

Utilize Video Games for Learning Method

D S Soegoto¹, I H Firmansyah²

{dedissoegoto@email.unikom.ac.id¹, imanha613@email.unikom.ac.id²}

Departemen Manajemen, Universitas Komputer Indonesia, Indonesia¹
Departemen Sastra Jepang, Universitas Komputer Indonesia, Indonesia²

Abstract. The purpose of this study is to identify how games can become media for learning method. The method used was descriptive; namely the method carried out by survey and using questionnaires for correspondents as many as 45 students to give their opinions about games that contain many elements of education. The results of this research are to provide suggestions that the game can be media in the learning system for students. The conclusion of this study is how the role of the game as a learning method for students. Besides that this research was conducted by discussing several games that could be a suitable method of learning in the future

Keywords: Power Electronics, Multilevel Inverter, Single-Phase Inverter, PWM, SPWM.

1. Introduction

The Impact of the development of globalization makes all the popular developer compete in their field. In 1968 Games was interesting discovery in this world which can make attract attention to all people in the world. The first generation of games is Brown box that was founded by Ralph H. Baer. Several years later, comes the other genre of games released by popular developers, such as adventure, Action, RPG, MMORPG, FPS, Horror, and others. Besides the real function of games is make player happy, and enjoy the games, games can be a learning method. Adventure games can be called as interactive text games, simulations, participatory novels, fantasy games, strategy games, interactive fiction or mystery games [1].

In addition to the increasing popularity of games in the world, games also attracted the attention of professional trainers and educators. The reason is that there have been significant changes in the method of learning from traditional or didactic models to more active learning. In this statement, “learning by doing” shift “learning by listening” in learning method[2]. There are also empirical studies that examine the effects of game-based learning programs. One of them is Whitehall and McDonald stated that combining learning and games systems leads to increased learning [3]. And then according the research from James M. said that The teachers must ensure that his class is conducive to conveying his knowledge to students. The suitability of student learning styles with the same teaching method makes the class more conducive. So the teachers can adjust their teaching style with their students [4,5]. Lamas et al identified 165 papers discussing how student props and game techniques can be planned, designed and carried out by lecturers who are interested in using the game as a teaching props in their learning methods, which are linked to the curriculum and used as learning methods [6]. Martí-Parreño et al. Stated that the games used in the learning method are promising tools to motivate and engage students in their learning process because the teacher can refine students based on their individual needs [7].

The purpose of this research is to know how far the games can be a learning method and to show the games that have educational material for learning method. The results of this research are to provide suggestions that the game can be media in the learning system for students. This research was conducted by discussing several games which can be a suitable learning method.

2. Method

This research used a survey method that aimed to find out how the game could be a learning media and provide opinions regarding which games contain many elements of education. The survey method was intended for 45 students in Bandung who liked to play games. In addition to making students enjoy the game; on the other hand, students also learned about the elements of education in the games played.

3. Results and Discussion

Based on the survey result that has been conducted among student gamers, most of the opinions of gamers about “Utilize Video Games for Learning Method”, they tend to choose games that have historical elements. In **Figure 1**, based on the result of the survey that has been made, Call Of Duty games is the most preferred choice according to gamers.

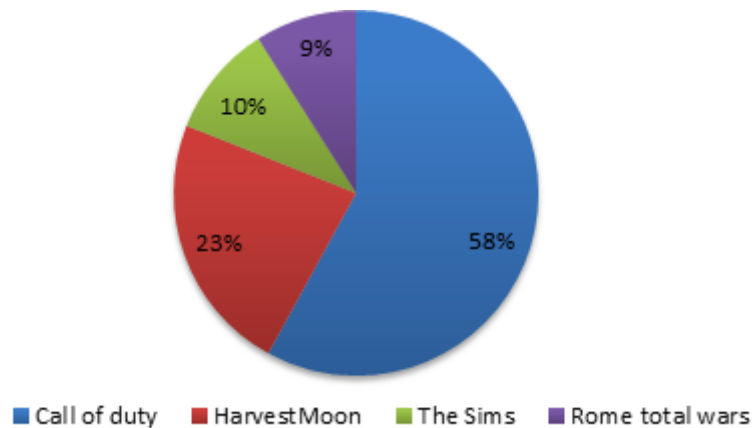


Fig 1. Game Percentage.

Games Call of duty itself has a historical background that discusses World War 2. This games indirectly take players to famous historical places during World War 2. For the example on the Eastern Front like Stalingrad, where players can see the city of Stalingrad directly bombed by Nazi aircraft. Then the players can also feel the turning point of the Nazi defeat on the Eastern Front at Stalingrad. Then in winter condition made the Nazi Troops doe of hunger and cold due to their supply line being cut off. Players can also visit the capital city of Berlin and see the city destroyed by Soviet force. Where the city of Berlin is surrounded by shared

direction by Soviet forces. In addition to providing insight into the history of World War 2, Call of Duty games Also provide high attraction for FPS genre game lovers (See **Figure 2**).



Fig 2. Call Of Duty (2003). This figure was adopted from <https://www.callofduty.com/> on November 14 2018.

In the second position is Harvest Moon Games. These games have life lessons element that can be taken as a life guide. This game has community life, farming, and others. The background of this games takes the village element which is the grandson of grandfather who is the owner of one of farm in a village called mineral town. Besides life lesson most gamers can learn English by playing these games. Because the entire dialogue and all the contents of these games use English. So the gamers who want to play these games are required to mastering English Language. So they can follow the storyline of these games (See **Figure 3**).



Fig 3. Harvest Moon Back To Nature (1999). This figure was adopted on November 14 2018.

Based on the survey, in the next position is the same result. It means Gamers choose what they think their choices is the games that can be learning method. The example is simulator games is the games that player can decide their story what player want [8]. Such as The Sims that human life simulator that can make human path as gamers want. In the next question of the survey, based survey result gamers can learn another language on playing games. So they can play games and learning new language based on the games played (see **Figure 4**).

THE SIMS GAMES



Fig 4. The Sims. This figure was adopted from <https://www.ea.com/games/the-sims> November on 14 2018.

The Sims is one game that can increase creativity in terms of building a city because, in the game, we can also build a house to live in. Besides that sims can also train in using various languages. Even though most of the games themselves do not make sense, the effects of the games themselves on gamers are big. Also some games can help stimulate the brain to think, namely Rome Total Wars (See **Figure 5**).



Fig 5. Rome Total Wars. This figure was adopted from <https://www.totalwar.com/games/romeii/> November on 14 2018.

In addition, some games can help stimulate the brain to think, namely Rome Total Wars. This game can also be one of the learning methods for students because this game can stimulate the brain to think hard and train to make the right strategy in destroying the enemies of the kingdom in a war between nations to win. This total game of Rome is about interstate wars during the Roman Empire in the century that wanted to take over the Roman Empire.

Based on the result of the survey, most of gamers playing games in 1 day is more than 4 hours. In this chart, the enthusiasm of the gamer for playing games is more than enough (See **Figure 6**).

Seeing this enthusiasm, the opportunity to create educational games is huge. Coupled with the influence of the development of globalization, 70% of students already have their gadgets and around 80% of the gadgets they have games are installed [9]. Even learning activities can be more effective if students are only given the task of playing games in delivering the lesson and This activity also supports learning activities "learning by doing" which is more stimulating to students for learning material [10,11].

How many hours do you play games in 1 day

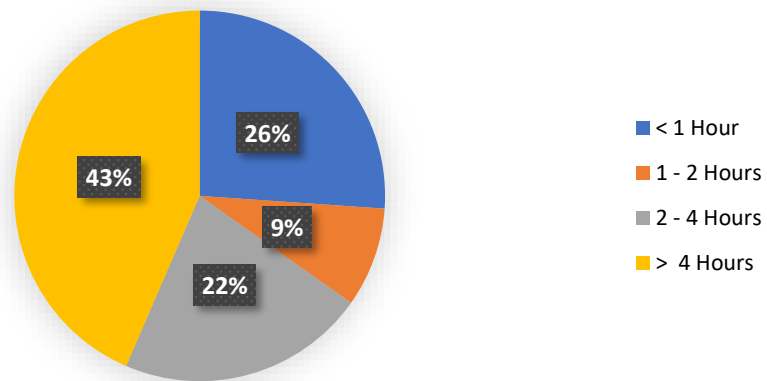


Fig 6. Percentage of gameplay duration.

The negative impact of the activity was almost balanced with a positive impact. One of them is an addiction that makes students reluctant to go out of the house to practice their learning outcomes. Then make it less active in the social environment. However, all of that also depends on the role of parents and teachers in supervising students in using the learning method. In addition to outside influences, the influence from within students can be a problem. Therefore, supervision and support from parents and educators must exist so that learning activities can be controlled according to their level.

4. Conclusion

The use of games as a learning method can be an option for educators. Looking at the results of the survey above, a huge enthusiasm from students is the answer to the support of games as a learning method in the future. Besides, with the games that contain elements of education can be used for learning methods and participate in supporting the developers to create other games as learning methods.

Acknowledgements. Alhamdulillah hirabbil 'Alamin this paper has been completed. we want to thank lecturer of Universitas Komputer Indonesia who helped in completing this paper. And also, we thank the surveyors who were able to take the time and fill out the survey that made about "Utilize Games For Learning Method". Also, all parties related to the solution and suggestions in the completion of this paper.

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