

THE ROLE OF MODERN GAMING CONSOLE IN LANGUAGE LEARNING (The Case Study of Biohazard Zero and Command & Conquer)

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Abstract

Gamification delivery is thought to improve and support multimedia teaching. Teaching with multimedia goes beyond simply utilizing already-in-use tools like PCs and the prepared program. Gamification is chosen to be integrated with multimedia teaching because it may improve and assist the teaching and learning environment in addition to acting as an icebreaker. The case study of Biohazard Zero and Command & Conquer in providing the atmosphere of language learning is used in the research to identify the role of contemporary gaming consoles in language learning. The information was gathered through the gaming of 22 students in two different games. By recording student gaming and administering questionnaires to them to gauge gameplay and game aspects, the research data was gathered. Statistical analysis was used to examine the research's data. The first data obtained from the challenging aspect of different games resulted in 55% of students selecting Command & Conquer as the best game for delivering challenge. The second set of data, interactive captions resulted in 81.82% for Biohazard Zero. For grammatical elements, Biohazard Zero resulted in 68.18% as the most mixed grammar composition in the obtained files. Educational results resulted in 81.82% for Command & Conquer. The results can be significant because the game itself contains other aspects than language teaching. The best game recommended for replay purposes was Command & Conquer, which resulted in 77%. The game's ability to generate a desire to win is the reason why it is recommended for replay purposes.

Keywords: *Interactive captions, gaming console, case study, teaching-learning, language learning.*

Introduction

The digital lifestyle has become a part of society in the 21st century, especially since the introduction of handheld devices or gadgets at an affordable price. Along with handheld devices, the modern gaming console, which has served as the beginning of modern entertainment devices since 1995, has evolved more digital technology, especially the utilization of storage spaces as they are included in compact disc format in conjunction with storing not only the data content but other multimedia files as well. According to Ganasundaram & Shrivastava (2012), there are four factors contributing to the advancement of computer technology, especially in digital data. The four factors presented are: (1) an increase in data processing capabilities; (2) a lower cost of digital storage; (3) affordable and faster communication technology; and (4) the proliferation of applications and smart devices.

The method of teaching-learning process after the events of the COVID-19 outbreak has segregated humans around the world. The seclusion was also supported by not only the state-owned telco-provider but also private-owned companies, which also provided the presence of the telco-infrastructure in conjunction with reinforcing the longevity of the teaching-learning process. The rapid growth of telco infrastructure is also supported by the number of internet subscribers, which supports usage in office work, the education sector, and home usage.

According to Ghavifekr (2015), the use of ICT in education refers to its application in the teaching and learning environment. In addition to ICT appliances, ICT applications can provide

more to improve the quality of teaching and learning outcomes, and not only can they improve the quality of teaching and learning outcomes, but they can also provide a cost-effective solution for reducing non-needed applications over the long term.

In applying ICT in teaching and learning, especially in language teaching, there are challenges that are mostly encountered in some countries due to the minimum availability of both telco infrastructure and financial issues related to school or domestic concerns in the education sector. (Bhattarai, 2021, p. 198) In his previous study about ICT implementation in teaching, he encountered problems in technology literacy. Technology literacy can be much more supportive with the help of infrastructure development as well as the advancement of both coverage and human resource development in providing training in ICT usage as well as long-term individual independence in self-learning.

Literature Review

1. Biohazard Zero

A Japanese survival horror video game developed by Capcom and first released in 2002 for the Nintendo Gamecube console, it was released again in 2016 with the addition of HD remastered graphics and new characters exclusively for the next-gen console. Since the first introduction of Biohazard in 1996, this Japanese franchise has been widely accepted around the world. In addition to introducing a new trend in gaming features, the Biohazard series also contains an education element for both overseas and Japanese gamers.

2. Command and Conquer

A real-time strategy (RTS) video game franchise developed by Westwood Studios in 1995. The first game was one of the first in the RTS genre, based on Westwood Studios' influential strategy game Dune II and introducing trademarks that would be used throughout the series. As opposed to digitally in-game rendered cutscenes, this includes full-motion video cutscenes with an ensemble cast to advance the story. The Command and Conquer series not only provides modern features in video game technology, but the game also increases individual senses and helps develop critical skills, especially in decision-making.

3. Gamification

Gamification is a strategic attempt to improve systems, services, organizations, and activities by creating game-like experiences to engage users. This is generally achieved by applying game design elements and game principles to non-game contexts. The application of gamification in the teaching and learning process not only engages the willingness of entertainment but may also engage the tension of curiosity.

Methodology

A case study was applied as the methodology to conduct and complete this research. The case study that is applied in this research is to conduct a study related to the different genres available in Biohazard Zero and Command & Conquer. (D. Gall et al., 2003, p. 436) mentioned that there are 4 characteristics of a case study. The characteristics of a case study, as mentioned by D. Gall, are: (1) The study of the phenomenon by focusing on specific instances; (2) an in-depth study of each case; (3) the study of a natural phenomenon in its natural context; and (4) the study of the emic perspective of case study participants.

The application of the case study in this research is to justify the gameplay game based on its genre and the language composition that is available during gameplay. For the beginning of the research, the author is preparing the videogame titles based on different genres, and

based on each genre, the author is going to observe the gameplay by the participants. In addition to the gameplay sessions, data will also be collected.

RTS games in their genre have played a major role in classical home gaming, but during the time of their release, the game usually endeared itself more to PC gamers than home console gamers. Then, in the mid-90s, the era of the digital age as well as the birth of high-speed broadband increased the opportunity for both vendors of RTS games and gamers. The role of high-speed broadband is also incorporated with the built-in chat feature in the game, which also engages the communication between gamers not only in the local community but also the gamer community around the world, but the case only occurred in the gaming universe.

The participants in this research were the students of Widya Dharma University registered in Listening 2 subjects, and the population of Listening 2 classes is 22 students. There are two steps of research preparation prepared by the writers: the advance of the gameplay session and data collection by filling out the questionnaire. The role of a broadband connection is to establish a remote desktop connection so that the writers can simply capture and observe the gameplay data as played by the students.

Gamification in language teaching is intended to engage a learner's motivation. The concept of ice-breaking in classroom activities is essential to providing more environmentally friendly' conditions so students' won't get stuck in a stiff and 'text-oriented' condition. (Zakime, 2018) theorized that ice-breaking is an essential tool in comforting the students, building cohesiveness, and delivering a positive environment. In addition to Zakime (2018), icebreakers are needed not only at the beginning of a lesson but also in the middle of the ongoing lesson in periodic terms; therefore, the reasons for conducting icebreakers are: (1) to help students get to know each other; (2) to identify learners by individual; and (3) to review the previous content in a friendly manner. The writers separate the results into 5 different categories, as mentioned before: (1) challenging gameplay; (2) interactive captions; (3) grammatical value; (4) educational elements; and (5) the best recommendations for replay.

Finding and Discussion

Finding

There were two categories of data discovered after the research, and the data categories were obtained from Biohazard Zero and Command & Conquer. Each of the data categories was obtained from 22 respondents, and the results were taken during the gameplay session. The writers prepared two different games as the conjunction for data interpretation. The data findings as prepared and interpreted by the writers consist of five categories obtained during the research, and the data presented will be discussed further in the discussion.

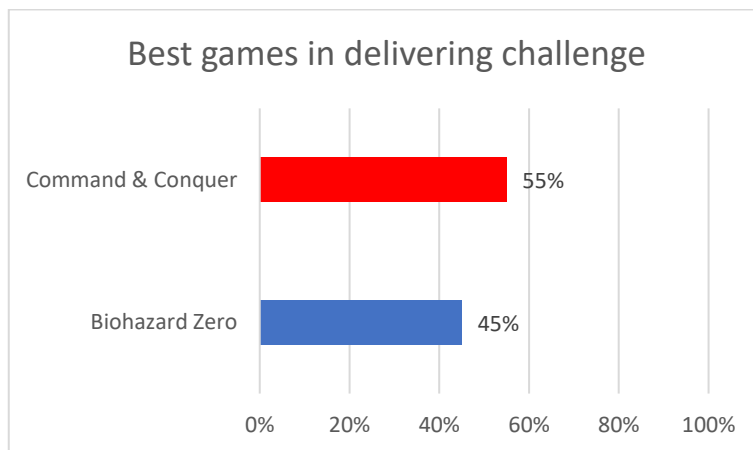


Figure 1 Best games in challenges

The first finding of the research assessed on both Biohazard Zero and Command & Conquer, and the numbers resulted in 10 points in different. Command & Conquer is an RTS game in the genre; it contains 44 missions in total, and the 44 missions consist of two different sides in which the player will have to choose different sides. The sample data from Command & Conquer was obtained from students' gameplay by selecting random missions. During gameplay, the students engaged in strategy management based on what they had read about the mission briefing and the objectives that the player must comply with in order to achieve the goal of succeeding in the mission. Meanwhile, Biohazard Zero was also chosen for its challenging gameplay. The gameplay presented in Biohazard Zero is about survival horror. The gameplay is about surviving the surrounding area, and during gameplay, the player also encounters numerous events to finish, unlike the case in Command & Conquer.

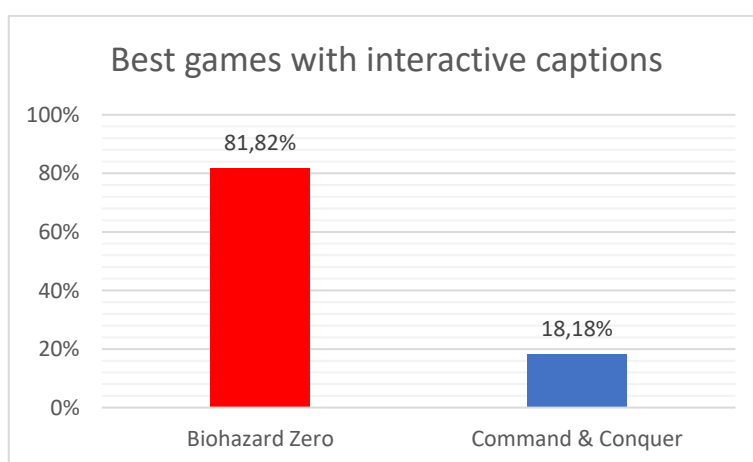


Figure 2 Best games with interactive captions

Biohazard Zero shares the most dominant in delivering interactive captions during gameplay. The interactive captions displayed in Biohazard Zero are included in many aspects, such as file archives, item checking in menu accessing, and event checking like pictures or investigating random elements displayed in surrounding areas for further information. Command & Conquer provides only a minor interactive caption; although the caption is available in the mission review menu, it only provides a single caption in one place.

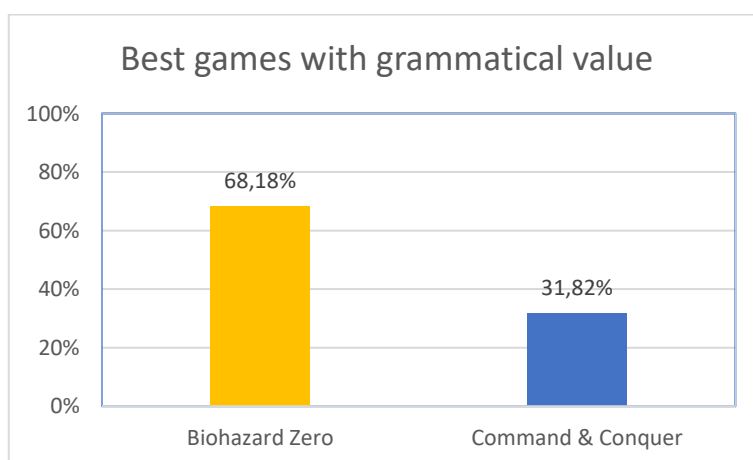


Figure 3 Best games with grammatical value

The grammatical value displayed in Biohazard Zero is supported by the percentage of interactive captions available during gameplay. The captions displayed in Biohazard Zero contained various compositions of mixed grammar. The mixed grammar composition in Biohazard Zero was not only available in the text displayed in the caption but also during the characters' conversations. On the other side, Command & Conquer provides a minor percentage in grammatical value since the text displayed for each mission is different, the cutscenes are only available once, and they can't be replayed after the briefing session is over.

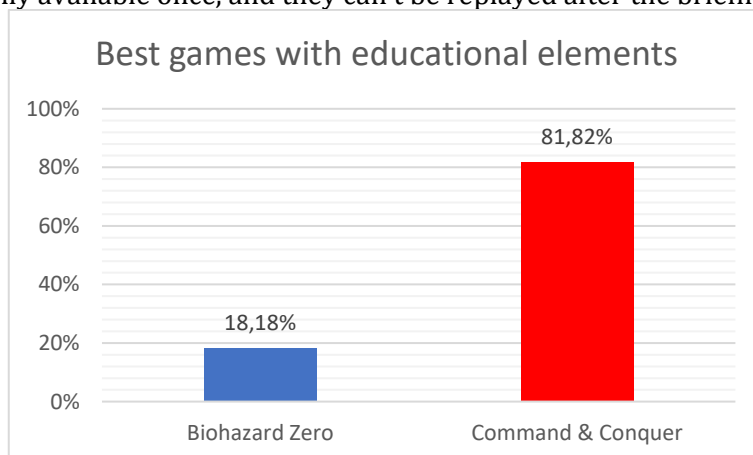


Figure 4 The best games with educational elements

Between Biohazard Zero and Command & Conquer, the students selected Command & Conquer as the best game with educational elements. Although it serves as an RTS game in genre, Command & Conquer provides not only a text caption in English but also other educational elements besides the English language. Command & Conquer, as for the player's experience, is more than a language education itself, but social study is also present in the educational element in order to enhance the player's knowledge beyond the gaming experience itself.

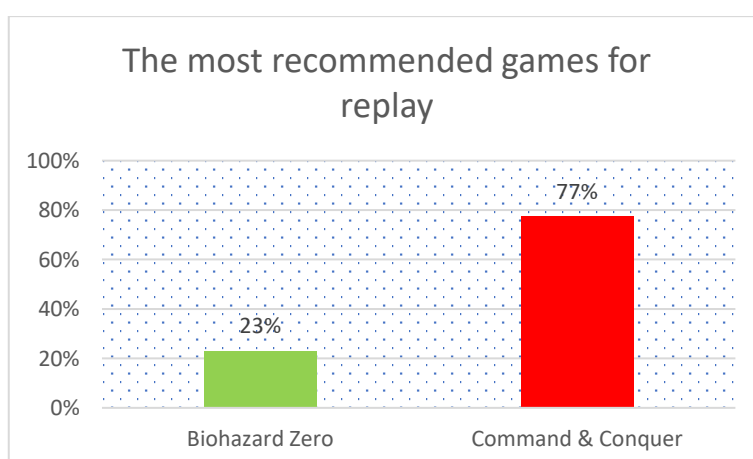


Figure 5 The most recommended games for replay

The data presented are the total data obtained from the student's perspective as an individual in selecting the best games for replay purposes. From the data presented, 77% of students selected Command & Conquer as the best and most recommended game for replay.

On the other hand, Biohazard Zero only resulted in 23% of students' selection. Both games provided the same level of difficulty, but the continuous element is emphasized more in Command & Conquer since the mentioned games are in the real-time strategy genre, and it provides the desire to win for recommendation.

Discussion

The role of the modern gaming console has become widely populated in the digital age, and it drives civilization from conventional entertainment to digital entertainment. Gaming consoles also provide educational purposes, although most people only look at the aspect of entertainment. In adapting gaming consoles for educational purposes, especially language teaching, gamification is also facing numerous challenges. According to Sandoval & Lamb (2023, p. 3), there are four misconceptions about adopting gamification that mostly trigger misbelief in adopting the concept into classroom activities: (1) gamification is just about badges and rewards; (2) gamification is a trivialization of learning; (3) gamification is still new in classroom learning activities; and (4) many educators still doubt and are reluctant to adopt gamification in classroom activities.

The challenging aspects as displayed by both did not only trigger the students' level of suspense but also their level of critical thinking about how to solve the matter. The concept of critical thinking lies in individual reading skills, that is, in developing a level of curiosity. According to Bloom, as cited by Arifin (2020, p. 2), critical thinking is the capability to achieve knowledge by investigating ideas regarding the subsequent six levels like knowledge, comprehension, application, analysis, synthesis, and evaluation.



Figure 6 GDI mission objectives

The mission review describes the objectives that must be overcome by the player and the obstacles present in the area, delivering a sense of critical thinking about how to overcome the obstacles in order to prevail on one of the objectives. In order to prevail in the mission, the player must be able to understand not only the mission review displayed but also the way to assess reality during gameplay, which also generates the successful factor. (Rubiyanti et al., 2020, p. 2) mentioned that an effective way to develop learning skills is to adopt thematic learning. Thematic learning requires students to be active in accelerating their independent skills by involving their sense of critical thinking by enhancing cognitive skills such as reading, memorizing, and context writing so that creative exploration can be created and developed further.



Figure 7 One of the challenges displayed in Biohazard Zero

As the displayed caption says, "This light will guide you to a greater truth." The player will instantly be triggered to discover what the caption means and, initially, the next level of analysis. The next step of analysis as pursued by the player is to investigate the following information as displayed in the caption: The word "This light" instigates the player's critical thinking skills with the conjunction of the candle object displayed in the picture. They pursue more of their level of curiosity by focusing on the word "The light" and the candle as their main paths to discovering more about completing the challenge.

Biohazard Zero shares a more interactive caption. The caption appears almost everywhere in the surrounding area during the gameplay session. In addition to that, it is also possible for the player to engage a short event trigger to check the caption. The captioning process does not limit itself to the video subtitle itself. It triggers an event, and it is also possible to engage the caption. The principles of caption, as theorized by Rogers & Webb (2017), state that captions emanate the teaching principle in multimedia and that it applies not only to English language teaching but also to other language teaching since captions also exist in both audio and visual. Fletcher & Tobias (as cited by Rodgers & Webb, 2017) stated that the combination of audio and visual in the caption gives the learners the opportunity to comprehend information through different channels and establish connections between different areas of learning. In other words, visualization will enhance the teaching-learning process, especially in the language teaching process.

A previous study about captioning conducted by Danan (2004, p. 5) proves that captioning is effective in improving the abilities of second language learners. The reasons that captioning is proven effective in improving language learning are that it has a beneficial effect on word recognition and implicitly on the learning of nonword targets. In addition to the study, captioning emphasizes more on word traces with identical sounds without textual support.



Figure 8 Caption displayed in Biohazard Zero

Biohazard Zero includes mostly grammatical values. The grammatical values presented in the games are mostly included in the obtained files during gameplay, and some of the files contain a path to dissolve the cases that exist during gameplay. With the combination of critical thinking and inductive learning, the player would be able to solve the case by understanding the obtained files.

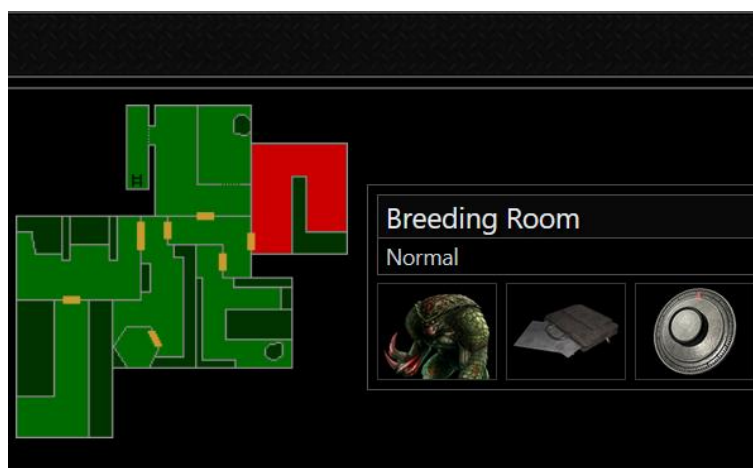


Figure 9 The displayed map in Biohazard Zero (Laboratory B1)

Based on the displayed figures in figures 7-8, it is clear to see that inductive learning emphasizes more on the student's concept of understanding. The student's concept of understanding, as mentioned by Wardani and Kusuma (2020, p. 2), is discussed more in case-based teaching. Case-based teaching in gamification, especially as applied in Biohazard Zero, is intended to enhance students' understanding of the grammatical sentence appearing in the obtained file. The files obtained in Biohazard Zero were composed of mixed types of sentences, so students were not only experiencing the feel of gameplay in problem solving but, at the same time, also experiencing the sense of grammar understanding.

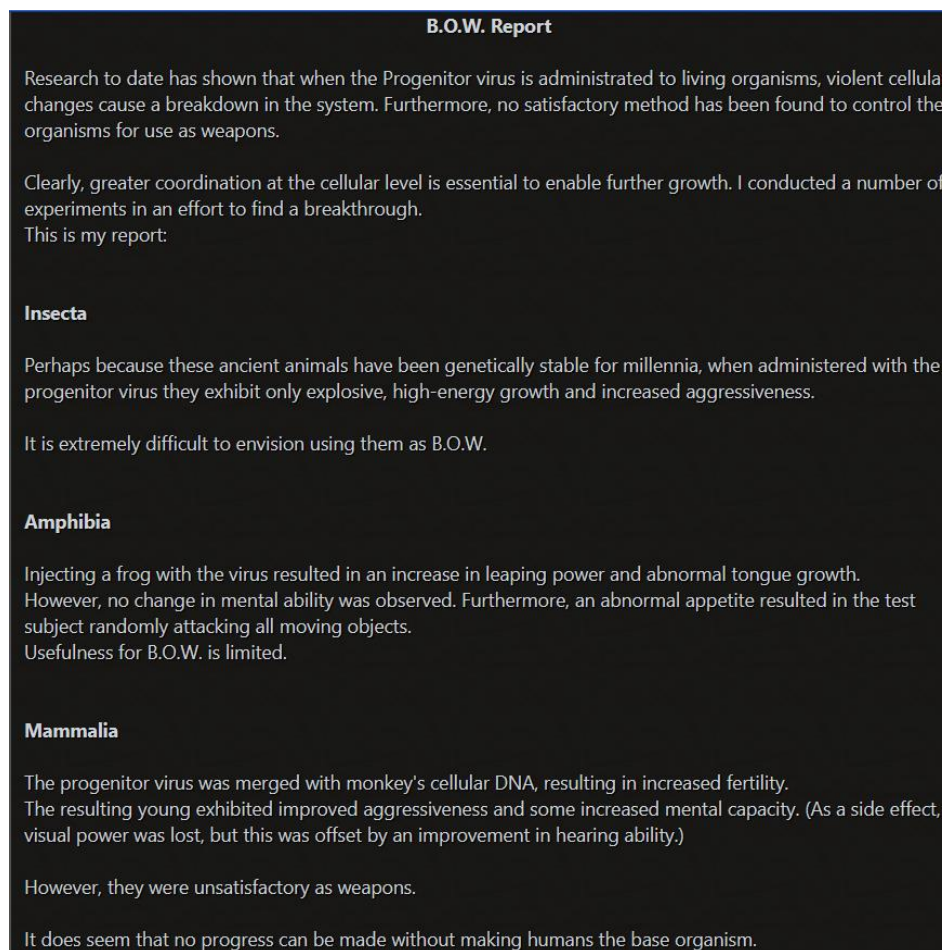


Figure 10 File obtained from Laboratory B1

Gamification presented not only language learning itself but also other elements outside of language learning. Command & Conquer presented not only the elements of language teaching but other elements that also exist, like social aspects like geography, for instance. (HANIFAH et al., 2021, p. 2) From their previous research conducted at The University of Pendidikan Sultan Idris (UPSI), gamification focuses on students' exposure to various teaching and learning courses, including teaching courses, technology enhancement, and teaching practices. The implementation of gamification is correlated with technological implementation for 21st century teaching, which incorporates multimedia aspects not only in classroom teaching and learning processes but also in other environments outside of classroom activities. In adapting gamification, the common concept of general thinking must be involved for some period of time since common people still consider the word 'game' as something that will and only drives away students' concentration from learning, despite the fact that games do not always drive students away from their concentration and they also contain some educational elements.

Rahmani (2020, p. 2) mentioned that gamification is an innovative way of learning by integrating the features available in gaming into non-gaming environments. A well-designed digital and non-digital game functions to stimulate language acquisition in the students themselves in both aspects, as the game player and as learners, since the concept does not apply only to language learning and vice versa.

Conclusion and Suggestion

Conclusion

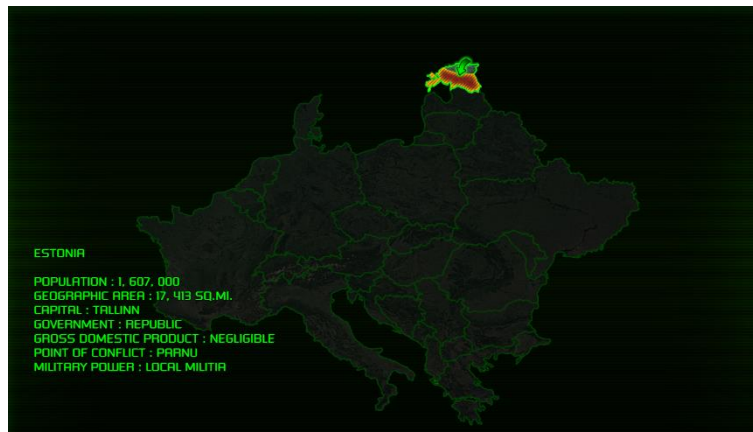


Figure 11 Educational element in Command & Conquer (European Map)

After the research, based on the games most selected for replay in game selection, Command & Conquer is the best-chosen game for replay purposes; on the other hand, for grammatical purposes, Biohazard Zero is still the best at delivering more language teaching by adopting gamification as a teaching medium. Both Biohazard Zero and Command & Conquer are possible for teaching and learning purposes, although the games are different in genre. For studying grammar and other foreign vocabulary, Biohazard Zero is possible for the best recommendation to do the best in application. On the other hand, for other aspects of teaching aside from language teaching, Command & Conquer can be recommended for an RTS genre of digital gaming.

Suggestion

Delivering teaching material in the 21st century environment is not limited only to conventional media, although some other ICT delivery methods have already been implemented. Other ways of delivering teaching need to evolve or advance in periodic steps. Gamification in its application to teaching and learning activities still requires some time to process, especially for people with negative sentiments regarding the gaming activity itself, especially about the understanding of gaming based on individual perception.

Digital gaming consoles are still limited in availability due to their price, which is still considerable for some users who possess the digital console itself. Multimedia teaching is still at a minimum in widespread use, even in large population areas like the city. The condition occurred not only in the institution but also in individuals, who also incorporated the limited condition. The implementation of ICT media began in 2001, when Microsoft launched Windows XP as their next generation and revolutionized the operating system in order to support more multimedia implementation in all sectors. The year 2001 is marked as the year of the digital age, and indeed, it still exists today. The conditions were incorporated with the limitless innovation of both multimedia appliances and digital infrastructure.

Incorporating gamification in language teaching is still in its beginning stages, and the marking is followed by common statements from people who play games that gaming has no correlation with education activity or, even worse, that gaming only wastes time. Such cases may be disturbing, and it solely depends on the carrier who can actually bring gamification to a better understanding and implementation.

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