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"TABEL MICE" AS TENSES LEARNING MEDIA FOR ESL STUDENTS' PEDAGOGICAL CONTENT KNOWLEDGE'S (A FEASIBILITY MEASUREMENT)

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Abstract. English department students in Indonesia are supposed to be able to communicate at a post-Intermediate level. Lecturers are afraid that students will not get the communication target level when they pass. Therefore, the researcher produces "Tabel Mice" application to improve ESL tenses. If their tenses are improved, their communication skill will raise. However, before it is used any further, the researcher wants to test its feasibility. The research method is Research and Development by Brag and Gall model with adaptations that are implemented in five steps; Gathering Information, planning, developing the product, disseminate, and revision. The data gathered from language expert validation is categorized as "excellent" 91,25% and 92,5% from media expert validation. The questionnaire data contains 460 answers, 224 (48,70%) strongly agree, 231 (50,22%) agree, 2 (0,43%) slightly disagree, and 3 (0,65%) disagree. This indicates that "Tabel Mice" is suitable for further research or used in the field.

Keywords: *"Tabel Mice", feasibility, post-Intermediate level*

INTRODUCTION

The standard curriculum of the English department in Indonesia suggests the students can communicate with English fluently at the post intermediate level (APS English Education Program, 2016). Communication must be activated during all activities in the educational environment to achieve that goal. Communication includes all skills such as speaking, listening, writing and reading. The post intermediate level means that students can communicate in-group discussion, lead a discussion, deliver an opinion, and teach English to the lower level in education (Lyere, 2014). Post-intermediate level communication can be identified when students communicate in a joyfully and fluently way, although there are a few mistakes in grammar and vocabulary (Brookes, 2018).

Unfortunately, it is not easy to realize that goal in Indonesia, since the student input in university varies. In this case, the writer categorized those levels into intermediate in average, belonging from low intermediate up to mid-intermediate. They have learned English in senior high school or before but they do not understand the essential meaning that blocked them to improve their proficiency more. The core of their difficulties lies in the grammar, whereas the tenses are one basic component of grammar that is needed for further development.

Some students acknowledge that they were difficult to understand the essence of tenses. They may memorize the form but they do not understand the meaning deeply, so they can not use it in colloquial situations reflexively. There are some factors causing the condition, firstly the different culture between Indonesia and English speaking nations. There is no tense in Bahasa Indonesia. Secondly, The learning curriculum of English in KTSP and curriculum 2013 provide the tenses material in a separated context that makes students cannot compare those directly. Thirdly, the

students do not use English in a colloquial context. They only use English under teacher guidance in a classroom.

Giving solution to the condition researcher produce an android application to learn tenses every time and everywhere named "Tabel Mice". This application focused on inserting the tenses concept as students' pedagogical content knowledge by providing simple but complete explanations and exercises. It can be downloaded in the smartphone with offline system operation, so it can be used in flexibility. However, this is an easy way to learn.

Generally, the purpose of this research is to promote the "Tabel Mice" to become one of the materials in school or university to learn tenses and suggest the curriculum developer to give a special portion to the 16 English tenses to be shown in one occasional time. The specific purposes of this research are (1) Measuring the feasibility of "Tabel Mice" as technological English tenses learning media. (2) Getting an acknowledgement from a language expert, a media expert and users that "Tabel Mice" is an appropriate media to learn tenses, so that it can be used for further research for researchers or learn tenses for the users.

However, students of the English Education Program must master the English tenses and use them in colloquial communication equivalent to the post-intermediate level. So, they must have "Tabel Mice" application as their reference when they want to learn tenses in senior high school and university. However, this application is not designed for beginner learners. It is recommended that learners had learned tenses before so that this application can give them a comparison, conclusion, and exercises to get the material into their pedagogical content knowledge.

The writer has found some similar previous research, they were Irawan (2018) and Meinawati (2020). Irawan had developed an android-based Instructional media design to improve the outcome of learning. It was experiment research by using "Appipyie" android-based application. It was successful in improving the learning result significantly. The controlled group showed an improvement between pre-test and post-test was 78,06 and 80. The experimental group showed an improvement from 80 to 94.71. The result proved to us that the use of ICT (Appipyie) in the teaching-learning process was effective in improving the result of learning compared to non-ICT usage (Chen, 2018). As the second research, Meinawati and friends used YouTube as a medium in improving speaking skills. The result proved that YouTube was able to improve the ESL confidence and expression when they spoke. YouTube provided the right examples of speaking practice, by its pronunciation, punctuation, and other elements of speaking practice by natives. Another advantage of using YouTube was that students could repeat the video until they got the essence of the context (Meinawati, 2020).

The researches above show us that using ICT in the teaching-learning process is very effective to improve students' English ability. Therefore, the writer uses ICT in this research. The difference is that the ICT here is in the form of an android-based application that can be operated offline named "Tabel Mice". An application able to combine all smartphone features such as camera, keyboard, GPS, based on the need of application if it is compared to other ICT media. It also contains unique functions, speed, and flexibilities (Fachrudin, 2017). Therefore, this is a unique research because "Tabel Mice" is a practice and flexible media to learn tenses that is suitable to get the essence of basic concepts along with the exercises.

The theory that is used in this research are:

Tenses

Tenses is one of basic grammar elements consisting of 16-time allocation. Azar (1992) have summarized those tenses in a table with each row and column explaining briefly its meaning, time allocation, and example. See figure 1!

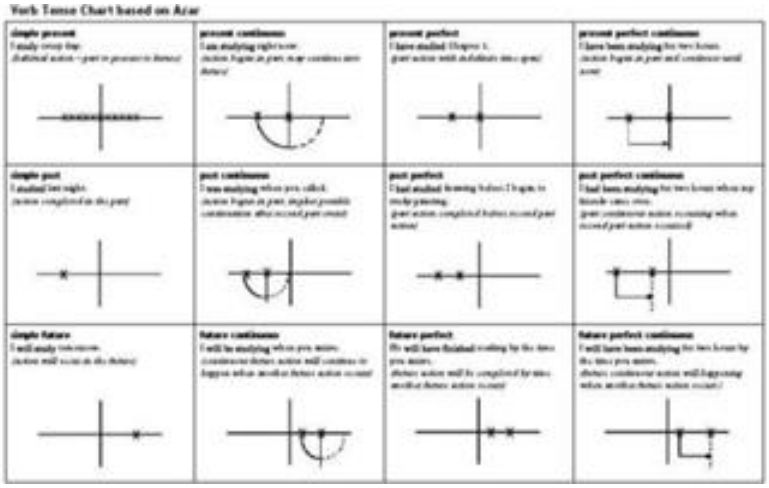

Figure 1. The English tenses (Azzar, 1992)

Learning Media

Education in 4.0 emphasizes the ICT as learning media. Teachers and educational institutions use the e-learning system to help them deliver the content of learning to students. E-learning has been proved as a system that can make the teaching-learning process more flexible and easier. One tool in an e-learning system is smartphones, it contributes to some positive effects such as making learning become easier especially in searching for information. Controlled use of ICT in teaching-learning activities can improve the students to be more confidents (Rahmawati, 2020). The integration of ICT in the learning process has been proved by students that they can reach all the basic essence of learning material, it is developing the collaboration which contains of improving knowledge and social skill, problem-solving, responsibilities, reflection, and idea. (Ghavifekr, S. & Rosdy, 2015). Ghavifekr's research found that the use of controlled ICT is more effective than conventional class since ICT has tools and equipment that facilitate the students to be more active.

Tabel Mice

Taking the reference from the use of ICT as teaching-learning media, tenses material that is displayed in the form of a table, and the principle of independencies in learning, the researcher produces a tenses-based application that can be used in smartphone consisting android system inside. The word "tabel" is taken based on the display and it is an Indonesian word. "Mice" is an acronym for smart, Interactive, and Practice. This application is designed for intermediate English learners. An intermediate has known about tenses before but they still do not understand reflexively the essence of each tenses. This application is designed for them to compare each tense and learn the essence so that they can input the concept as their pedagogical content knowledge. By this application, the learners can learn tenses independently in the flexibility of time and place.

Pedagogical Content Knowledge

Transferring knowledge in tenses is needed from teacher to learner about its essence, examples, and the process of how it is formed. The transferring process is categorized as Pedagogical Content Knowledge (PCK). PCK illustrates a teacher is delivering a subject about material essence, skills, and applying the curriculum in activity beginning with teaching, learning, estimating, and reporting for learning (Qisthi, 2020). PCK is knowledge, experiences, and skills, which is get from classroom experiences. Another opinion about PCK clarifying it as integrated boundaries of knowledge, concept, belief, and value developed a teacher in a teaching-learning situation (Nugraheni, Baehaqi, 2020).

Intermediate Level

There are some categories of ESL students. The categories are divided based on their communication skills. The writer has summarized briefly all the ESL levels based on Ackroyd, Sarah, Budden, and Jo (2008).

Tabel 1. *ESL Level Categorization*

Level		Capability
	Beginner level	Do not know anything about the language
A1	Elementary level	Learner able to communicate with very simple sentences, incomplete sentence, and unstructured grammar.
A2	Upper-Elementary	ESL understand simple sentence and able to write or saying it.
A2-B1	Lower-Intermediate	Able to communicate in simple context (Basic communication with familiar topic).
B1-B2	Intermediate	ESL able to communicate spontaneously with mistakes in grammar and vocabularies.
B2	Post-Intermediate	ESL able to communicate fluently with a little mistake in grammar and vocabularies.
C1	Advance 1	ESL able to communicate fluently in a complex context,professional and using idiom.
C2	Advance 2	ESL able to communicate perfecty, and the language knowledge is better that native.

The intermediate level of ESL is merely in the middle, it is between Elementary and Advance. They have already known the tenses material but they do not understand it and cannot use it spontaneously.

RESEARCH METHOD

Research Type

This is a Research and Development (R&D) which adopt Brog and Gall Mode with several adaptations. Brag and Gall (1983) provide seven steps in their procedure, but here the researcher adopts it in 5 steps considering the needs of the research. The five steps are *Gathering Information, planning, developing the product, disseminating, and revision.*

Setting

This research was conducted on April-October 2021, in English Department Program, Sains Al-Quran University. The research engaged a language expert to judge the material, a senior programmer to judge the application feasibility and 23 respondents that are 5th-semester students of the English Department Program of Sains Al-Quran University.

Data Collection Technique

The Data was gathered by using several instruments, these are language and media expert validation, observation sheet, and interview sheet. The validation was in the form of a checklist, comment, and suggestion from both experts and users.

Data Analysis Technique

The qualitative data of observation and students English capability was gathered by using the observation sheet and interview sheet. The data was analyzed and the researcher give a score to it and then it was categorized into the English proficiencies promoted by Ackroyd, Sarah., Budden, Jo (2008).

The data from experts validation was in the form of qualitative and quantitative. The qualitative data was analyzed as reflection and then it was concluded based on the most excessive number of comments and suggestions. The quantitative data was calculated on its' score accumulation, percentage, average, and last it is categorized based on the criteria bellow:

Tabel 2. *Categorization of Assessment*

Score	Score interval	Category
A	85 - 100	Exellent

B	70 - 85	Good
C	60 - 70	Enough
D	45 - 60	Decrease
E	0 - 45	Hard Decrease

(Eko Putro Widoyoko, 2014: 238)

The quantitative data of users judgment was accumulated and categorized based on the percentage of feasibility as follow:

$$\text{feasibility percentage} = \frac{\sum quistionaire\ score}{\sum ideal\ score}\ X\ 100$$

RESULT AND ANALYSIS

Generally, the purpose of this research was to promote the Tabel Mice to become one of the materials in school or university to learn tenses and suggest the curriculum developer gave a special portion to the 16 English tenses to be shown in one occasional time. The specific purposes of this research are (1) Measuring the feasibility of "Tabel Mice" as technological English tenses learning media. (2) Getting an acknowledgement from a language expert, a media expert and users that "Tabel Mice" is an appropriate media to learn tenses, so that it can be used for further research for researchers or learn tenses for the users.

Reaching those goals, this research used the R&D steps promoted by Brag and Gall with some modifications regarding the needs of field. So, Brag and Gall's steps that contain of 7 steps were modified to become 5 steps, these were *Gathering Information, planning, developing product, disseminate, and revision.*

1.1 Gathering Information

During the observation, students communication competence was at an intermediate level. They can communicate spontaneously in a familiar text and context with a little mistake in their grammar and vocabulary (Ackroyd, et al, 2008). This condition was concluded based on the following data:

Tabel 3*. Observation During Assessment*

No	Activities	Descriptions	Score (1-100)
1	Understanding information and speech	Understand the information with some Bahasa Indonesia inserted	75
2	Responding	Use English mixed with Bahasa Indonesia	70
3	Asking Question and Opinions	Use English while the lecturer motivates and turned into Bahasa Indonesia in emphasizing some important point.	65
4	Doing Classes Activities	Use English with a little mistake on the grammar and vocabularies.	75
5	Peer Discussion	Use English when the lecturer checks and motivated them.	65
Average			70

The data was collected during the assessment by using an observation sheet. As we see above, the average was 70 and it was categorized into Intermediate Level. However, this competency was suitable for the 5th-semester students since they were in the process of learning, while the standard passing grade is upper-intermediate when they are graduated. It is hoped that

their competencies will reach that level when they are graduated. With this level of competency, students are supposed to be able to judge and give their opinion on the application (Tabel Mice). In another word, the writer hoped that the students would become appropriate users that can judge the application so that their judgment will be useful for reviewing the product.

1.2 Planning

In this step, the researcher designed the research instruments that would be used to assess and judge the feasibility of media. The design was developed into research instruments such as observation sheet, language experts' validation sheet, media expert's validation sheet, user's questionnaire, and user's judgment sheet. The observation sheet was used to measure the users' English proficiency during an assessment, language expert's validation sheet was used to measure the feasibility of language in the Tabel Mice application, media expert's validation sheet was used to measure the feasibility of Tabel Mice as android-based learning media, users' questionnaire was used to measure the engagement between users and media in the form of quantitative data, and users' judgment sheet was used to measure the users' comment, critics, and suggestions in the form of qualitative data.

1.3 Developing Product

The researcher has developed the product (Tabel Mice) through several steps, these were:

1.3.1 Material Design

In this step, the researcher and team developed the material about tenses into some brief explanations and exercises. The material was explained with informal Bahasa Indonesia to reduce the users' face-threatening acts and make them feel joyful in understanding the tenses concept. The researcher and team agree to name the exercise as "game" to make entertainment sense among the users.

1.3.2 Building the Application Program

After the material and application design, the next step was to pack the material and exercises in the form of an android application. The researcher used an application and website professional service company to maximize the realization of an idea. The application (Tabel Mice) was designed in the form of a funny custom design to make a sense that the English Tense is a fun material.

1.3.3 Expert's Validation

The validation engaged two experts, they were language and media experts. The language experts assess the material, exercise, and language usage, and the media expert assess the "Tabel Mice" from the media usage and programmer point of view. Bellow were the recapitulation of the two experts:

Tabel 3.*Recapitulation of Language Expert Validation*

No	Statement	Opinion				Score
		TS	KS	S	SS	
Aplication Design Aspects						
1	The app is not hang (stop) during the operation				√	4
2	The app does not make the handphone stop working				√	4
3	Installation process is easy				√	4
4	Simple Operating system			√		3
5	Clear troubleshooting			√		3
6	Interesting design				√	4
Material Design Aspects						
7	Right and clear of learning goals				√	4
8	The purpose of study is relevant with Standard Content				√	4
9	The material is relevant with the pupose of the study				√	4
10	The material is up to date			√		3
11	The explanitions and examples are understood				√	4

12	Exercises are clearly designed				√	4
13	Key answer suitable with the exercise				√	4
14	Fast respond to the answer		√			2
15	The evaluations are consistent with the purpose of the study			√		3
16	The language are communicative in delivering the material				√	4
17	The statements and technical-words are correct and understood				√	4
18	The application able to motivate the students to learn			√		3
Visual Communication Aspects						
19	Creative in delivering idea				√	4
20	Interesting display				√	4
Amount		**73**				
Percentage		**91,25%**				
Average		**3,65**				

The language expert's validation sheet contained 20 statements that covers three aspects, they were software design aspect, learning design aspect, and visual communication aspect. Four categories of responses were calculated in the form of quantitative data (disagree, slightly disagree, agree, and strongly agree) that each score cover from 1 up to 4. The data resulted in the amount of 73 by the maximum score of 80. It reached 91,25% and the average was 3,65. If it was categorized qualitatively it belongs in the category "excellent".

This result was appropriate with qualitative responses that covered mistakes, comments, suggestions, revisions, and brief statements about the application. The comment and suggestion column shows that there was a limited amount of questions in the exercises, there were no mistakes, and the comment column shows that the researcher should add the numbers of questions in the exercises, and the brief statements column gives the result that the application is appropriate to be used with a little revision.

The media expert was a programmer and he did not belong from a language background education but he acknowledged that he knows a little about tenses. As we had in the language expert validation, the media expert validation sheet contained 20 statements that cover three aspects; they were software design aspect, learning design aspect, and visual communication aspect. Four categories of responses were calculated in the form of quantitative data (disagree, slightly disagree, agree, and strongly agree) that each score cover from 1 up to 4. Bellow was the Recapitulation result:

Tabel 4.*Recapitulation of Language Expert Validation*

No	Statement	Opinion				Score
		SS	S	KS	TS	
Aplication Design Aspects						
1.	Easy Instalation process				√	4
2.	Explicit and clear clue				√	4
3.	The application is not hang during operation				√	4
4.	The application does not make hand phone stop working				√	4
5.	The display is clear and easy to be understood				√	4
Material Design Aspects						
6	The material is suitable with what is learned				√	4
7	The material is easy to be understood				√	4
8	The material is logic and clear				√	4
9	The exercises is clear designed				√	4

10	The exercises is suitable with the material				√	4
11	Key answers is suitable with the exercises				√	4
12	The answers are working through the application and easy to be understood				√	4
13	The answers are suitable with the commands of exercises				√	4
14	Communicative language in delivering the material		√			2
15	The material able to motivate the users to learn more			√		3
16	The material and display are able to make users active in learning				√	4
Visual Communication Aspects						
17	Users are able to communicate with the application				√	4
18	Insteresting display			√		3
19	Readable font in the application			√		3
20	Notifications are shown in the display			√		3
Amount		**74**				
Percentage		**92,5%**				
Average		**3,7**				

The data resulted in the amount of 74 by the maximum score of 80. It reached 92,5% and the average was 3,7. If it is categorized qualitatively it belongs in the category "excellent".

This result was appropriate with qualitative responses that covered mistakes, comments, suggestions, revisions, and a brief statement about the application. The comment and suggestion column shows that the researcher should always update the application continually, there were no mistakes, and the comment column said that it was a good application in learning tenses, easy to be understood, and the brief statements column gives the result that the application is appropriate to be used with a little revision.

Based on the result of the two validation above, it can be concluded that the "Tabel Mice" application was appropriate to be used in research or implemented in education to improve students tenses competencies with a little revision, especially in the amount of the questions in the exercises. However, the researcher would revise the application before it was used for further research or usage.

1.4 Disseminate

Firstly, the application's link was given to students to be downloaded and the researcher asked students to use it for about a month as a game. Then researcher asked them to fill the questionnaire.

The questionnaire gathered two kinds of data quantitative and qualitative. The questionnaire contained 20 statements that covers three aspects, they were software design aspect, learning design aspect, and visual communication aspect. Four categories of responses were calculated in the form of quantitative data (disagree, slightly disagree, agree, and strongly agree) that each score cover from 1 up to 4.

The data gathered from recapitulation of questionnaire sheet showed that there are 224 (48,70%) strongly agree, 231 (50,22%) agree, 2 (0,43%) slightly disagree, and 3 (0,65%) disagree. It showed us that users had a positive response to the application. However, it was appropriate to the qualitative data resulting from the questionnaire. The users acknowledged "Tabel Mice" as a good application that is suitable for them to improve their tenses comprehension. Most users filled the brief statement column as "this application suitable for me as a media to improve my English competency". They suggested that the application would be

uploaded to the play store soon, and become an online-based application to make the exercise unlimited.

1.5 Revision

Based on the qualitative data were stated as a brief statement, comment, and suggestion, from experts and users, the researcher concluded that the first aspect that must be revised was in the amount of questions in the exercises and user interface. Here, the researcher and team added the questions by 20 so that all questions became 50 numbers for each "game". The user interface was revised to be a more cheerful design to minimize users' boredom when they were using the application. The figure 2 bellow is the change of its user interface.

Figure 2. The Revision of Tabel Mice.

CONCLUSION

"Tabel Mice" is an android offline-based application that is designed to improve users' pedagogical content knowledge in English Tenses. It is hoped that the application will help the ESL in learning tenses so that they can improve English communication proficiency faster. Before it is used in research or applied in the field, the researcher tests its feasibility. The data gathered from language expert validation is categorized as "excellent" with the percentage (91,25%) and (92,5%) from media expert validation which is categorized as "excellent". This is suitable with the questionnaire which able to reach a high amount of percentage, from total answer 460 (100%), 224 (48,70%) answer strongly agree, 231 (50,22%) answer agree, only 2 (0,43%) answer slightly disagree, and 3 (0,65%) answer disagree. This data indicates that "Tabel Mice" is suitable for further research or to be applied in the field in improving ESL's proficiency.

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