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TENSES MASTER APPLICATION IN ENGLISH GRAMMAR LEARNING

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Abstract: The background of this research is based on the urgency of mastering basic English grammar in supporting the understanding of advanced English grammar. Basic English grammar are tenses. Tenses are basic language formulas related to the simple construction of sentences. Tenses master application is designed based on need analysis which consists of functional needs and non-functional needs. The purposes of this study are to 1) identify the needs of grammar learning media according to teachers and students, 2) identify learning models that have been and are being carried out in schools, 3) know the principles of developing instructional media based on theoretical studies, identification of needs and analysis of existing instructional media, 4) design learning media based on the results of learning analysis, 5) design learning media, and 6) test application-based learning media tenses. The research method used was research and development. The stages of the R&D method in accordance with Borg and Gall theory are 1) conducting research and information gathering, 2) conducting planning, 3) developing initial forms of products, 4) conducting field tests and product revisions, 4) revising products, and 5) disseminating and implementing. The result indicated that the mean of pretest was 27.4 and the mean of posttest was 60.65. Hence, it can be concluded that tenses master application can enhance the students' grammar competence and practice.
Keywords: *tenses master application; mobile learning; grammar learning.*

INTRODUCTION

Learning English in Indonesia is still classified as a foreign language. This is different from other Asian countries that place English as a second language. Thus, learning English at various levels; from early childhood education to tertiary institutions in Indonesia, a lot of innovation is needed in terms of approaches, methods, techniques and learning media. More details can be found that difficulties in capturing foreign languages (listening) due to limited vocabulary, difficulty in conveying ideas in English (speaking) caused by difficulties in stringing words (vocabularies) and lack of understanding of English grammar structures and grammar, difficulty writing English sentences (writing) are caused by lack of reading (reading) so that the vocabulary is limited (Megawati, 2016). Educational innovation in the present context is related to technology in education. Technology in education is present in the world of education now as a scientific discipline that is concerned with the development and utilization of learning resources (Syahri, 2017). Rooyacker argues that the technology is used in learning and learning is expected to create a pleasant atmosphere for students (Klimova, 2015). Even though language is something created by culture, if learning is not supported by attractive media it will fail. Learning English is the first foreign language taught in primary and secondary education institutions (Syahri, 2017).

On the other hand, learning English in line with the 2013 curriculum is based on a scientific approach with characteristics centered on learning, including cognitive processes, providing opportunities for students to develop, finding knowledge through the learning process, learning from multi sources, encouraging students to be able to learn sustainably, build value and

implement the principle that teachers, students and schools are a unity in learning (Ratnaningsih, 2017). The most basic thing that is needed by language learners is motivation and enthusiasm (Nan, Jianxi, & Dongmei, 2018). Building enthusiasm for students must be through a course that is always new and interesting. The media that continues to be loved with a variety of novelty features in it is IT media. This IT-based learning media was created to serve the needs of teachers, students, educational policy makers and all individuals involved in education. The development of this learning media can come from YouTube (Lestari, 2016), social media like *facebook, whatsapp, online magazine* (Cakir, 2016). Among social media which is currently a trend one of them is whatsapp (Manan, 2017). Technology-based learning media really provide solutions in improving the quality of learning English. So, 21st century learning framework requires every teaching and learning process to integrate aspects of technology to improve the quality of learning itself (Innovation, 2019).

Recently, along with the increasing popularity of student mobile devices, mobile learning (m-learning) has emerged as a new way of doing e-learning. (Keng-Boon, Jun-Jie, & Voon-Hsien, 2018). *Mobile learning* also includes the mobility of long-term or lifelong learning and the development of an understanding of "how learning can be managed across life transitions". (Pimmer, Brühlmann, Odetola, Oluwasola, Dipeolu, & Ajuwon, 2018). Over the past few years, the application of technology in education has evolved from instructions programmed through computer-assisted, e-learning instructions that are connected to the internet to *mobile learning*. (Wen-Min & Chin-Chung, 2017). *Mobile learning is* defined by (Aliwear, 2012) as: *the intersection of mobile computing and e-learning: accessible resources wherever you are, strong search capabilities, rich interactions, powerful support for effective learning, and performance-based assessment. Independent learning of location in time or space*.

Mobile learning is a term to denote learning that involves the use of mobile devices. The term is fully defined as "learning in various contexts, through social interaction and content, using personal electronic devices" (Crompton & Burke, 2018). This definition provides insight into the rules of education about learning with mobile devices, because learning cannot be determined, occurring across contexts, time, subjects, people, and technology. Cellular devices, cell phones and table t, have a quick on/off button and are easy to carry, following this definition, laptops were excluded from this study (Crompton & Burke, 2018). One of the innovations that has attracted the interest of many students, educators, and marketers or designers is mobile learning (m-learning) (Chen, 2018). Using devices such as mobile phones, the learning system can guide students to engage in learning tasks in a real environment, and can also immediately support related learning resources in the field and the application of self-assessment. (Ching-Jung & Gwo-JenHwang, 2019). IT media in learning can function as *learning sources, tools of learning, education facilities, competency standards, administration support, school management support and school infrastructure* (Faridi, 2009). McLuhan also mentioned that the advantages of learning through smartphones or on line learning are having access, flexibility, response, repeatability, durability, modality, specificity, and cost (Lekawael, 2017). From the big idea about the innovation of IT-based learning media, many applications are available in the practical android or smartphone.

METHOD

This research uses the R&D method. *Research and Development* is a research that starts with product testing on an ongoing basis. The product in this study is an android application that can be used in learning English. The ease and practicality in using the application makes *mobile learning* can be done by students.

The steps in the research are research and information collecting, planning, develop primary of product, main product revision, main field testing, operational product revision, final product revision, and dissemination and implementation. The Participants of this research were Class X SMK Negeri 1 Kuningan with a total of 31 students.

Data collection techniques used pre-test and post-test. A pre-test is conducted to measure the students' initial abilities, with 30 questions for three types of tenses. Then the learning is carried out with material three types of tenses using the mobile learning as a media for supporting tense master application. After learning is finished, a post-test is conducted to measure student learning outcomes. And data analysis techniques used description and comparison of the two test results is done to determine the extent of the mobile learning method with the media tenses master application can improve learning outcomes in

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English learning. Comparisons were made statistically, with the t test.

RESULT AND DISCUSSION

The results of testing the functions are presented in Table 1.

Table 1. *Application testing*

No	Function	Test result
1	The application loads the page thoroughly	Yes / ~~No~~
2	The application brings up menus when the menu bar is clicked	Yes / ~~No~~
3	The application displays a list of material	Yes / ~~No~~
4	The application displays all material content, namely definition, indicator, example, form, time on line	Yes / ~~No~~
5	The application displays a list of quiz that can be followed	Yes / ~~No~~
6	Users can join the quiz smoothly and register feedback	Yes / ~~No~~

Applications in - publish in the play store, a smartphone application for android ecosystem so that it can be downloaded by anyone. The application can be installed via the following link: https://play.google.com/store/apps/details?id=com.coffye.upmk or by searching for it in the play store with the keyword "Tenses Master". The Tenses Master application is used in learning English in Class X SMK Negeri 1 Kuningan with a total of 31 students. English learning in question is learning tenses with simple present tense, simple past tense and simple future tense material. Before using the tenses master application, a pre-test is conducted to measure the students' initial abilities, with 30 questions for three types of tenses. Then the learning is carried out with material three types of tenses using the mobile learning as a media for supporting tense master application. After learning is finished, a post-test is conducted to measure student learning outcomes. The results of both tests are shown in table 2.

Table 2. *Pre-test and post-test results*

VARIABLES	PRE-TEST	POST-TEST
The mean	27.4	60.65
Median	27	70
Mode	37	80
Standard Deviation	9.06	21.2
Minimum	10	10
Maximum	43	90

Pre-test results

The *pre-test* results showed the lowest value of students of 10, the highest value of 43, with an average of 27.4, standard deviation of 9.06. The distribution of values is shown in Table 3.

Table 3. *Distribution of pre-test scores*

NO	INTERVAL VALUE	FREQUENCY	PERCENTAGE
1	10-15	3	10%
2	16-21	6	19%
3	22-27	4	13%
4	28-33	7	23%
5	34-39	5	16%
6	40-45	3	10%

The *pre-test* scores were distributed at 28-33 intervals by 23%, which shows the normal distributed values at intermediate intervals.

Post-test results

The *post-test* results showed the lowest value of students of 10, the highest value of 90, with an average of 60.65, a standard deviation of 21.02. The distribution of values is shown in Table 4.

Table 4. *Distribution of the value of post -test*

NO	INTERVAL VALUE	FREQUENCY	PERCENTAGE
1	10-24	2	6%
2	25-39	3	10%
3	40-54	6	19%
4	55-69	4	13%
5	70-84	14	45%
6	85-99	2	6%

Rated *post-test* many distributed at intervals of 70-84 by 45%, which shows the value of normally distributed at intervals of upper middle class.

Comparison of the two test results is done to determine the extent of the *mobile learning* method with the media *tenses master* application can improve learning outcomes in English learning. Comparisons were made statistically, with the t test. The calculation result is stated that there is a significant difference if $t_{arithmetic} \leq 0.05$ (at a significant level of 5% or *sig 2-tailed*) and stated there is no significant difference if $t_{arithmetic} \geq 0.05$ (at a significant level of 5% or *sig 2-tailed*).

From the results of calculations using statistical tools, it is known that $t_{arithmetic\ is}$ 0.00 which means <0.05. From the results of $t_{arithmetic}$, it can be concluded that there are significant differences between student learning outcomes before using the *mobile learning* method and student learning outcomes after using the *mobile learning* method.

The development of *mobile learning* applications uses a sequential model. They are needs analysis, application design, writing application code, application test and application implementation. Application modeling uses the *Unified Modeling Language* (UML) which is a common method in application modeling. UML consists of 13 diagrams that can be used. Modeling the tenses master application using the Use Case Diagram as shown in Figure 2, and the Activity Diagram as shown in Figures 3 and 4.

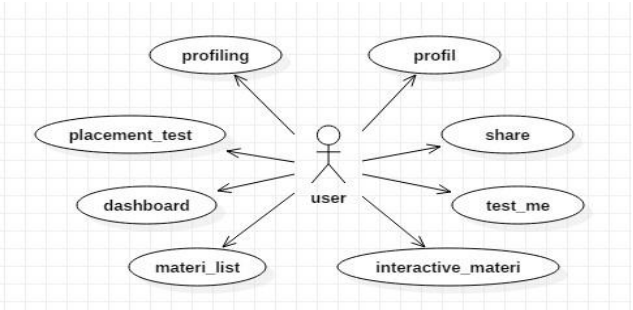

Figure 1. *Use case diagrams*

Use case diagram above is used to map general application functions. There are eight application functions based on functional requirements analysis.

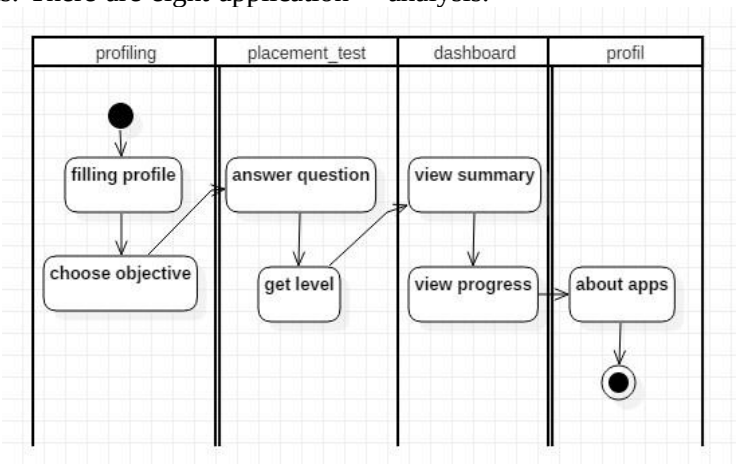

Figure 2. *Activity diagram I*

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The activity diagram above shows the activity process of each function carried out. In using the application, it starts with *profiling* to create a user profile and chooses what purpose to use the application, followed by a *placement test* by answering a number of questions that will produce the user's initial level. Until this stage the application can be used fully with the initial display on the *dashboard* that will show a summary and progress of learning. On the other hand, the user can see the application profile.

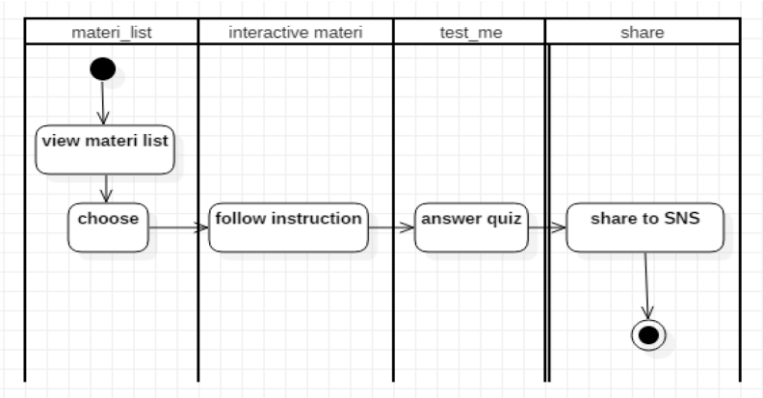

Figure 3. *Activity Diagram II*

The activity diagram above shows the process of using an application in learning. Starting by choosing the material provided, learning is done by following animated-based interactive instructions. To assess learning outcomes, a quiz method is used with a final assessment in the form of a score. Learning outcomes can be shared to the Social Network Site (SNS) or also called social media. The application is written using the java programming language with Android studio software. *MySql* based database. Application testing uses the black box test method, which is a test based on the functions provided.

Requirements analysis

Functional requirements are used to analyze the needs for functions that can be performed by applications viewed from the perspective of the user. Functional requirements of tenses master are:

1) There is a list of materials provided and can be studied
2) There is an explanation of each material accompanied by examples
3) There is an independent evaluation and training

Application design

Application modeling uses the *Unified Modeling Language* (UML) which is a common method in application modeling. UML consists of 13 diagrams that can be used. Modeling the tenses master application using the *Use Case Diagram*. It consists of material list, definition, indicator, example, form, time on line and quiz. The application is written using HTML, CSS and Java Script programming languages so that it produces web-based applications for later conversion to Android applications. After the application is made, the application is tested by using it and ensuring all functions are running, as for the application results described as follows:

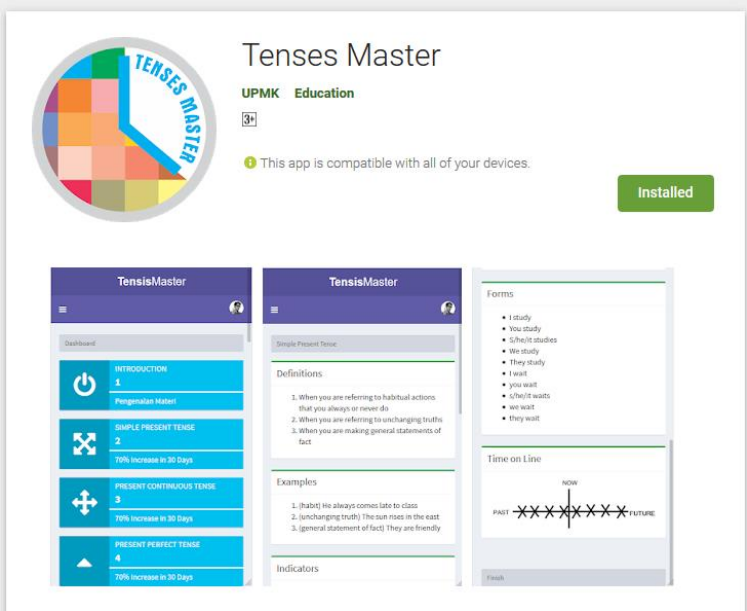

Figure 4. *Application development results*

CONCLUSION

Technology in learning and teaching process is needed. It encompasses the need analysis conducted at SMK Negeri I Kuningan. Need analysis is the first step to diagnose the needs of students and teachers in teaching and learning process. The development of learning media of English language lesson is still in a monotonous phenomenon at the School, even teaching grammar. Tenses master has been as an alternative solution in enhancing the understanding tenses. The indications of improvement in students' achievement have been proven by pre and posttest. The tests given to the students to know the development students' skill in grammar materials.

This research has a product for supporting the students learn. Tenses master is a grammar application that can be downloaded from playstore of android. The students easily use the application for learning, exercises and test. This product is for fulfillment of students and teachers' need in teaching and learning process.

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