
Study of Video Games as Alternative Teaching Media In Covid-19 Pandemic Era

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ABSTRACT

Technology has a direct impact on human's behaviors and lifestyles in Covid-19 pandemic era. Various sectors such as education and economy adapted technology-based remote work and study. With the existence of remote study, the educational world will still face some issues related to the study effectiveness which requires students' initiatives in the process. This research's aim is to explore video game's potential as an alternative education method to solve those issues. Also, it is to study the reason why videogames are considered as a solution for remote study's challenges during this pandemic. A study method towards related literature was used in this research. Conclusion achieved from this research is that videogames are able to stimulate students' initiatives in exploring learning materials. Video games gave play-like learning experience and thus, reduced the stress on the students during remote study. However, the result still needs further study to achieve realistic methods that can be applied in the field.

Keywords: Game, Remote Study, Pandemic

INTRODUCTION

Covid-19 pandemic is a phenomenon which affects human lives globally and if thoroughly studied from the latest development, it will still occur for a longer period of time. According to Tedros Adhanom Ghebreyesus, head of World Health Organization, the existence of coronavirus will occur for a long time and must be handled seriously by every country.

According to WHO's report, there are still many countries stuck in the pandemic's starter phase, while countries who had suffered from the pandemic got an increasing corona case. In a separate interview stated that Covid-19 pandemic will end in less than two years, faster than the Spanish Flu in 1918. The

total of Covid-19 patients worldwide reached 60.4 million cases, while Indonesia itself had around 517,000 patients with the additional of 5,534 people noted on November 25th, 2020 (Kompas, 2020).

In terms of education, anticipation against Covid-19 infection was done by adapting online-based remote study methods. With this, the students don't have to gather as a large number in the same place with a tight density. Online-based remote study process also gave birth to new issues in the education world. Among them is how to maintain the study's effectiveness which requires students' initiatives during the process.

One of the issues is the need for the teachers' presence that can be a solution for their academic issues. The seriousness level from the learning process lies in the physical presence of the teacher which is unlikely to be done during the remote study process (Bhamani, Makhdoom, Bharuchi, Ali, Kaleem, Ahmed, 2020). The different level between teachers' mastery over remote study media also affected the knowledge transfer process from teachers to students. Many students complained over the explained materials for being unclear or difficult to comprehend (Megawanti, Megawati, Nurkhafifah, 2020).

Students also experienced decreasing motivation to study out of boredom over a long online-based remote learning process. The cause, for example, is the issue in online-based remote study's infrastructure with various qualities: limited internet data, signal, and network coverage quality. Aside from the increasing problems arose in their households for being unbecoming for an online-based remote learning process. There were also external factors from the parents who lacked the capabilities and patience in assisting the students during the online-based remote learning process. Meanwhile, parents also hold an important role as the substitute teachers during the online-based remote learning process (Megawanti, Megawati, Nurkhafifah, 2020).

For the conclusion, discipline attitudes that had been practiced by the students when they were getting ready for school, various activities which stimulated students' developments, various methods of studying in the class, comfortable environments in the class, as well as motivation to study, are really hard to maintain during online-based remote learning process and is an urgent issue to be solved. Considering the development of Covid-19 pandemic's recent

situation which indicated the possibility of long term online-based remote study for an unknown period of time.

RESEARCH METHOD

This research will use a qualitative approach achieved by studying various literature related to videogames, gamifications, education, as well as some cases related to the potential of video games usage and digital technology as alternative communication methods.

RESULT AND DISCUSSION

Video Game



Figure 1 Story of Season: Doraemon
Source: Chao 2019

Video Game is an electronic play involving interactions between humans and computers where in that interaction, humans give input to the system and then receive a response via audio and visual by the computer. Audio and visual usage in video games enables the play to be designed based on stories. In video games, there are some mandatory elements such as the play, being played, and

audio visual. One of the three elements taken then the media can no longer be identified as video games (Hoffin and De Voss, 2020).

Based on the explanation above, video games are categorized based on the platform where the games are released such as arcade games, console games, and PC games. Along with the development where smart devices and the internet became affordable technologies, the industries started to enter mobile gaming tablet computer markets. Video games are also developed in virtual systems as well as augmented reality and remote cloud gaming.

Gamification



Figure 2 Gamification illustration
source: Google 2020

Gamification is a practice using elements in gaming design, gaming mechanics, gaming mindset to be applied into non-game activities to give motivation to its users (Al-Azawi, Al-Faliti, Al-Blushi, 2016). Gamification usage varies in various departments, some of the reasons are due to gamification having the ability to motivate someone to be actively involved in the program. Basically,

gamification instinctively triggers one's desire to compete, achieve something, acknowledgement, and express themselves (Al-Azawi, Al-Faliti, Al-Blushi, 2016). Gamification can be easily seen through the usage of the elements in gaming design, gaming mindset, and gaming mechanics to increase the experience in things unrelated to the play. Some benefits in using gamification are increasing participation, high motivation rate, increasing interaction among users and providers, and high loyalty.

DISCUSSION

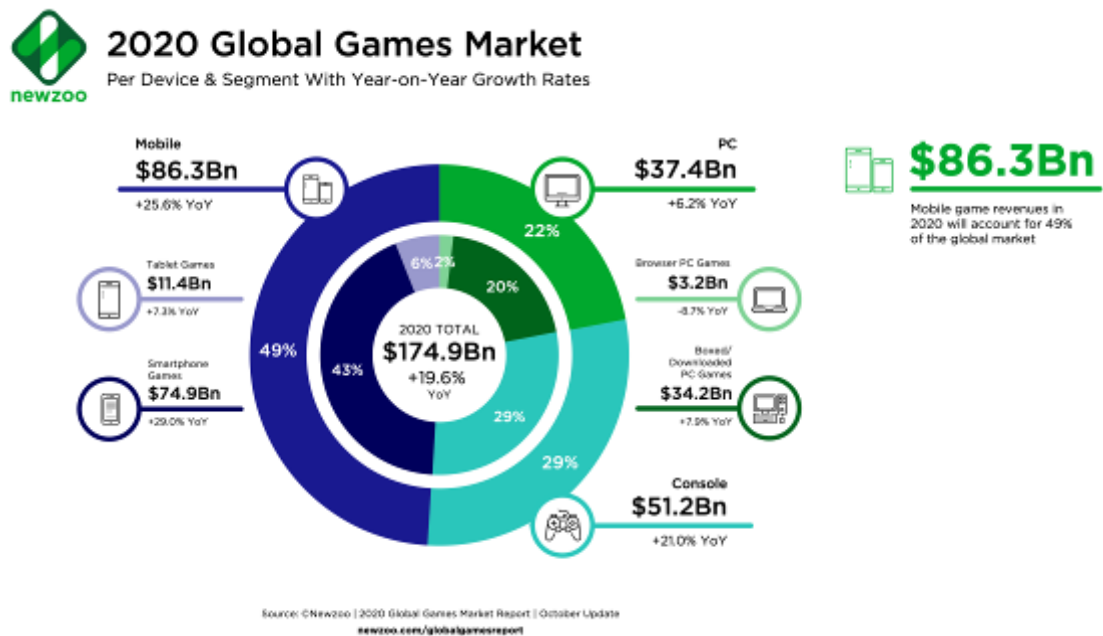


Figure 3 Global Game Market Potential
 Source: Newzoo 2020

Video games as one of tech-based media can be confirmed to have important roles in the present time. It is second by Stanley Pierre Louis, Chief Executive Officer of Entertainment Software Association, who stated that in the time where the world faces uncertainties, video games will unite us more than ever. In a unique time such as it is, can be said as the glorious time for video

games. Right now we handled the situation by adapting to work, study and normal activities at home. At the same time, everyone from all around the world is sharing the beauty of playing video games together with families, friends, and the worldwide gaming community.

Video games themselves, aside from the internet, social media, and smart devices, have been a part of modern civilization. Video games users in 2020 recorded to reach around 2.7 billion users, with 54% of the users originated from Pacific Asia. The amount of those global users experienced an increase around 4.9% compared to the previous year (Newzoo, 2020).

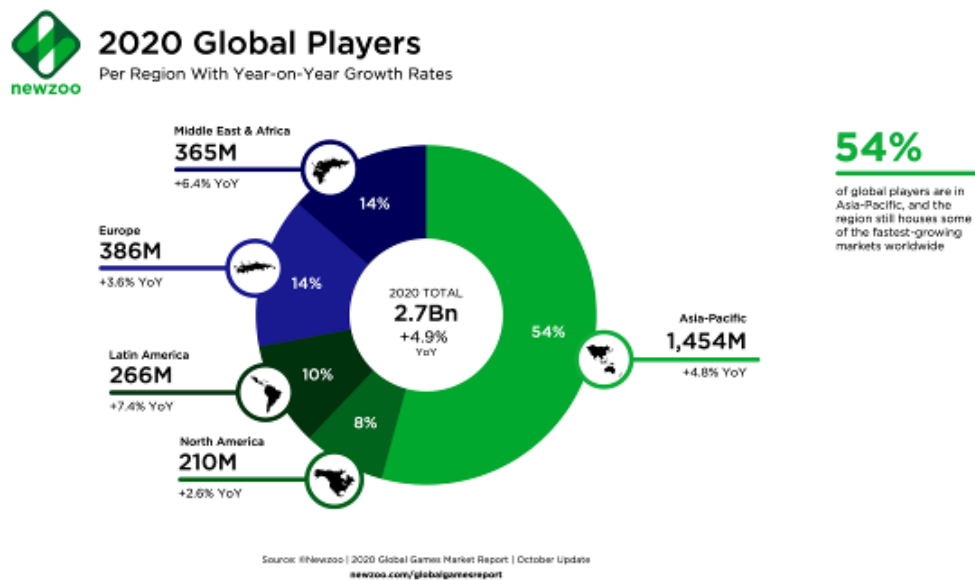


Figure 4 Increasing amount of video games users in 2020
Source: Newzoo 2020

Video games industries global income reached around 174.9 billion dollars. This amount also experienced an increase around 19.6% compared to the previous year (Newzoo, 2020). The convenience to get and wide varieties of platforms to play with made video games easily accepted by so many people.

The potential of video games as alternative messenger media has been considered enough by many concerned parties. That statement is second by ESA web's quote, an organization with speciality to hold research around the video

game's industry with worldwide client developers, video games no longer simply accommodating needs of entertainment, but also affecting social change in the society. There are many non-profitable organizations, academic institutions, as well as public and private sectors who take the benefits of this technology to solve their problems.

In the education world, video games as an entertainment media possess befitting characteristics to improve students' active roles. Rich visuals and aesthetics will enamor the audience and bring them to a colorful surreal fantasy, as well as both charmed and entertain them at the same time when the world in that video game holds some features such as (Mitchell. A and Savill-Smith.C, 2004):

1. Video games being played to win, the key is the motivation to win while being challenged at the same time.
2. Video games give motivations through fun, as a part of the learning process in human's growth.
3. Instant and visual feedback.
4. Minigames provide quick results for the players.
5. Complex games such as fantasy-themed or simulation video games, usually possess certain main goals and subgoals. Unlike the other video games, more complex PC games provide thorough interactive virtual space.
6. Atmosphere and moods created by the information in the video games serve deep experiences which maintain the interests toward the game.

A married couple, Nicholas Kristof and Sheryl WuDunn, who won the Pulitzer award, created a Facebook game to increase people's awareness and support anti-violation toward females all around the world. Meanwhile, a student from Emergent Media Centre, Champlain College, Vermont, created a game called "Breakaway", as a game to educate youngsters about violence, gender issues, and racial stereotypes. *Breakaway* is a part of UN General Secretary to stop violence against women. This game has been played in 95 countries including Ghana, Mali, Tunis, Indonesia, and Azerbaijan. Until now, Breakaway

keeps on motivating the young generations to take decisions with positive impacts (Esa, 2020).



Figure 5 Half the Sky Movement game by Nicholas Kristof and Sheryl WuDunn
Source: Education World 2014

Another one of entertainment technologies with the potential to be developed as alternative communication media is augmented reality. According to Ron Azuma, augmented reality is a technology with three main features: possesses combination contents between virtual and reality, has interactive and real time attitude, and lastly possesses dimensional attitude.

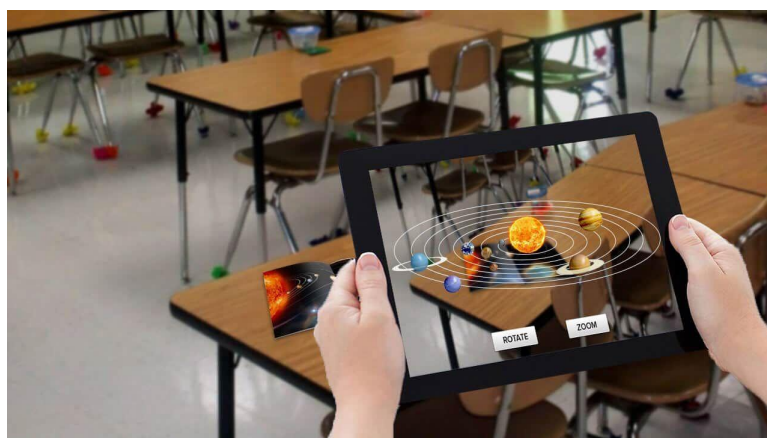


Figure 6 Augmented reality application in education
Source: Nami 2019

However, according to Kishore (2003), visual aids stimulated thinking process and understanding. It is due to human’s ability in memorizing up to 50% of what they listened and watched, but only around 20-30% if they simply heard or saw.

Cuban (2001), based on the explanation above, then augmented reality has the potential to give audio-visual experience in each information medium, so it is easier for the audience to remember or understand.

Gamification is an alternative learning method that is also video game-based. However, gamification is not bound to a platform, unlike video games. It enables the students to be directly involved in gamificat-ed learning programs without having to wait for the education organizer to develop a gaming software for learning. The cause may be because gamification only uses elements that are usually inside gaming design to be applied in the real world.

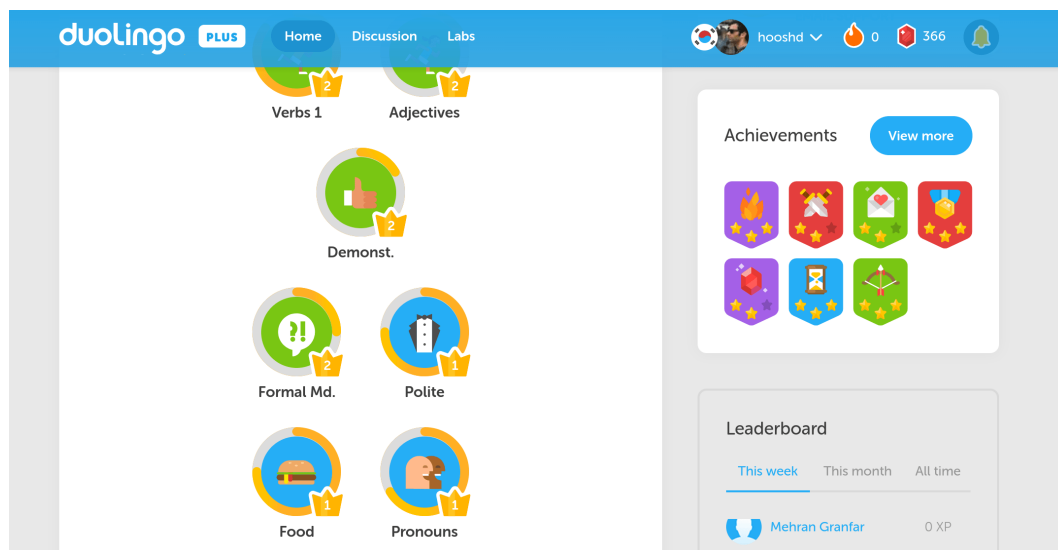


Figure 7 Language learning website with gamification “Duolingo”
Source: Hooshmand 2018

Usage of the elements in gaming design considered to be able to give similar learning experience to the students. Gamifications when being applied in academic fields may solve problems which are the challenges in remote study

methods in the pandemic era. The students will experience increased participation, high learning motivations, increased interactions between students and teachers when the materials are being delivered via gamification. Video games or gamification have equally big potentials since they succeed in making the learning process more “fun” and problem solving in the materials are no longer boring.

From the explanation above, it can be seen that development in alternative functions from a technology outside its basic functions are varied. However, there are also forced developments that happen every now and then. Instead of functioning as expected, the media pushed the audience away, so the communication process didn't run smoothly. Most commonly happened is the making of video game-based education media.

It is commonly found in educational video games out there that only applied learning materials from the text books with stiff gameplays, no different from answering problems in textbooks. This is contradictory with its function as entertainment media because by playing it, the audience didn't feel entertained. Hence, the adaptation process in entertainment technology as communication media, whatever the form it is, needs to be carefully designed so as to not remove the essential basis of the media which is “entertainment”.

CONCLUSION

Games are a very suitable media for remote learning processes from home during the pandemic. Aside from the easy access with a relatively easy-to-get platform owned and adapted by the students. Video games can trigger students' initiatives to explore learning materials and also a learning experience that feels like a game quest, thus reducing students' stress during an online-based remote learning process. It can also increase learning effectiveness due to its visual and audio aids that can stimulate students' thinking process and understanding. Utilizing video games for learning, it must be thoroughly designed as to not simply moving textbook materials into the game, but also considering video games' main factor as an entertainment media.

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