

The Effect of Adventure Video Games on The Development of Student's Character and Behavior

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ABSTRACT

The gaming world development and applications in information and communication technology are increasing in the digital era nowadays. Activities in video games can be a hobby or to fill your spare time. Games can be media education that contain learning orientation, skills and cooperation. Video games can also affect the behavior of special players and the environment in general. One type of video games that provides it, is adventure video games which are the result of combining survival methods for specific purposes that contain knowledge of the surrounding environment and skills in exploiting opportunities. The main player character is often presented in video games in the form of problem solving and thinking ability in complete the adventure or the game itself based on the character for the purpose of learning about characters that are strengthened with certain skills. Video games with the main character elements in them can reflect the discovery of new ideas, approval of ideas, completion of skills or reconfiguring ideas, so playing an adventure video game can lead to positive values that influence players' thought also motivate them to complete adventure challenges. In this study, we want to know the effect of adventure video games on the development of student's character and behavior. From the calculation of the Wilcoxon test it can be concluded that; (1) adventure video games influence the development of student character (2) Adventure video games influence the development of student behavior.

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1. INTRODUCTION

Video games are very popular in various circles especially young people. As a hobby, video games also offer to entertainment. Games can contain learning orientation, skills and cooperation. Video games can also affect the behavior of special players and the environment in general. It becomes interesting when it turns into a study that leads to the formation of character and skills in the scope of adventures that can be framed in relation to skills, or can function as an extension of characterization practice (Pascaline L,2014). The digital game itself as a structured or semi-structured activity uses all multimedia elements (text, sound, picture, graphic art, animation and video) to enhance the game performance in presenting a play, amusing, and entertainment making it usually undertaken for enjoyment but also can be used as educational media to create an interactive learning (Ririn DA,et al,2015;Warnars HLHS,2008).

Old methods of teaching and learning used before the advance of technology are proved to be not effective and efficient anymore, a new approach in teaching and learning must be implemented which is for the interactive learning method (Satrio P,et al,2013;Ahmed AS,et al,2013; Hazem -

ME,et al.,2013). One type of video games that provides it, is an adventure video game (adventure game) which is a result of combining survival methods for certain purposes that contain knowledge about the surrounding environment and skills in utilizing opportunities and video games. Video games with the main character elements in them can reflect the discovery of new ideas, approval of ideas, completion of skills or reconfiguring ideas, so playing an adventure video game can lead to positive values that influence players' thought also motivate them to complete adventure challenges. It can be interpreted by video games to improve learning, character and skill in digital games. With this experience, the gameplay experience appears. Gameplay Experience (GX) is the process of developing digital games that usually repeat and focus on the product. When playing games with the EU and a good UI, it also creates a good GX. With good GX, people will enjoy the game (DP Kristiadi,et al,2018). Therefore, a user focus on players has long been formed with a high level of informality. As one of the practices of work culture in real life, the main player character is often presented in video games in the form of problem solving and thinking ability

in complete the adventure or the game itself based on the character for the purpose of learning about characters that are strengthened with certain skills (Csenge V. Zalka, 2012). The integration of this character in video game elements has the aim to increase the attractiveness of video games by making the game more meaningful and more culturally relevant for the players. This can support motivational factors such as perceived value, story enjoyment, length of enjoyment, pleasure control and customization that strengthen customer purchase intentions (Sisca S, 2014). In this study, we want to know the effect of adventure video games on the development of student's character and behavior, as well as conducting a literature review of adventure video games. We try to summarize how knowledge, skills and social elements can be incorporated into video games that can be seen from the elements, components and the building of the video game character itself.

2. LITERATURE REVIEW

2.1 Game Adventure

Prior to the further exploration about adventure video game, we must first understand about the term of video game and the term of adventure. Video game is defined as digital game played on a television or computer screen (Richard EF, 2014). Computers and adventure games together have generated a rich, creative and imaginary world; one that is difficult to provide in any other way; a world in which the players can manipulate, make decisions, discuss and simulate (Sherwood, 1988, p. 48). It is also described as digital systems that have the following features: an interactive and reactive nature, volatile signs and variable displays, multiple sensory and semiotic channels, and networking capabilities (Frank GB, 2016).

Video game is one of the results of popular culture nowadays because they are produced based on everyday life experiences as well as imagination or a combination of both. It can re-enhance the players' rationalized world as it allows them to live in fictional world, excites their enthusiasm by giving them a way to witness impossible things to do in reality, relieve their stress and also having fun while the players are still carrying their own beliefs in what to do and what not to do when they play the video game (Pascaline L. 2014). The program first describes the scene; then the player types in a sentence; then the program describes what has happened in the world as a result of doing what the player asked, or why what was asked is impossible (Culley et al, 1986, p. 69). Adventure game is a software program that presents an artificial environment in which players will interact to solve problems that exist in the game (Dyson, 1998). Adventure games are a type of simulation in which the student is invited to take part in an imaginary adventure. ... they are designed to provide a stimulus for creative activities in the classroom. (Slifer, 1986).

The storyline of the game will bring the character towards the problem. Furthermore, the game character will be played by the player to interact to solve the problem. In addition, the characters will meet NPCs (Non Playable Characters) who will interact with the characters. During an adventure game, the user becomes personally involved in the scenario presented, either as one of the characters or as a visitor to the world. Whether entering the world as oneself or as a prescribed character, one is assumed to

possess certain attributes (Beth Cavallari, 1992). To find character elements in video games, we can analyze five elements of the game (Simone H, et al, 2014. Simone H, et al, 2015):

a. Game Narration

The narrative structure in the video game environment tells stories in the game. The ideas of the narrative can come from real life and it is influenced by the players especially if the narrative structure is based on the player's decisions. Therefore, it can be said that the narrative of the game can act as a reflection of contemporary socio-cultural discourse.

b. Aesthetic Games

For game aesthetic terms, there are three keys of aesthetic concepts in digital games such as those identified by Niedenthal (Simon H, et al, 2014). Visualization is appearance of the game, the sound, and display which is shown to the players. 2) Expression of the game that is experienced as pleasure, emotion, socialization, form of giving, etc. by referring to the aesthetic experience found during game play.

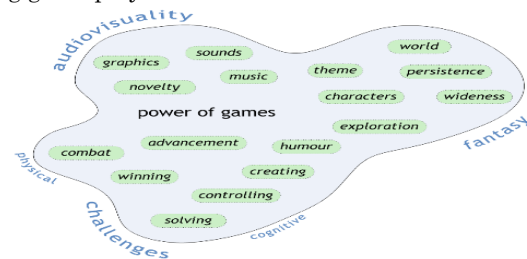


Figure.1 Pleasurable gameplay experiences

Building a character icon, or a symbol in a game can show character elements in the game because it becomes a game resource to represent a certain character. 3) Game World. This can be seen as a connection element of game aesthetics and narrative structure combined with in-game features that give players the opportunity to interact with them such as objects, characters, space and stories.

c. Behavior

According to Walgito (2010), human behavior cannot be separated from the circumstances of the individual itself and the environment in which the individual is located (Walgito, Bimo. 2010). a. Instinct theory means that behavior is caused by instinct. Instinct is innate behavior and instincts will encounter some changes due to experience. b. Drive Theory. This theory is based on the view that religion has certain drives. c. Incentive Theory (Incentive Theory) Incentives will stimulate organisms to do or behave. Incentives also called as reinforcement that are positive and some are negative. d. Attribution Theory This theory explains the causes of human behavior, basically human behavior can be internal attribution, but also can be external attribution. e. Cognitive Theory In behaving, someone must choose which one needs to be done. With the ability to think, someone will be able to see what has happened as a material consideration in addition to see what is faced at the present time and also can look forward to what will happen if someone acts.

3. METHODS

The usefulness of any adventure game or simulation depends on the ability of the user to be able to apply the learning to other situations. Students need to identify, internalise and later transfer problem solving skills. (Computer Education Unit,1990).This study wanted to know the potential impact of adventure video games by measuring the character and behavior of students after watching adventure video games. The main focus is to find out the impact of adventurous video games on students, so comparing the two control groups and experiments is important. The video games are played is minecraft. The study at Mauk Tangerang State Vocational High School 2 was conducted on 17-year-old students to form a group given treatment to play adventure video games, 35 students were selected, while for the control group there were 35 students. From 35 experimental group students or control groups, after being treated to watch adventure video games students were then asked to fill out a questionnaire to measure students' character and behavior. The game Minecraft for experiment at this research, Instrument to measure students' character and behavior was developed by a literature review, then indicators used on students' character include the students' principle, skills, and knowledge.

Indicators on student behavior include students' moral attitudes and ethics. From these indicators, it developed into 20 items, several statements about the character and behavior of students are given an alternative choice of opinion using a Likert scale, starting from "strongly agree, agree, quite agree, disagree, and strongly disagree". To get a good instrument, an instrument test was carried out, so that the validity and reliability of the instrument was obtained. To test the differences in the two data groups namely the control group and the experimental group using a nonparametric Wilcoxon test with a significant level of 0.05 and the calculation was made using SPSS. Do not use parametric tests because they rarely get a normal sample size. The data analysis method was carried out using descriptive data analysis, namely calculating the average value and standard deviation of each group, then comparing the average score of the data obtained from the questionnaire that had been completed for each group, either experimental group or control group, thus knowing the effect of adventure video games on the character and behavior of students.

3.1 Instrument

The second experiment was arranged in randomized complete block design with one factor and four replications. NaCl treatment applied to perform salinity stress condition in four concentrations: 0 ppm, 1500 ppm, 3000 ppm, and 4500 ppm. To draw data about the character and behavior of students, a questionnaire is needed, in which questionnaire will be used as a data collection tool and then analyzed using the average score of the questionnaire score and the standard deviation value. The indicators for compiling questionnaires about student's character are:

Table 1. Indicators of student's character assessment instruments

No.	Character developed	Indicator
1.	Principle	1. Re-examine completed work 2. Re-examine the results of work with friends to

		ensure the correctness of the answers
2.	Skills	1.Be able to complete tasks with various alternative solutions 2. Be able to complete tasks with a new solution approach
3.	Knowledge	1. Work on the task completely and neatly 2. Using all abilities, facilities, and available time as optimally as possible to achieve success in learning 3. Looking for learning resources other than those given by the teacher 4. Ask the teacher or friend if there are things that have not been understood 5. Pay attention to mathematics and the learning process

Table 2. Indicators of student's character assessment instruments

No.	Indicator	Behavior
1.	Moral Attitude	1. Re-examine completed work 2. Re-examine the results of work with friends to ensure the correctness of the answers 3. Be able to complete tasks with various alternative solutions 4. Be able to complete tasks with a new solution approach
2.	Ethics	1. Work on tasks completely and neatly 2. Using all abilities, facilities, and available time as optimally as possible to achieve success in learning 3. Looking for learning resources other than those given by the teacher 4. Ask the teacher or friend if there are things that have not been understood 5. Pay attention to the teacher and follow the learning process

4. RESULTS AND DISCUSSION

On the student character score obtained from filling out the questionnaire, from the table 3 the negative rank value between the control group and the experiment is 0 (zero) both for the N value, Mean Rank or Sum, this indicates that there is no decrease in the control group value or experimental group. Positive ranks between the control group and the experimental group obtained a value of 35 positive data (N), which means that from the group data of 35 students experienced differences between the control and experimental groups of 18, and the number of positive ranks was 630. 04 shows that the value of the control group and experimental group is 0 (zero) so that it can be said that there is no similar value between the control group and the experimental group. The Wilcoxon test results showed Asymp.sig. (2-tailed) values valued at 0,000. This value is smaller than 0.05 so that it can be said that

adventure video games influence the character development of students.

Table 3. Wilcoxon signed Ranks Test output for student's character data

		Ranks		
		N	Mean Rank	Sum of Ranks
Experiment Group – Control Group	Negative Ranks	0 ^a	0.00	0.00
	Positive Ranks	35 ^b	18.00	630.00
	Ties	0 ^c		
	Total	35		

- a. Experiment Group < Control Group
- b. Experiment Group > Control Group
- c. Experiment Group = Control Group

Table 4. Wilcoxon signed Ranks Test output for second table student's character data

		Experiment group - Control Group
Z		-5.162 ^b
Asymp. Sig. (2-tailed)		.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks.

On the score of student behavior scores obtained from filling out the questionnaire, from table 03 the value of negative ranks between the control and experimental groups is 0 (zero) both for the value of N, Mean Rank or Sum, it indicates that there are no reduction in the value of the control group or experiment group. Positive ranks between the control group and the experimental group obtained a value of 35 positive data (N), which means that from the group data of 35 students experienced differences between the control and experimental groups of 15.5 and the number of positive ranks was 465. table 06 shows that the value of the control group and the experimental group is 0 (zero) so that it can be said that there is no similar value between the control group and the experimental group. The Wilcoxon test results showed Asymp.ig. (2-tailed) values valued at 0,000. This value is more than 0.05 so it can be said that adventure video games influence the development of students' behavior.

Table 5. Wilcoxon signed Ranks Test output for first table student behavior data

		Ranks		
		N	Mean Rank	Sum of Ranks
Experiment Group – Control Group	Negative Ranks	0 ^a	0.00	0.00
	Positive Ranks	35 ^b	15.50	465.00
	Ties	0 ^c		
	Total	35		

- a. Experiment Group < Control Group
- b. Experiment Group > Control Group
- c. Experiment Group = Control Group

Table 6. Wilcoxon signed Ranks Test for data behavior of second table students

		Experiment Group – Control Group
Z		-4.785 ^b
Asymp. Sig. (2-tailed)		.000

- a. Wilcoxon Signed Ranks Test
- b. Based on negative ranks

5. CONCLUSION

The most important discovery is that video games contain elements of adventure in them that can develop positive behavior for the players. However, the game must represent the character in a relevant way based on the flow of adventure that contains knowledge, ethics, cooperation and religiosity so that it has a positive impact and supports the morality and spirituality of players when they play their role. Basically, adventure video games must be made to improve the character and behavior of players towards their social world, makes them have to struggle to achieve goals with individual and social abilities and to keep their behavior in harmony with their social environment. From the calculation of the Wilcoxon test it can be concluded that; (1) that adventure video games influence the development of students' character, this can be seen from the value of Asymp.ig. (2-tailed) worth 0,000. (2) Adventure video games influence the development of students' behavior, this can be seen from the value of Asymp.ig. (2-tailed) valued at 0,000.

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