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THE USE OF VIDEO GAMES AS A METHOD OF ARCHITECTURAL EDUCATION FOR DESIGN STUDENTS

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Abstract:
For many years, architectural education has been instructed in class using presentations. Many students are still struggling and having problems in understanding the design language. Architectural education practitioners are only beginning to adopt the more recent and modern techniques. Many advanced countries are using video games as a method of education to help students study interactively in a more fun environment. This paper aims to study the use of video game as a tool for architectural education to help design students understand the basic architectural design languages interactively. This research report was carried out by doing surveys and experimentation. The findings of this research paper indicated that the video game "Minecraft" can help design students to understand and improve their design understanding. The findings concluded that video game can be a tool to help students in understanding design principles.

Keywords: Education; Video Games; Design Students; Architectural

1.0 INTRODUCTION

Architectural education is an important component for studio-based design students. Architectural education is where architects and designers begin their understanding of design languages. Students from every semester will use the design language to explain and elaborate their design during formal and informal critique sessions. Design languages also are used among other design students such as graphic design students, interior design students, etc. The aim of this paper is to investigate the potential of video games as a learning tool in architectural education. Video games can be a really fun and interactive way for design students to improve and get a better understanding of design language. The use of video games as a tool of education is widely used in the Western world such as in the United States and the United Kingdom. We could use this new media to improve our students' understanding of design language and also as a tool for students to improve their understanding in design.

2.0 LITERATURE REVIEW

There are various types of simulation video games that are available for design students to gain more understanding of design knowledge and design languages. The following paragraphs describe in brief the definition of interactive learning, simulation games and design language.

2.1 Interactive Learning

Interactive learning is a hands-on, real-world approach to education. According to Stanford University School of Medicine, 'Interactive learning actively engages the students in wrestling with the material. It reinvigorates the classroom for both students and faculty. Lectures are changed into discussions, and students and teachers become partners to gain more knowledge.

2.2 Simulation Games

Simulation video games are games which try to accurately depict real world situations, physics, and events as accurately as possible. A simulation game attempts to copy various activities from real life in

the form of a game for various purposes such as training, analysis, or prediction. Usually there are no strictly defined goals in the game, with players instead allowed to freely control a character.

2.3 Design Language

A design language or design vocabulary is an overarching scheme or style that guides the design of a complement of products or architectural settings. Patel (2016) described that designers wishing to give their suite of products a unique but consistent look and feel define a design language for it, which can describe choices for design aspects such as materials, colour schemes, shapes, patterns, textures, or layouts.

3.0 METHODOLOGY

The methodologies employed in this study are through case studies and surveys which involve questionnaire and experimentation**.** The research was conducted through a review of literature of previous case studies done by researchers on the similar topic. Information and data were collected about the chosen video games. All the data gathered through the secondary research were noted. Next, a survey was done before choosing the right simulation game to identify which type of simulation game to be tested out with the respondents. Then, experimentation was conducted with 50 respondents from different semesters and different architecture schools. The goal of the experimentation was to test out the chosen simulation game to find out if the game would be able to help design students with their design language understanding.

4.0 ANALYSIS AND FINDINGS

The experimentation and questionnaire were conducted on the chosen video game, which was Minecraft from Mojang Studio. The video game was chosen based on the feedback from the survey of 50 respondents. The questionnaire's questions were selected carefully so that the research will be able to highlight the relationship between video games and design languages. After the experimentation, the candidates answered a survey based on their gameplay from the game. The survey consists of questions on design language that can be defined from the game play-through. Figure 1, 2 and 3 show the outcome of the surveys while Figure 4 describes the percentage of distribution among the design languages. It was observed that students could define all those three design languages but defining design principles was the easiest. It was also observed that simulation video game such as Minecraft could help design students on their design language understanding and design knowledge.

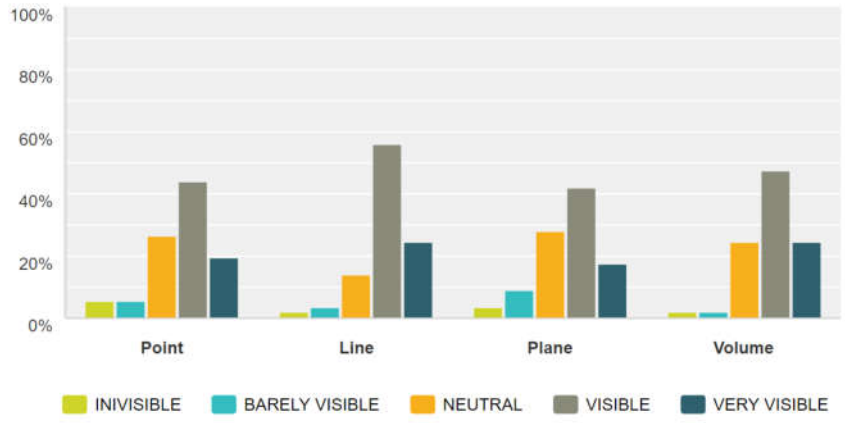

Figure 1: Design elements visibility

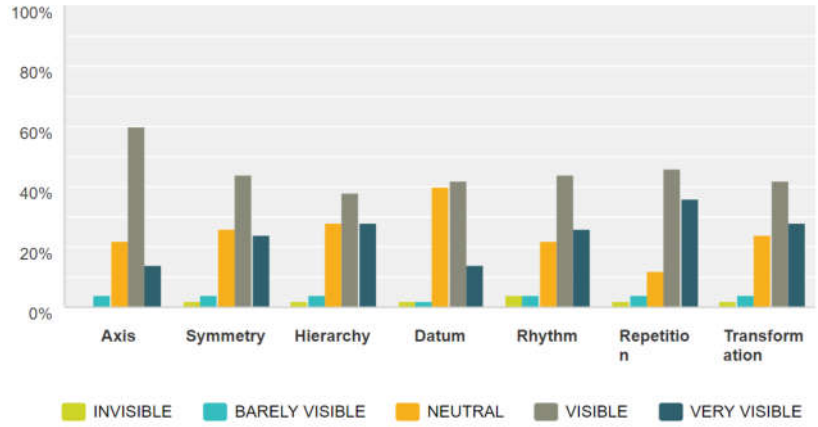

Figure 2: Design principles visibility

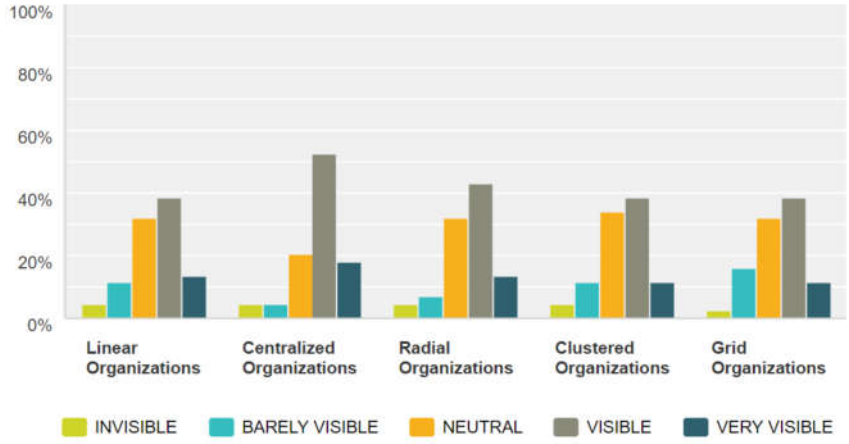

Figure 3: Spatial organisations visibility

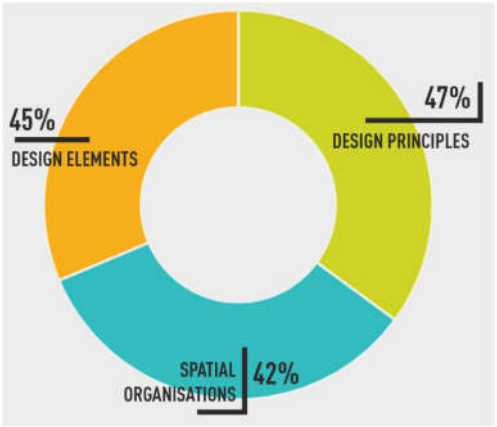

Figure 4: Design languages visibility

5.0 CONCLUSION

From the surveys, it can also be concluded that Minecraft could really help students to improve their understanding of design principles. This research shows that video games can be used as a tool for an interactive learning and understanding of design languages. Therefore, design students should take advantage of simulation video game as it could help them improve and understand design languages

interactively. Future education of architecture schools can make use of simulation video games to help their students with design understanding and improve their design thinking interactively.

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