

## DEVELOPING AN EDUCATIONAL READING VIDEO GAME FOR GRADE X STUDENTS OF THE SENIOR HIGH SCHOOL

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**Abstract:** The objectives of this study were: (1) to find out the needs of Grade X students of the senior high school in terms of the educational video game in reading context, (2) to find out the objectives of the educational reading video game for Grade X students of the senior high school, and (3) to find out the appropriate development of educational reading video game for Grade X students of the senior high school. This is a Research and Development (R&D) study. The subjects of the study were the grade X students of SMA N 5 Yogyakarta Class X Science 4 and Social 1 that consisted of 40 female and 16 male students. The research procedure was adapted from ADDIE model proposed by Taylor (2004), consisted of conducting needs analysis, designing and developing the first draft of video game, getting expert judgment to evaluate the first draft, and produce the final draft. The instruments were needs analysis and expert judgment questionnaire. The needs analysis data were analyzed quantitatively using frequency and percentage and the results were used as the bases to develop the video game. The quantitative data from the expert judgment were analyzed through descriptive statistics while the comments and suggestions were used to revise the first draft to be the final product of the video game. The results of the analysis of the needs showed that (1) the students prefer the materials to be presented by additional materials rather than the adapted textbook; they most likely to prefer educational video game with instructions at the beginning of each stage; they liked some enemies or opponents appear to challenge them in the game; they liked the background to be pastel colored; the font used that they preferred was Calibri; the answer key was needed sometimes and the back sound in educational video game was needed; (2) the product can be used as a various media in teaching reading in order to motivating students learn English especially improving their reading skill since they were accustomed to playing video games; and (3) the result of the expert judgment proved that the video game was appropriate. The mean score for the video game was 3.4 which was categorized as “Good”.

*Keywords: materials, video game, reading*

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### MENGEMBANGKAN GAME VIDEO MEMBACAAN EDUKASI UNTUK KELAS X SISWA SEKOLAH MENENGAH ATAS

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**Abstrak:** Tujuan dari penelitian ini adalah: (1) untuk mengetahui kebutuhan siswa Kelas X sekolah menengah atas dalam hal video game edukasi dalam konteks membaca, (2) untuk mengetahui tujuan dari video membaca pendidikan permainan untuk siswa Kelas X dari sekolah menengah atas, dan (3) untuk mengetahui pengembangan yang sesuai dari permainan video membaca pendidikan untuk siswa Kelas X di sekolah menengah atas. Ini adalah penelitian dan Pengembangan (R & D) studi. Subyek penelitian adalah siswa kelas X SMA N 5 Yogyakarta Kelas X Sains 4 dan Sosial 1 yang terdiri dari 40 siswa perempuan dan 16 siswa laki-laki. Prosedur penelitian diadaptasi dari model ADDIE yang diusulkan oleh Taylor (2004), yang terdiri dari melakukan analisis kebutuhan, merancang dan mengembangkan draf pertama dari gim video, mendapatkan penilaian ahli untuk mengevaluasi draf pertama, dan menghasilkan draf akhir. Instrumen adalah analisis

kebutuhan dan kuesioner penilaian ahli. Data analisis kebutuhan dianalisis secara kuantitatif menggunakan frekuensi dan persentase dan hasilnya digunakan sebagai dasar untuk mengembangkan video game. Data kuantitatif dari penilaian ahli dianalisis melalui statistik deskriptif sementara komentar dan saran digunakan untuk merevisi draf pertama menjadi produk akhir dari gim video. Hasil analisis kebutuhan menunjukkan bahwa (1) siswa lebih memilih materi yang akan disajikan oleh materi tambahan daripada buku teks yang disesuaikan; kemungkinan besar mereka lebih menyukai video game edukasi dengan instruksi di awal setiap tahap; mereka menyukai beberapa musuh atau lawan yang tampak menantang mereka dalam permainan; mereka menyukai latar belakang berwarna pastel; font yang digunakan yang mereka sukai adalah Calibri; kunci jawaban diperlukan kadang-kadang dan suara kembali dalam permainan video pendidikan diperlukan; (2) produk dapat digunakan sebagai berbagai media dalam mengajar membaca untuk memotivasi siswa belajar bahasa Inggris terutama meningkatkan keterampilan membaca mereka karena mereka terbiasa bermain video game; dan (3) hasil penilaian ahli membuktikan bahwa video game itu tepat. Skor rata-rata untuk gim video adalah 3,4 yang dikategorikan sebagai “Bagus”.

Kata kunci: bahan, permainan video, membaca

## INTRODUCTION

In Indonesia, English was taught as a compulsory subject at senior high schools. There were four major skills in learning English: listening, speaking, reading and writing. Those skills should be taught equally without prioritizing a particular skill in order to make students able to produce spoken and written texts in those four language skills. Those skills should also be expanded to every competency in each grade of the senior high school.

Reading was one of the essential skills in learning English. From reading students can understand most of the things they want to know. Whenever the students want to know

information, they need to read. However, the great danger for intermediate students of a foreign language was to become blocked and continue using the basic skills of the memorizing vocabulary and grammar structures (Brenda & Knezevic, 1997). Students should be taught how to find and decipher the clues that will allow them to perceive the author's general intent and to read for overall meaning, even when they are unfamiliar with many words.

Students study their lesson mainly from reading. They can find everything by reading, and teachers can use and integrate this skill with other skills in the class. Students always tried to use their imagination

when they read, and they tried to read again in the dictionary if they cannot find the answer by themselves. Reading was the practice of using text to create meaning (Johnson, 2008). The readers create a meaning by reading, if there is no meaning in it, it cannot be considered as reading. A lot of people, especially students, were able to read but in some occasions they can only read what was written and do not know the meaning. As stated before reading was not only “to read” but also to look for information.

Almost every day, students were obliged to read books, which contain English words or paragraphs. But many students were only interested in the pictures inside the books. They only looked around the pages and did not read the explanations or the main contents. They did not have the motivation to read because it was written in English.

This problem happened in SMA Negeri 5 Yogyakarta. Based on the observation, the students were able to read aloud fluently but they did not know the main idea or the author’s real intention in the text provided. When the teacher asked the students to read one text for a minute,

then asked them what the main idea of the text was, they still found it difficult to answer. Reading was expected to help students in their daily basis interaction. With reading they build up their vocabulary. It was very helpful when they want to speak up their mind and to use the right words when speaking to others. Based on the observation before, students’ desire in reading was relatively low. Textbooks were not interesting, they were boldly unattractive, and those books did not contain many pictures which were very helpful in stimulating students’ brain to be interested in reading.

Since the students loved to see more pictures in the book, learning media which contained pictures needed to be developed. One of the media which contains lots of pictures is video game; it consists of moving pictures and picture effects. Video game can be developed by adding music, storyline, fun tasks, and other components. Based on the explanation above, this study attempted to find a solution in order to facilitate students in learning reading skills. The researcher believes that developing an educational reading

video game can be a solution. This research proposes to develop an educational reading video game for Grade X students of the senior high school.

Reading is one of the English macro-skills besides speaking, listening, and writing. Like listening, it belongs to receptive skills because it focuses on receiving and understanding the language. There are some experts who state that reading is something that one gets better at with a lot of practice. For students to become better readers, they must read for a long time, with just right materials and are joyfully engaged in their reading (Seravalo & Goldberg, 2007).

There are many perspectives in defining reading according to some experts. Seravalo (2010) gave a short definition that reading is thinking and understanding and getting at the meaning behind a text. Gerald (2009) said that anyone who writes is an author, author is writing messages, and reading is a process of interpreting those messages. Johnson (2008) stated that the practice of using text to create meaning is called reading. Johnson mentioned two key

words in his statement, there are creating and meaning. If there is no meaning being created, there is no reading taking place.

Sometimes students only focus on scanning or skimming text to look for information. They identify which part of the text is similar to the keywords in solving some tasks. Caldwell (2008) explains that reading is constructing meaning. Meanwhile word identification is a necessary part of the reading process, but it is not sufficient to do that only. Word identification is the important key to comprehension, but skill in identifying words does not ensure comprehension. Words can also be identified by matching individual letters and sounds or by predicting the pronunciation from context. Finally, good readers identify unknown words by analogy to known words.

The main definition of game is an activity that one engages in for amusement or fun. An educational game is a game designed to teach humans about a specific subject and to teach them a skill (Keese, 2012). Games are interactive play that teaches us goals, rules, adaptation, problem solving, interaction, all

represented as a story. They give us the fundamental needs of learning by providing - enjoyment, passionate involvement, structure, motivation, ego gratification, adrenaline, creativity, social interaction and emotion. Video game is equipment for a game; usually need a computer to load the interface of game on screen.

Video games are useful instruments for learning specific strategies and for acquiring knowledge; they also develop the learning that is characteristic of the culture of the information society, and this learning is likely to have long-term consequences (Begona, 2007). Video games have certain features of their own that distinguish them from other computer products. Thus the researcher concluded that educational video game is an instrument that consists activities to engages in for amusement or fun in order to teaches students about goals, rules, adaptation, problem solving, interaction, that all represented as a story for education purposes.

Combination of audio and visual materials on video game can be effectively used for instructional

purposes. Media combinations are referred to as multimedia systems. It involves integrating each medium and media format into a structured, systematic presentation. Teed (2015) stated that not only does the integration of learning with gaming make learning more fun; it also: (1) Motivates students to learn; (2) Immerses them in the material so they learn more effectively; and (3) Encourages them to learn from their mistakes. Also stated by Purnama (2013), that using video game as a multimedia system can give some benefit such as ease of use, intuitive interface, immersive experience, self-paced interaction, attractive, better retention, and better contents comprehension.

## **RESEARCH METHOD**

This is a Research and Development (R & D) study. The subjects of the study were the grade X students of SMA N 5 Yogyakarta Class X Science 4 and Social 1 that consisted of 40 female and 16 male students. Their age range is 14 to 16 years old. The research procedure was adapted from ADDIE model proposed by Taylor (2004), consisted

of conducting needs analysis, designing and developing the first draft of video game, getting expert judgment to evaluate the first draft, and producing the final draft. The instruments were needs analysis questionnaire and expert judgment questionnaire. The data from the needs analysis were analyzed quantitatively using frequency and percentage, and then the results were used as the bases to develop the video game. The quantitative data from the expert judgment were analyzed through descriptive statistics while the comments and suggestions were used to revise the first draft to be the final product of the video game.

### **RESEARCH FINDING**

The needs analysis was conducted on August 10th, 2018 by distributing questionnaires to the students. The statements in the need analysis questionnaire cover some aspects such as the educational objectiveness, type of game, required level and nature of involvement, information and rules, the role of luck, difficulty, competition, duration, participant age and

characteristics, number of players, facilitator's role, and setting.

According to the needs analysis above, the researcher summarized the highest percentage of the statement of each number. For the first, it shows that most students' goal to learn English was to prepare for the higher education. Especially for learning reading skill, the students' goal was to master English vocabulary. Thus the difficulty that students found in reading was they didn't know the meaning of the word. The type of questions in learning reading skill through video game which the students preferred was matching questions. If there was educational video game developed based on the textbook, the students preferred the materials to be presented by additional materials rather than the adapted textbook. In the learning reading process, it was noticed that the students were sometimes playing video games through computers or electronic devices. If an educational video game was developed and introduced in learning reading at school, the students were interested to pay attention because they wanted to get good grades in English lesson.

The students most likely preferred educational video game which has instruction at the beginning of each stage. The students wanted to set the language in the beginning of the instructional in the video game. In the learning reading process through educational video game, it was noticed that they wanted an educational video game that gave them a special stage to gain some bonus scores. If they failed in a game stage, they wanted to be able to repeat the game on that specific stage. The students' opinion about the task on the video game should be presented with some enemies or opponents appear to challenge them in the game. The effective duration of reading input they preferred was 2 to 3 minutes.

The students chose to be active in the learning process with the help of educational video game. The activity most preferred by the students was in pair activity. The students' opinion about the role of the teacher in learning reading process through educational video game was going around them and checked the

student's task whether they did it right or not.

The students' liked the educational video game background to be pastel colored. The font of educational video game that they preferred was Calibri. The students thought that the answer key was needed sometimes. For the last, the students thought that the back sound in educational video game was needed to maintain their boredom.

After the analysis step, the course grid, flowchart, and story board were developed by adapting three chapters on the "Bahasa Inggris for Grade X Students of Senior High Schools" textbook and designing the video game using all aspects of need analysis as the bases. The titles of the units are "Let's Visit Niagara Falls!", "The Battle of Surabaya", and "Malin Kundang".

The developed educational video game consists of three main parts: home screen, main menu, and credit. The home screen is the opening of the program. The main menu appears after the home. There are three options: New Game, Continue, and Exit. In the New Game scene, there are two options: Profile

and Materials. Continue section of the educational video game is the scene that the user can directly play at the stage they choose. The Exit options makes the users close the program.

After the first draft of the educational video game was developed, an expert judgment was conducted to evaluate the appropriateness of the product. The evaluation step was done by distributing the expert judgment rating scale. There are twenty statements evaluation rating scale, covered five criteria consisting of: Continuous Challenge, Interesting Storyline, Flexibility, Useful Reward, and Combining Fun and Realism.

The results of the expert judgment showed that the educational video game were considered appropriate as the reading materials in the teaching and learning process for Grade X students of the senior high school. There is no further revision. Therefore, the revision step was no needed.

## CONCLUSIONS

The developed educational reading video game was appropriate to be implemented as the reading

materials in the teaching and learning process for grade X students of SMAN 5 Yogyakarta. The reading learning materials was in a form of video game software.

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