

Designing Educational Game through Android for Senior High School in Second Grade

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ABSTRACT

In teaching and learning process, learning media is one of vital tool as technology facility in the education sector, create many new opportunities to enhance the learning experience of students at all levels of education, one of them is in High School education. Educating them is very interesting and very different, because it requires creativity and logical thinking skills and always follows the development of the digitalization era. Therefore, the researchers aim to design English learning media for class XI students in Senior High School that their needs. The purpose of the research is to designing an Android-based educational game media for English subjects in reading and writing skills in High School to help students make it easier to learn English and to find out how is appropriate the educational game media. The researchers used the Research and Development method which is adapted from the development of ADDIE. Namely of this learning media is Senior English Game (SEG). SEG is an application designed to help students enhance their interest in learning English especially on reading and writing skills. The result of this research indicate that 1) the results of the media expert score are 4.60. 2) The results of the material expert score 4.3. 3) The result of the field test score is 4.43. Based on the results above, the researchers concluded that the Senior English Game (SEG) media suitable to used in learning English.

Keywords: Writing Skill; Reading Skill; Educational Game.

INTRODUCTION

English is a common language because it is used by most countries as the main or international language. English is also a fun subject because it has four basic skills, namely listening, speaking, reading, and writing (Gailea & Rasyid, 2015). The researchers analyzed two of the four skills, which are reading and writing.

Reading and writing skills are needed by students because by reading students are easy to process and understand the meaning of a sentence, paragraph, or reading text to be able to find out new information from reading (Agustina & Syafa'ah, 2021). According to (Rizqie, 2015) in Wilga M. (1981) reading skills are the most important activity in the world of education, not only as a tool to strengthen and expand one's knowledge of language.

In addition, writing skills are also important for students, according to (Rizqie, 2015) in Elbow (1973) stating that writing is a thinking process that can develop ideas in the mind and also develop feelings into writing. Therefore, students must be able to develop writing skills so that they can make reading texts into writing that aims to be able to express their own feelings through writing (Afidah & Alkhoyath, 2021).

Most of the teacher still uses books as learning media, so the media used must be innovative and interesting, creative and technology-based (Bahtiar, 2019). Considering that Indonesia has been experiencing the Covid-19 pandemic for almost a year, which has resulted in all sectors in the education sector being required to study online from home using gadgets, Smartphone, laptops, etc.

The researchers created an android-based game application "Senior English Game" which game can be used on computers or laptops and Smartphone as applications to make it easier for students to develop their English reading and writing skills. According to (Zirawaga et al., 2017) in Michel (2016)

states that educational games are games which has several course contained of the material based on curriculum at school.

The research aims to design an Android-based educational game learning media, especially for reading and writing skills that can be applied in English learning for second grade of High School. The researchers designed an android application called "Senior English Game (SEG)" to develop students' English reading and writing skills so that they can be more helpful in understanding, studying and doing English assignments.

METHOD

This research is included in Research and Development (R&D) which produces the products in the form of learning media. According to (Sugiyono, 2015), stated that the Research and Development (R&D) method is a research method used to produce a new product and can test the effectiveness and feasibility of the product. This research procedure adapts the ADDIE development model which consists of five stages namely analysis, design, development, implementation and evaluation. The needs analysis was conducted by interviewing the eleventh grade English teacher and providing a questionnaire by Google form which was given to students to find out the use of media in the teaching and learning process.

The researchers designed an Android-based learning on data from interviews and questionnaires. The design of android games for second grade students includes several materials and exercises. The material presented in the Android-based learning media includes (1) Types of Letters, namely official invitation letters and personal letters, (2) Types of Text, namely Analytical Exposition and Explanation (3) Cause and Effect. The design of the Senior English Game (SEG) android game using construct 3 software with support from other applications such as CorelDraw and Google Chrome.

The researchers developed the products with provide assessment and validation sheets are carried out by expert validators or lecturers who are experts in the field. Validation was done by providing an instrument that has been previously validated by the supervisor. Validation instruments were given to two validators, namely media expert and material expert. After getting the assessment the researchers discussed the validation results from several validators and product revisions based on the validators assessment.

The researchers implemented products for second grade students online through the school's Whatsapp group. The researchers gave instructions to play the game and try the practice questions in the game. To obtain a score from product data that has been tested on students, researchers use a Likert scale to facilitate calculations.

The evaluation of the Senior English Game (SEG) that can make it easier for teachers to convey material, especially learning English in second grade and have an attractive design when used during learning because this media is designed by analyzing several educational games that have many enthusiasts.

RESULT AND DISCUSSION

The results obtained by the researchers from the needs analysis that students need interesting learning media to develop their abilities in English reading and writing skills. Therefore, researchers designed android games to develop learning media and have tested their feasibility and are feasible to implement.

Result

The results of the assessment from the media validation are as follows:

Table 1. Result of Media Validation

No	Aspect	Question Number	Score
1	Content quality and purpose	1,3,5	14
2	Effectiveness	2,4,6,7	20
3	Programming	8,9,10	12
Total			46

$$xi = \frac{\text{Total Score}}{\text{Total Questionnaire}} = \frac{46}{10} = 4,6$$

Based on the Table 5, the researcher got 4,6 score, it was **Good** category. It meant that the result of validation sheet or the result of Senior English Game (SEG) based on media was deserved to be tested. The result of the assessment from the material validation as follows:

Table 2. Result of Material Validation

No	Aspects	Question Number	Score
1	The suitability of the material with the curriculum	1,2,3,4	17
2	The coherent of material content	5,6,7	13
3	Suitability of examples in the material	8,9,10	13
Total			43

$$x_i = \frac{\text{Total Score}}{\text{Total Questionnaire}} = \frac{43}{10} = 4,3$$

Based on the Table 6, the researchers got 4.3 score, it was Good category. It meant that the result of validation sheet or the result of Senior English Game (SEG) based on material was served to be tested. The results of the implementation in the form of student assessments and suggestions from the Senior English Game (SEG) learning media in google form containing a questionnaire provided by the researcher are as follows:

Table 3 The Result of Students' Response

No	Aspects	Question Number	Total Score
1	Flexible	1,2,3,4	205
2	Content quality	4,5,6,7	270
3	Technical quality	8,9,10	189
Total			664

$$\text{Score} = \frac{\text{Total Score}}{\text{Total Student}} = \frac{664}{15} = 44,26$$

The average result obtained from the student response questionnaire and the number of students was 44.26. The result will be calculated to find the average by dividing by the number of questions.

$$\text{Average score} = \frac{\text{Total Score}}{\text{Total Question}} = \frac{44,26}{10} = 4,43$$

Based on the data from the result of trial that have been carried out in second grade involving 15 students, the total score result was 4,43 and it was stated that the trial included was Good category.

Discussion

Based on the results of material validation, media validation and implementation, it shows that the Senior English Game (SEG) media can be added as learning media for students to practice reading and writing both at school and anywhere. SEG can be said suitable to use as learning media English at MA Mambaul Ulum because the material in Senior English Game (SEG) is an accordance with the curriculum in the school so that Senior English Game (SEG) can to use in school as a learning media to develop reading and writing skill. The researchers showed the layout drawing after it was revised. The layout drawing of the Senior English Game (SEG) was as follows:



Figure 1. Menu Product



Figure 2. Kind of Materials

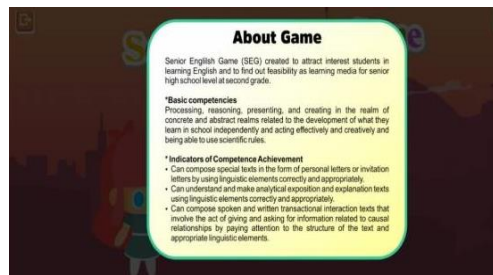


Figure 3. About Game



Figure 4. Material

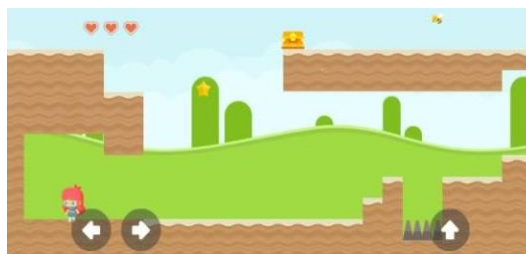


Figure 5. Layout Game



Figure 6. Result of Game

CONCLUSION

Based on the results of this research that has been described, the conclusion can be drawn that the researchers designing educational game through in English learning due to the lack of student interest in English subjects. The game was called the Senior English Game (SEG) which was designed by researcher to help students learning English, especially in reading and writing skills. Based on the results of validation by media and material validation as well as implementation to students based on the result of

media validation obtained a score of 4,6 with a good category, the result of the material validation obtained a score of 4,3 with a good category, the result of the students response questionnaire were 4,4 in the good category.

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