

## **STUDIES OF VISUAL INTERACTION OF GAME TOWARDS STUDENT CREATIVITY IN DESIGN WORK**

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### **Abstract**

The phenomenon of the video game existence in Indonesia today is growing quite rapidly. In Indonesia, game through video is better known by the term 'Video Game' or 'Game'. The term 'game' is often addressed by some communities in Indonesia for a game through a video display such as Playstation, Nintendo, PC and so on. The existence of a video game in Indonesia is supported by the many places the game or often referred to as 'Game Center' or 'Rental PS (Playstation)'. Of the many gamers, among of them are the college students. The interaction between the players and the visual objects in the game at least provide a picture of the idea of reference in forming a visual design artwork. Ideally, users of the game among the students, especially the Department of Design students, can make the game as one of the media references in the work. Causal relation that happen as well as how the game influenced college students in the work, are an interesting thing to study. The approach used in this study is a qualitative study with causal comparative research methods. The method is performed by identified the relation between the work produced by the students with possibilities for game-related causes. Areas of research carried out in Bandung and Visual Communication Design students as a case study. Results of the study indicate there is a correlation between students work and the game that they played.

**Keywords:** Games, Work, Causal-comparative, Creativity, Student

### **1. Introduction**

In the development of information and communication technology today, the game is a part of information and communication technologies are also growing quite rapidly. Often ordinary people in Indonesia mentioning the term 'game' as a game that uses video or electronic devices and often called video games. Over time, the electronic game develop platform from *game-watch* media, arcade, consoles (nintendo, sega, playstation, etc.) and Personal Computer (PC) media. Games are referred to in this research is a game that uses an electronic video display device to visualize the games. Visualization in the game experienced various changes of form, from simple graphical image display technology to three-dimensional (3D) display. With visualization game that is currently attract the attention of the players. The game users can take advantage of the visualization as a reference in building a visual idea. Of the many game players, statistics show that the student is one of the game players are quite large in number, either as a hobby or distribution medium for leisure. Students who take the subject areas that require visual ideas, such as the program of study of art, design and architecture, the positive may benefit from the rise of visual references that appear in the game. Visualization in the game is able to be a reference to build fresh ideas that can be realized into a design artwork.

Current state, the game often becomes a media blamed for the negative things associated players, ranging from poor academic grades, health conditions and social relations. This condition basically occurs due to excessive use of the media game. Game is a medium that can be used as positive and negative media, depending on the users. Facts related to the game

according to Newman (2004), many academics ignore the game. Games often become a medium that is often forgotten to be explored influenced by several factors, such as games will be forgotten when growing up; factor of the game is considered as a low-art and not weighted. Newman (2004) asserts that there are three things that cause the game to be seen as more serious, namely; the current gaming industry continues to grow and become great; fame game are more widely known; and games as an example of human computer interaction relation.

With the complexity found in game, game-related studies and critical need for more in-depth investigation. So people can understand the game even further and can place them in the right position. Understanding the relation and impacts or benefits that can be drawn from the study related to gaming and human relations, in particular the visual interaction with the creative work becomes important to study. With the background of the above problems, the research question as follows; Are visual experience in-game interactions play a role in helping students work?. The breadth of work in the context of the world of design, the design of this research work is limited to the work of the character in general illustrations from the students. The purpose of this study is to find the relation of the human experience in conducting visual interaction in gaming-related creativity in design work. And to explore the extent to which a visual interaction in the game is able to influence human creativity is a general target to be achieved in this research.

The benefits of this research are; Produce a guide in the game tapped as a reference in the design work. The results of the study can be used to complete the picture of the interaction design, gaming-related objects for both academia and industry for the development of the game (game developers). The long term goal of this research is to produce a proper relation between man and the game, so intertwined that it is more positive than the negative from the relation.

## **2. Game & Research Methods**

Games are referred to in this research is a form of the game in the digital world with the use of electronic media as a medium or tool to run the game. There are a variety of media to play a game, for example, computer media or Personal Computer (PC), Media consoles like the Game Cube, Nintendo Wii, Playstation (PS) and Playstation Portable (PSP), Xbox 360 and other console devices including smart-phones media. Some of these media requires also the medium of television or projector screen as a medium for displaying images.

### **a. Genre of Video Game**

Games have a wide range of visualization styles, how to play and graphics displays. With a variety of visual styles that exist in the game, each other can provide visual interaction. There are several types of games are known at this time. Types of games in the genre of games based typology according to Newman (2004: 12) include:

1. **Action & Adventure** type can provide the experience for the player in finding ways and solve puzzles along the way. Type action game challenges players to continue to focus on fighting and adventure that spur the player to explore the game world.
2. **Shooter** type experience for the player shooting action, the first person shooter players can't see the character which played, the game displayed only figures from the gun

barrel. In another type of shooter games such third person shooter, the player can see the avatar characters played, generally seen from the back of the character.

3. **Role Playing Game (RPG)** type is a mixture of adventure, action and shooting, but most important in this type, player can explore the game and customize avatar for the game. In this type of game, players can explore either heading to a new location or returned to the location that had previously been passed. Generally these games often involve conversations between the characters in the game.
4. **Driving and racing** simulation type, as if the players position as a driver or rider. This genre gives experience for the player simulates a vehicle such as a car, plane, train & etc to be operated.
5. **Strategy** Simulation type usually provide experience for the player to be able to set a particular state or region extensively and groups, focus to strategy for solve the game.
6. **Platforms and puzzles** give the players experience over the hurdles in the form of puzzles and platforms. The main characteristic of this genre of game settings with the platform in completing goals.
7. **Sport game** is the game with a sports theme that includes a competition or tournament that could be done with other players or against AI (Artificial Intelligent) computer.

Of the type or genre of game play there, all of which can provide different interactions. Visual interaction is an interrelationship between visual objects with the viewer. For example; when the players see avatar character played in the game, the player feel like to dressing look like a character in a game such as Costume Play (Cosplay), then the relationship has been going on that visual interaction. However, the discussion in this study is how a student is able to creative ideas to making artwork by the game visualization.



**Figure 1.** Customize the avatar look from game 'Mass Effect III'

Source: <http://i1.ytimg.com/vi/14X34OS2kgU/maxresdefault.jpg> (18/11/2013)

## b. Causal Comparative Approach

This study is a descriptive qualitative research. The approach used in this study using a Causal-Comparative approach. Causal-Comparative Research or ex post facto research is to determine the cause or reason, for existing differences in the behavior or status of groups or

individuals. Narbuko and Achmadi (2003) in Sarakatib & Mujiono (2012) that, "causal comparative research is ex post facto, means is collected after all the events that took place or acquired through and take one or more effects and to examine the data by searching into the past for search for causal relationships."

According to Suryabrata (2006) said several steps that must be done in a causal comparative method are: 1. Defining the problem; 2. To review the literature; 3. Formulate a hypothesis; 4. Formulate hypotheses underlying assumptions; 5. Design approach by selecting a subject or resource, compiling data collection techniques, determine the categories of data; 6. Validate the data collection techniques and interpretation of results; Analyze data and prepare reports.

### **c. Data Acquisition Techniques**

Activities to obtaining primary data in causal-comparative research are in-depth interviews or commonly called the qualitative interviews. This is because the causal relation of the observed phenomena can be told from a user person perspective. In addition to the interview there are other techniques to collect data such as observation and questionnaires to determine the sample group as a research source.

#### **1. Literature Review**

Studies used in the research literature in order to obtain data relating to the research literature both book and previous research. Literature review is used as a basis for giving an overview of research data. The library used is in the form of books, journals, research and resources from the internet relating to the object of study. The theory is used as reference in this study include game theory (Theory of Games) is expressed by Newman (2004) and Oxland (2004) and the theory of player experience (Theory of Player Experience) proposed by Aki Jarvinen (2008).

#### **2. Interview & Group Discussion**







Type of interview that is conducted is in-depth interviews. In conducting the interview method, as expressed Kuswano (2009: 67), the interview is usually done informally, in conversation and through interactive questions and answers that are open. Although the questionnaire has been prepared, the interview was conducted with flow according to the respondent's answer. In-depth interviews as expressed by McMillan and Schumacher (2001) in Satori (2010: 130), which is an open question and answer to obtain data about the intentions of how the informants describe their world and how the informants describe or express his feelings about the important events in his life. Referring to the opinion of Creswell (1998: 110), on how to conduct an interview which was to determine the location of a data acquisition (locating the site) and then making or permitting access (Gaining access) and make informants determination (sampling) and based on the idea Sugiyono (2010: 11) that stated that the researcher as human instrument that must interact with data sources that should know very well the data sources and areas carefully, then the location of the data acquisition is the city of Bandung. For ease of access and

licensing, the interviews conducted on campus, campus location selection is also associated with the game users as a student in the research sample.

Focus group discussions conducted to sharpen the answers and discuss them as a group, so the results of the interview can be focused back through discussion. Through group discussion, interview answers can be reopened and can be seen from the trend of the response answers. With focus groups, can be seen the consistency of the informants answers, the influence of the another informant participants' answers may be the reference truth or rejection of the answers given earlier informant. So from this discussion is expected to be found the essence of the truth or validity of informants answer.

The results of this study can be seen from the table of images by students who indicated or affected gaming possibilities. Indicators which may indicate that the student's work is affected by the game viewed from the visual attributes of the game that played by the students and also appeared in the work of the student.

**Table 1. Indicators of Game Influence Towards Student Work**

No.	The work of students	The characters in the game	Explanation
1		→ 	The influence of the game appears in the works with a visual indication that resemble / mimic almost general physical shape and properties game characters.
2		→ 	The influence of the game appears in the works with a visual indication that resemble / mimic partial visualization of the physical form of the game characters. Example: Physical form of hair.
3		→ 	The influence of the game appears in the works with a visual indication that resemble / mimic partial visualization properties form of the game characters. Example: The shape of the sword

### 3. Results & Conclusion



From the analysis stage, the narrative essence of the event can be found the background from the students in the work-related interaction with the visualization in the game. Through meaningful units sentences spoken by students as informants, will be deduced from the answers to questions. From the 100 students of the game players, at the initial stage of the selection process based on a questionnaire and experimental work to make a cast of characters, the comparison indicated affected by game visualization & not affected by game visualization is about 17:83. Indication of the influence of the game seen based on works made by informant with visual similarity from favorite game which is often played by them.



**Figure 2. Student artwork and game characters that influence**

Average players that are affected by the game visualization, playing around  $\pm 3$  hours in a single game play with frequency of play in a month about  $\geq 5$  times. The type of game that is generally dominated affect visual style is the adventure game type or RPG type. The adventure game is considered to provide more references for the students than the other type of game that tends to be at a location not too many changes such as the type of racing sports game. Adventure games are considered to provide space and time for the players to enjoy the visualization thus deemed to affect the imagination. Based on the statement of the informant, the games are played on their own without directly disturbed by a playmate, either single-player or multi-player type, able to be so live so entered into the imagination of players and embedded. This causes the player is able to be inspired in the visual work with a visual reference of games that have been embedded. Unlike the student that are not affected, the average frequency of play a little more and more briefly than the students who are affected. As for the type of game being played is the type of game that tends to require quick thinking power and less time to enjoy the visuals in the game. The type of game that is often played by the group is a type of sports and strategy games. In a kind of sports & strategy games, players tend to have more limited time to enjoy the visualization as a game system forces the player to complete the game objective.

These results indicate that the game is able to influence the work of students under certain conditions. The tendency of the student's work is not affected by the visualization of the game as a reference work. Based on the above results it can be concluded that the long-playing games are able to influence the design students in the work. Sufficient time influencing the visual style of the work is  $\pm 3$  hours with a frequency of  $\geq 5$  times in a month. The type of games that do not require players to finish the objective without limited time like adventure and RPG type games is considered capable of inducing the player to be affected in the visual work. While the game is low in influencing student work is the kind of game that runs fast.

## References

- [1] Creswell, John, W. **Qualitative Inquiry and Research Design: Choosing Among Five Traditions**. Sage Publications, London: UK, (1998)
- [2] Kuswarno, Engkus. **Fenomenologi: Konsep, Pedoman, dan Contoh Penelitiannya**. Widya Padjajaran, Bandung: Indonesia, (2009)
- [3] Newman, James. **Videogames**. Routledge, New York: USA, (2004)
- [4] Oxland, Kevin. **Gameplay and design**. Pearson Education, Edinberg Gate: England, (2004)
- [5] Sarakatib & Mujiono. **Available from** <http://www.scribd.com/doc/239078575/penelitian-kausal-komparatif1-pdf> **Accessed:** 2014/09/01
- [6] Satori, Djam'an. & Komariah. **Metodologi Penelitian Kualitatif**. Alfabeta, Bandung, Indonesia, (2010)
- [7] Suryabrata, Sumandi. **Metodologi Penelitian**, PT Raja Grafindo Persada, Jakarta: Indonesia (2006)
- [8] Sugiyono. **Metode penelitian kuantitatif dan r&d**. Alfabeta, Bandung: Indonesia, (2010)
- [9] Jarvinen, Aki. **Games without Frontiers: Theories and Methods for Game Studies and Design** [Doctoral dissertation], University of Tampere: Finland, (2008)