RESEARCH ARTICLE

BENEFITS OF DIGITAL GAME-BASED LEARNING (DGBL) FOR ENGLISH LEARNING.

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Manuscript Info	Abstract
	The rapid development of English teaching method in recent years has brought out several new ideas to fruition, such as using entertainment media (such as movies or music) to support English learning. One of those entertainment media is digital games. Although digital game-based learning (DGBL) has risen in popularity throughout the years and has been implemented to support various subjects' learning, including English, some parents may still have doubts about the usage of DGBL. To solve this problem, this study points out the benefits of using DGBL for English learning. This paper consisted of three parts. In the first part, it explored the background information of DGBL, such as its definition and history. In the second part, it pointed out the benefits of using DGBL in English learning. Also, while it was not the focus of this study, there were several drawbacks of using DGBL in English learning discussed in this paper. This paper ended with a conclusion and some recommendations. Based on data from existing research, this study concluded that there were obvious benefits that can be gained by using DGBL over conventional teaching method. However, there were several drawbacks that cannot be ignored either. Thus, further development and research are needed in order to eliminate those drawbacks and maximize the potential of DGBL usage for English learning.

Introduction:-
Based on the writer's personal experience, teaching English can be a difficult and consuming task, especially to children. Some parts require students to memorize, such as grammar and vocabulary. Explaining them with a regular method of one-way teaching may make students uninterested and make them unable to understand the materials effectively. Therefore, an effective and also interesting method is needed to teach English.

Nowadays, there are various media that can be used for English learning and teaching, such as movies, music, etc. One of the newer media is digital games. There Is a growing trend of using digital game-based learning (DGBL) to teach various subjects, including English. However, some parents may have doubts about the usage of DGBL to help their children learn due to their negative mindset towards digital games (mostly due to its content and its effect to children's behavior) (Orlando, 2017).

The writer believes that the usage of DGBL for English learning is beneficial for students. In this paper, the writer will try to explain what the benefits are. This paper will start with a literature review on DGBL itself. The next part

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is the methodology of the research, then it will continue with the discussion about benefits of using DGBL for English learning. Also, while it is not the main focus of this paper, the writer will also mention some drawbacks of DGBL usage for English learning. This paper will end with a conclusion and some recommendation.

Literature Review:-
To understand the definition of DGBL, first, we need to understand what digital games is. There are only limited resources that propose the definition of digital games. University of Washington (2005) defined digital games as an interactive program for one or more person intended for entertainment purpose at the least. Another definition of digital games proposed by them is that 'digital games' may refer to any electronic environment that can be manipulated by players for entertainment purposes. Hall & Marston (2016) defined digital games as an interactive program enabling players to interact with it for entertainment. In short, it can be stated that digital games are any electronic program that allows players to interact with it for entertainment purposes.

Digital game-based learning may be defined is a phase when we integrate the learning process into digital games itself. Aside from this broad definition, there are several kinds of literature that propose definitions of digital game-based learning. Coffey (2009, para.1) stated that digital game-based learning is "an instructional method that incorporates educational content or learning principles into video games with the goal of engaging learners". De Freitas (2006, p.9) stated that digital game-based learning is "applications using the characteristics of video and computer games to create engaging and immersive learning experiences for delivering specified learning goals, outcomes and experiences.".

The terms "Digital Game-Based Learning" proposed by Gee (2007, as cited in Felicia, 2011) and Prensky (2001). Prensky (2001) proposed that the emergence of DGBL begin in the last decade of the 20th century when the world starts entering technology boom. According to Prensky (2001), the technology boom started the emergence of so-called "digital natives" and the division between them and "digital immigrants." Prensky (2001) also argued that digital natives are people who born after 1970, who are already exposed to technology from their early age and developed the skills that are needed to understand and utilize technology. Therefore, they process information differently from the "digital immigrants"; the "digital natives" can do multitasking and process non-sequential information better. Therefore, the so-called "digital natives" require a new way of learning; non-linear instructions, instruction based on discovery, student-centered classes, and pedagogical methodologies that encourage the development of meta-cognitive skills, rather than regular, old-fashioned way of teaching. The emergence of this "digital natives" plays an important role in the development of DGBL.

As mentioned in the earlier paragraph, DGBL started in the late 20th century and growing rapidly through time. There are several theories that try to explain the cause of this phenomena. DGBL is considered to be the answer for the drawbacks found in traditional education (such as lack of motivation and confidence. (Felicia, 2011)). This view is also supported by modern theorists who support a constructive approach to learning. DGBL is believed to be inherently engaging and intrinsically motivate players to learn and progress accordingly (Malone, 1982; Bowmann, 1982; Provenzo; 1991, as cited in Felicia, 2011). Digital games also seem to increase players' self-efficacy (Toprac, 2011, as cited in Felicia, 2011), which in turn may increase their academic achievements. In short, DGBL is considered as a new way of learning that can accommodate modern "digital native" learner's needs.

Methodology:-
The method used in this research is library research. Data that were used were gathered from previous research about digital game-based learning.

Discussion:-
Benefits of DGBL for English Learning
Based on the data gathered from previous research, it may be stated that there are several benefits that may be gained by using DGBL for English learning. First, digital games have the ability to enable students to engage in interaction in TL (target language). This is important since the lack of TL usage may result in inadequate language learning. (Ofsted, 2011). Reinders (2012) stated that digital games have potential to engage learners and to encourage interaction in their target language. Research conducted by Rankin, Gold & Gooch (2006, as cited in Reinders, 2012), which focused on several intermediate-level and high-beginner level learners, has some findings that indicate the positive impact on increasing students' level of TL interaction. Rankin et al. (2006, as cited in

Reinders, 2012) research results showed that playing video games enhances TL output and comprehension of vocabulary in intermediate level participants. Another research that supports the argument was conducted by Reinders & Wattana (2011). This research involved six undergraduate intermediate-level EFL students in Japan. Students were instructed to play MMORPG *Ninerift*, and researchers investigated their interaction in the game. Reinders & Wattana (2011) research report indicated that playing MMORPG has a positive impact on increasing the quantity of L2 interaction between players.

Another research by Suh, Kim and Kim (2010) also supported the research mentioned above. Their research was a large-scale study, involving two hundred and twenty Korean elementary EFL learners. Participants played MMORPG (Massive Multiplayer Online Role Playing Games) games that encourage interaction between players, which involve quizzes, trading, etc. The research report indicated that participant who takes part in MMORPG-based interaction get higher scores in the post-test compared to the control group that takes regular face-to-face learning. Based on the evidence mentioned above, it can be suggested that DGBL can help students to engage in interaction in target language.

Another benefit that may be gained by using DGBL for English learning is related to its ability to increase student motivation. According to several research, such as ones conducted by Othman & Shuqair (2013) and Rehman, Bilal, Sheikh, Bibi & Nawaz (2014), students' motivation has positive impacts on students' learning outcome in English learning. Therefore, it can be assumed that this ability is beneficial for English learners. Research conducted by Liu & Chu (2010) confirmed this ability in digital games. The study involved 64 seventh grade students, 13 to 14 years of age. The study also involved a computer-aided learning tool called HELLO (Handheld English Language Learning Organization). This program enables students to engage in various learning activities, such as contextual learning, task-based learning and context-aware learning through interactive games. The research result indicated that using digital games can enhance students' concentration, as well as improving their creativity and increase their motivation, due to the elements of competition and winning included in it.

Another research conducted by Kebritchi, Hirumi & Bai (2010) also supports the argument mentioned above. Their research aimed to measure the effect of *DimensionM*, a mathematics-based education video games to students' achievement and motivation. The research involved high school students and teachers from an urban high school in United States and conducted through interviews and quantitative instruments. The research results indicated that using video games can improve students' motivation and learning outcome. Although this research focused on mathematics instead of English, it can be assumed that the effect will be the same for both subjects, due to the similarity in context (which is for learning).

The third benefit of using DGBL for English learning is related to its ability to improve students' vocabulary understanding. Digital games can create an environment where students are "forced" to use those words in right circumstances. Therefore, instead of only remembering words and its meaning, students will also understand how to use it in sentences. A study conducted by Yip & Kwan (2006) may give proof to this statement. The study was conducted to investigate the usefulness of DGBL in online games in vocabulary learning. Three teachers and one hundred engineering undergraduate students participated in the experiment. The students were divided into two groups. The first group were using several Web sites consisted of games to learn new vocabularies. The games included not only the words and its meaning, but also word forms, examples, and feedback. The other group used activity-based learning instead of games to learn vocabulary. Tests, interviews and survey questionnaire are also conducted in this research. The results showed that the first group outperforms the other group in the post-test conducted after learning process. The questionnaire result also showed that students prefer game-based learning rather than activity-based learning.

Based on arguments and evidence above, it can be assumed that there are several benefits of DGBL on English learning. However, there seems to be a lack of research on benefit of DGBL for English learning that focuses on primary and secondary level students. Ironically, they are the ones that play a lot of digital games, so this type of research will be beneficial for them. Therefore, further researches are needed to investigate the benefit of DGBL on English learning for primary and secondary level students.

Drawbacks of DGBL for English Learning:-
Aside from the obvious benefits that may be gained from using DGBL for English learning, there are several drawbacks or disadvantages that have been proposed by critics that cannot be ignored either. In this section, some of them will be mentioned with their respective possible solutions.

The first drawback of DGBL that will be mentioned is the cognitive load that comes with it. Lowe, Lee, Schibeci, Cummings, Phillips & Lake (2010, p.236) stated:

"Long tracts of text, acted as a barrier to the 'action', dampened enthusiasm and created significant cognitive demands on students, particularly those with less developed reading skills or a preference for visual/graphical cues. Some students read the text carefully, but the number of unfamiliar concepts and words presented a problem even for conscientious students and competent readers.The text had too many decontextualised new concepts for students to easily assimilate and retain, such as, 'will turn blue litmus paper red'. The cognitive challenge was excessive."

Many educational games consist of long text, especially in the instruction or guideline part. It may be helpful for some students that like to read or has good reading skills. However, as mentioned in the quote earlier, students who prefer visual or graphic interface will find it hard to understand and boring, thus lowering their motivation to play the games and learn the materials. In short, much text in games may become a drawback in the process of learning. However, there is a solution to the text problem that mentioned above. Game designers can also put audio and visual content along with the text, to accommodate those who do not want to read or have lower reading skills. As mentioned by Lowe et al. (2010), by combining audio-visual and text interface in games, students who do not want to read or has lower reading skills can count on the audio-visual instructions instead pushing themselves to read the text. Therefore, the disadvantages of so-called "weaker readers" will be mitigated, and the learning target can be reached by all students more easily.

The other drawback of DGBL usage in English learning is the limitation of feedback that students get from the games. Lowe et al. (2010, p.237) stated that in the games that he used in his research, students are pushed to explain the object that they had seen in the previous screen, but there is no feedback. He also stated that:

"Students disliked being stopped; the lack of recognition of their input discouraged them, and the apparent lack of reaction in some of their experiments confused them…Essentially, the learning object became a frustrating test and not fun."

In short, Lowe et al. (2010) stated that the lack of feedback from games might discourage students to learn more. Therefore, it can be a drawback for students' learning process.

The third drawback that will be mentioned here is the lack of communication between teacher and students. If the task is done through a computer (as usually done in DGBL learning process), the students may not able to ask question freely to their teacher. Reynolds & Caperton (2011) stated in their research report that self-driven learning (type of learning that might be used in DGBL) might also cause dislikes and discouragement for students, due to the difficulty to ask questions. Also, if there is only minimal contact or interaction between teacher and students or between each other, it may make them feel isolated. Therefore, it may make them feel individualized and "anti-social" in classroom.

However, there may be a solution for this problem. As technology in artificial intelligence advancing, there are also improvements in digital games that enable them to give some feedback. In the games used for Yip & Kwan (2006) research that mentioned earlier, the games can give some feedback. Also, with the rapid development of artificial intelligence (such as with Siri on Apple devices and Cortana in Microsoft devices), there may be a technology that enables games to respond to students' individual question. In short, rapid technology development may provide solution for this problem in the future.

The final drawback of DGBL for English learning that will be mentioned here is based on teacher and administrator's point of view. To be useful in class, a game should have the same, or at least aligned, goals with the ones that the teacher have. There are only a few of games that fit this requirement. In other words, it means extra work for teachers to align his/her lesson goals. As Deubel (2006, p.30) stated:

"Teachers say they have good reasons to be reluctant to bring games into their classrooms. The goals of a game may not be consistent with learning objectives, and may function as a distraction to students instead of as a learning tool…"there is general concern about how gaming fits in with the demands of a standards-driven accountability movement in education".

Also, rapid technology development also means that the games that can be used for education constantly changing. It will be hard for some teachers and administrator to keep up with it, especially the ones who are the part of "digital immigrants" that I mentioned earlier. As Griffiths (2002, p.48) stated:

"Videogame technology has rapidly changed across time. Therefore, videogame are constantly being upgraded which makes it hard to evaluate educational impact across studies"
In short, technology development that may be beneficial for DGBL usage may also backfire and became its drawbacks.

However, the writer believes that there will be a solution for that in the future. Nowadays, there has been a lot of training and workshop for teachers that teach them more about technology and how to use it. This may help to reduce the gap between "digital immigrant" and "digital native" generations. Also, the regeneration of teachers from "digital immigrants" to "digital natives" teachers who are more fluent in technology may also help to fix this problem in the future.

Conclusion & Recommendation:-
Based on the evidence that has been mentioned before, it can be suggested that some benefits can be gained from using DGBL for English learning. However, several drawbacks cannot be ignored either. However, we can expect that those drawbacks will be overcome in the future, with the aid of rapid technology development that is happening through time.

In order to end this essay, there are several recommendations that the writer wants to propose. First, further researches are needed in DGBL usage for primary and secondary students as mentioned earlier. Also, a problem mentioned earlier has not been answered, namely the difficulty in aligning digital games with teachers' lesson goals. Further research and development is needed to develop games that can accommodate this requirement, while also able to draw students' interest and motivation.

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