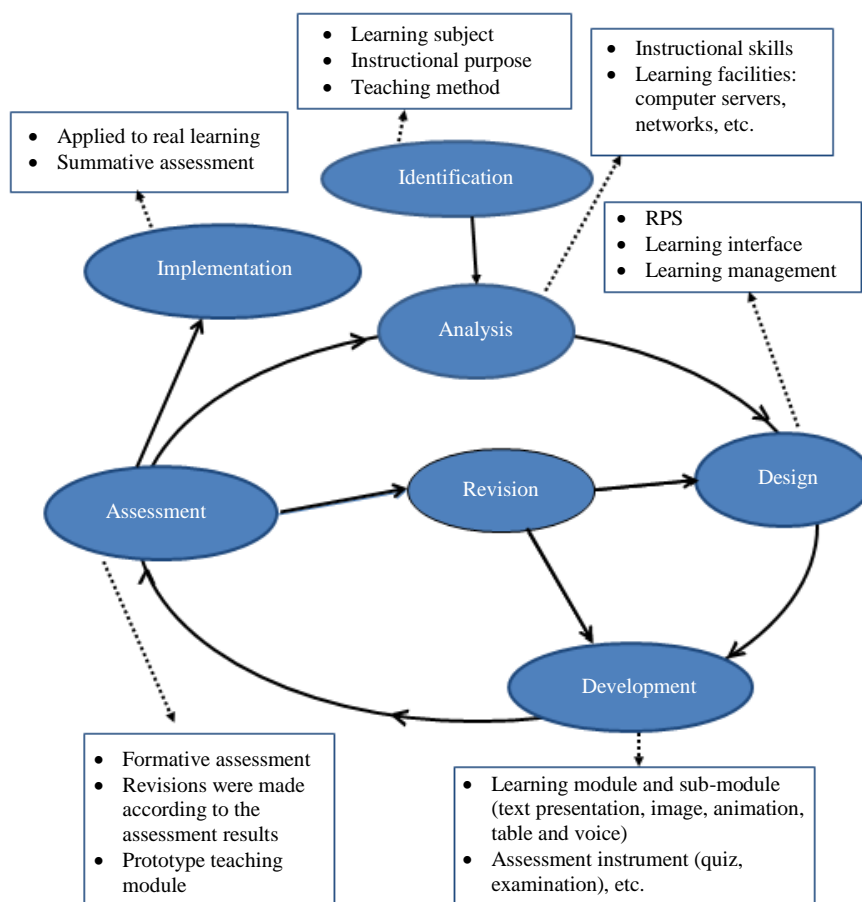


Fig. 4: The process stages of learning development and formative assessment of asynchronous online learning module

Design and Development

The learning plan for one Semester (RPS) can be seen and downloaded by students via the Moodle LMS by going to the online learning web page. Figure 5 shows a screenshot of RPS on the asynchronous online learning page for English grammar. The semester learning plan

(RPS) consists of 11 subjects, the subject of tenses grammar, namely Greeting and Introduction to English grammar, Present Continuous Tense, Present Simple Tense, Past Simple Tense, Past Continuous Tense, Future Tense, Future Continuous Tense, Present Perfect Tense, Present Perfect Continuous Tense and Past Perfect Tense.

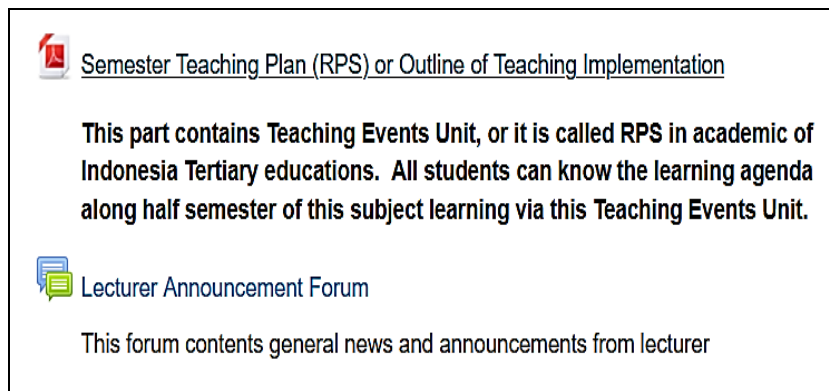


Fig. 5: Screenshot of the sub-subject matter of English grammar online learning module

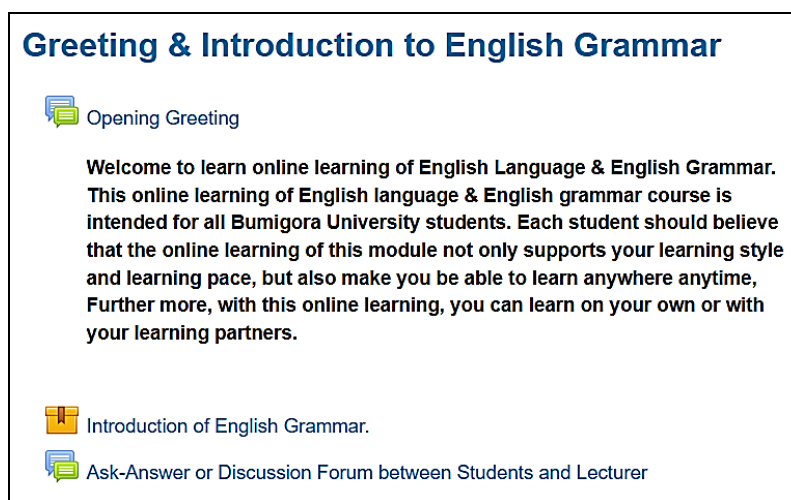


Fig. 6: Screenshot of the sub-subject matter of greeting and introduction of English grammar online learning module

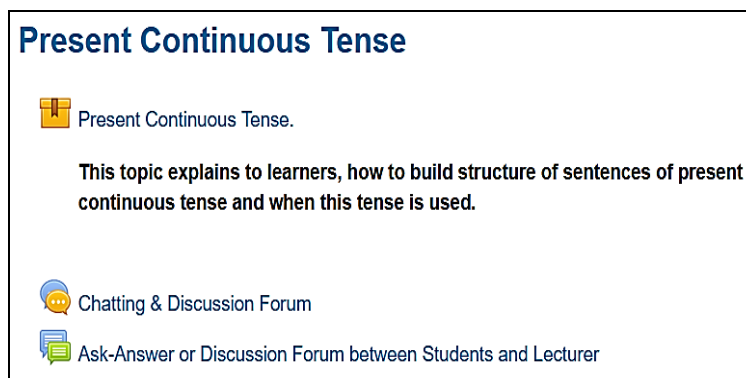


Fig. 7: Screenshot of the sub-subject matter of present continuous tense of English grammar online learning module

Figures 6 and 7 show screenshot part of the sub-subject matter of English grammar asynchronous online lesson.

Teaching materials for each subject matter are presented in sub-modules according to the order in the RPS so that the combination of the presentation of the learning material for each sub-module is a complete asynchronous online English grammar learning module.

The presentation of teaching materials is equipped with text, sound and images. As in face-to-face learning,

the lecturer explains orally the subject matter being taught, in online learning that is developed it is also presented with a moving animation image where the lecturer explains the subject matter delivered by saying the words (voice) and accompanied by a display of the text. Figures 8 and 9 show a screenshot of the online learning presentation section with an animated image of a woman explaining the learning material orally from the opening greeting sub-subject.

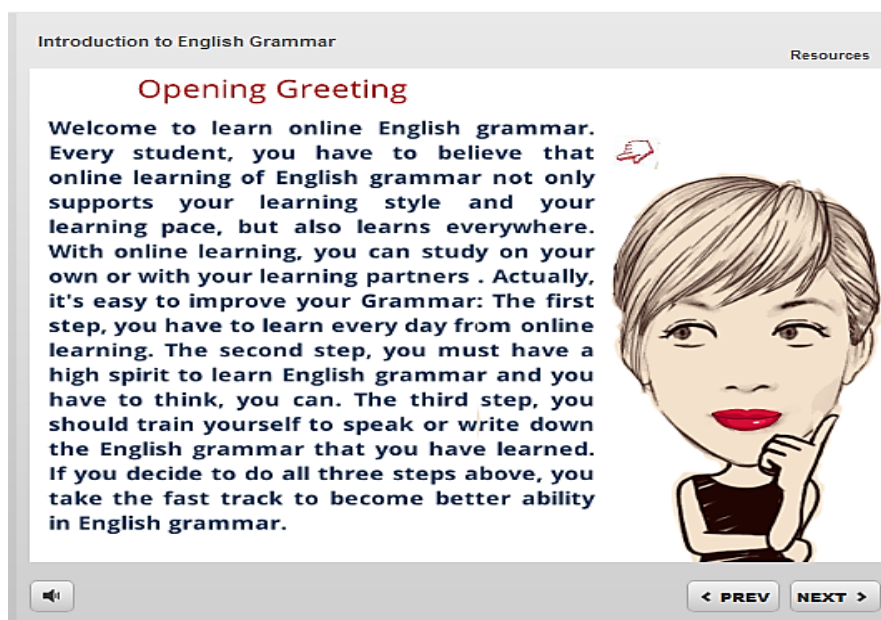


Fig. 8: Screenshot of animated image in explaining sub-subject presented in the online learning module

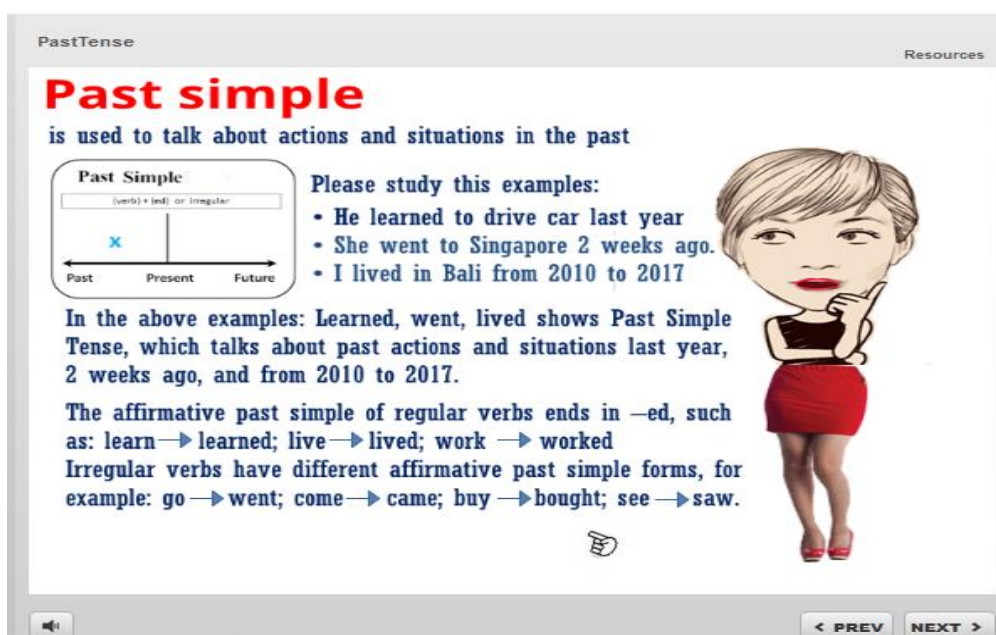


Fig. 9: Screenshot of animated images in explaining the sub-subject presented in the online learning module

Assessment

Formative assessment was carried out on the asynchronous online English grammar learning module.

In a one-on-one assessment, data collection on instructional experts was obtained through structured interviews. Structured interviews are conducted after the online learning program has been demonstrated to experts. In a structured interview session, several questions were asked to instructional experts about what the expert's suggestions and responses were about the English grammar online learning module, related to learning: Description, significance, objectives, competency maps, material sequence, subtopic material units, example sentences, instructional illustrations, instructional strategies, quizzes and learning content. In principle, the experts gave a positive response to the English grammar online learning that was developed. The main input from instructional expert is that each sub-course must be equipped with an online question and answer facility (online forum) between lecturers and students so that student questions/difficulties about the material being studied can be asked of lecturers or other students through online forums.

Structural questions are also asked to the English language experts, namely how your opinions and corrections are on the language, accuracy of word usage, sentence efficiency and logic in the instructional modules. Based on this assessment, some parts of the online learning presentation have been refined. The main input from the English language experts is teaching materials presentation should not only be in English but also the translation of the meaning in Indonesian, because not all Indonesian students are proficient in English.

Data collection is done by interview in the assessment of small-group or several students. The questions in the interview focus on 3 criteria, namely material clarity, impact and feasibility.

The following is a structured interview material conducted with a small number of students who are answered with written answers:

a) Clarity of instructional material:

- Is the message/information in instructional material of English grammar online learning clear or understandable?
- Does the material/content of instructional of English grammar online learning fulfill your expectations?, or what expectations do you not meet?

b) The impact of instructional material:

- What impact does instructional of English grammar online learning have on your attitude as a student?
- Is instructional of English grammar online learning attractive and/or systematic?

- Does the instructional of English grammar online learning achieve its benefits and objectives for you as a student?
- Is there suitability of instructional material of English grammar online learning with your learning time?

c) Eligibility of instructional material:

- How is the instructional of English grammar online learning feasibility presented to the availability of study time?

The results from the assessment of small group student show as follows: Regarding the clarity of the learning material, most students gave a positive response to English grammar online learning materials, students could understand the material being studied. Students prefer the picture on the presentation to be a moving picture especially on the picture of the lecturer who is explaining the text followed by lips/mouth expressions that move according to the sound of the words. Related to the impact of English grammar online learning material, it makes students confident and independent responsibility for independent learning. For students, online learning is interesting and material systematic. Besides that, online learning has great benefits for students learning according to their time and speed and anywhere. Meanwhile, related to English grammar instructional materials online eligibility is very supportive of student learning time because after all they no longer need to record teaching materials and whenever there is time to choose the desired learning.

In the field trial assessment, the asynchronous online teaching module was tested on students. Data collection was carried out by surveying students after one month were instructed to learn English grammar via asynchronous online either independently or in groups.

The survey questions were: Does the asynchronous online learning facility support students' learning styles in learning?, Do you enjoy (or increase your enthusiasm for learning) studying independently or in groups with asynchronous online learning of English grammar?, Whether through asynchronous online learning makes it easier for students to understand teaching material and/or provides good learning outcomes and whether online asynchronous English grammar learning meets the needs of students in learning. The results of the field trial assessment on 30 students who answered with written sentences (qualitative research) showed that averagely the quite a number of students argued: Asynchronous online learning of English grammar supports student learning styles, enthusiasm for learning and better learning outcomes as well as student needs in learning. Meanwhile the results of field trial assessments on 30 other students who answered questions with answer choices ranging from strongly disagree to strongly agree (quantitative research) are shown in Table 1.

Table 1: Result of field trial assessment

Whether online learning:		Strongly disagree	Disagree	Quite agree	Agree	Strongly agree
Supports learning styles	Total	0	0	7	15	8
	%	0%	0%	23%	50%	27%
Increases enthusiasm for learning	Total	0	9	11	6	4
	%	0%	30%	37%	20%	13%
Provides good learning outcomes	Total	0	0	10	14	6
	%	0%	0%	33%	47%	20%
Meets the needs in learning	Total	0	3	8	15	4
	%	0%	10%	27%	50%	13%

The results of quantitative research as shown in Table 1 indicate that students agree and strongly agree that online asynchronous English grammar supports student learning styles reaching more than 75%. Although, the enthusiasm for learning of most students increases with asynchronous online (about 70% of students), unfortunately quite a lot of students, up to 30%, disagree that asynchronous online increases enthusiasm for learning. The majority of students agree that online asynchronous learning of English grammar provides good learning outcomes (up to 67%) and meets student learning needs (up to 63%).

Conclusion

Based on the results of the formative assessment carried out on English grammar instructional online learning developed can be drawn as the following main conclusions.

In One-on-One Assessment

Based on the opinion of English linguist in a one-on-one assessment, it can be concluded that in building online instructional English grammar not only needs to be accompanied by an explanation of the subject matter in English but also accompanied by an explanation of the meaning using the mother tongue especially if English is as foreign language for students, so that students get the maximum meaning from the lesson explanation.

Meanwhile in one-on-one assessment to instructional expert, instructional expert gave a positive response to online learning of English grammar, which is equipped with a competency map, presentation of sequential material, presenting learning material based on subtopics, equipped with examples of English sentences and accompanied by learning illustrations. Furthermore, according to instructional expert, the online learning module must be equipped with a question and answer forum between lecturers and student, so that students who have difficulty with the material being studied can be asked to lecturers through online forum.

In Small Group Assessment

Students prefer animated images that represent lecturers who present teaching material in English grammar with mouth expressions that move following

the sound of the words of the text described. English grammar online learning material makes students learn independent, along their learning time, their learning pace and learn anywhere. Besides that English grammar online learning provides ease of learning and time efficiency for students because each student no longer needs to record teaching materials and can choose the learning material they want to learn.

In the Field Trial Assessment

The results in the field trial concluded that student learning styles are well supported (up to 75%) in asynchronous online learning of English grammar. Most students agree that English grammar asynchronous online learning not only makes easier for students to understand the learning material or provides good learning outcomes (up to 67%) but also meets the needs of students (63%). Unfortunately, although there are many positive things for students in learning asynchronous online in English grammar lesson, asynchronous online lessons do not increase students' enthusiasm for independent learning by up to 30%.

The results obtained from the triangulation of qualitative and quantitative data carried out in the field trial assessment showed that in general there were no differences in student answers to questions related to English grammar asynchronous online learning.

In general, the formative assessment results show that English grammar online learning can be a learning choice for higher education institutions or as an alternative learning method due to online grammar learning with multimedia and animated images is not only favored by students but also supports student learning styles and ease learning for students.

Further study is needed, because in developing learning for each subject it is not perfect only with formative assessment, but also summative assessment on real learning. So that if the subject that has been evaluated formatively turns out to be a significant difference with the summative assessment results in real learning, it is necessary to prove why there is a difference in achievement. This means that there are other factors as reinforcing factors or weakening factors that affect student achievement in actual learning that need further analysis or research.

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Author's Contributions

Anthony Anggrawan: Responsible for writing article content including references used and analyzing the results of data collected from interviews and surveys, implementing learning modules that were developed into server computer and others.

Christofer Satria: Carrying out the Design and Development of online modules including animated images and others

Ethics

The author confirms that this article has not been published in any other journal and that no ethical issues have occurred.

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