Research Article

Educating and Engaging Higher Learning Students with Interactive Games of Information Management Education (i-GIME) v.2

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Abstract: *Game-based learning has grown in popularity since used during Covid-19. Many educators worldwide use game-based learning as an exciting and interactive tool. i-GIME v.2 has been enhanced with additional modules and menus to make learning and teaching more engaging and students more interested and motivated. The purpose of i-GIME v.2 is to help information management students improve their information literacy and cataloguing skills. i-GIME v.2 designed the course content with gaming components that revolutionized the teaching and learning technique using a few website applications. The importance of i-GIME v.2 can stimulate learning motivation and student activity to be engaged in learning. In addition, the application of game-based learning can also improve student learning outcomes and creativity. An online survey was undertaken to assess students' perceptions of i-GIME v.2. The survey included 46 students from a public higher education institution. According to the frequency analysis, the game-based learning technique boosted students' self-efficacy in information literacy and cataloguing skills. As a result, the authors conclude that game-based learning provides better findings in student learning than traditional classroom teaching.*

Keywords: .i-GIME V2; game-based learning; education; engagement.

1. INTRODUCTION

Game-based learning or gamified learning is a concept in which educators incorporate elements of video games into a particular learning environment to improve students' learning experiences and engagement (Deterding et al., 2011). Game-based learning is implementing a game structure to teach a subject (Qian et al., 2016). Additionally, game learning is based on a technique for learning that uses game applications. It is more focused on creating learning activities that can gradually indicate concepts and motivate learners to improve their learning rather than developing games for the user to play (Emerson et al., 2020). The benefits of game-based learning provide settings that link game content with learning objectives to support students in acquiring domain-specific knowledge and skills. i-GIME v.2 activities include challenges and problem-solving abilities to help students become confident and focused when tackling them.

Game-based learning provides students with an engaging learning environment where they can practice and learn effectively. Although some students may perceive gaming in the classroom as a diversion from learning, it aims to improve visual skills, student motivation, and participation as well

as peer engagement and teamwork skills, as well as the student's ability to apply gaming principles in a non-game context (Zirawaga et al., 2017). Additionally, games could entertain players while encouraging participation and creativity by providing opportunities for interaction and problem-solving, enticing storylines, and more (Crawford et al., 2021). Most game-based learning strategies are compatible with educational curricula because students work toward a goal, choose appropriate learning activities, and experience the results of the learning actions (White & McCoy, 2019).

Since digital games are entertaining and encourage various learning methods while providing feedback, educators can use them as a more effective learning platform than activity-based learning to engage their students (Castillo Cuesta, 2020). Students may experience ups and downs, which may impact their learning outcomes. By making various games related to the subjects, students will be just as enthusiastic and engaged with their study materials as they do with video games. Students' performance is affected by gamified learning, and this performance can include motivation, anxiety, and enjoyment of the learning process.

2. METHOD & MATERIAL

The Interactive Games of Information Management Education (i-GIME) v.2 is a games-based learning platform for self-learning by students and educators. This website uses Google Sites to host a range of relevant and appropriate apps that correspond to the syllabus contents. Wordwall and LiveWorkSheets are the online platforms applied in developing the games, which provide interactive ways of learning the topic. Figure 1 shows the games developed for Tutorial IMC111 by utilizing a suitable online platform to maintain positive momentum among students.

Figure 1. Games developed in Tutorial IMC111

Several tools are incorporated to interact and engage with students and educators. Disqus is a networked community platform that provides comment and discussion, which has been incorporated in i-GIME v.2 to interact and discuss among users, with the assistance of expressing expressions through emojis. The discussion area and emotional expression, as shown in Figure 2, are useful ways for students to communicate and engage with one another while expressing their thoughts.

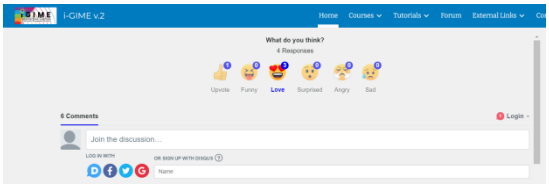

Figure 2. The discussion area and emotions expression

Each game's page has a comment section where people may leave feedback on the games they have played. Google Sheets is needed to allow users to view their comments instantly. Figure 3 depicts the comment section where students can comment on the game they played.

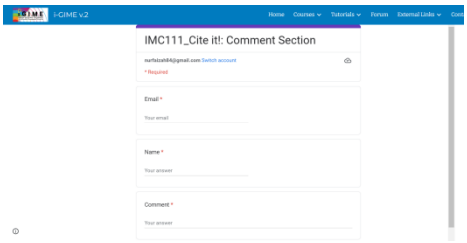

Figure 3. Comment Section

Padlet, an educational technology that can create a forum, allows sharing opinions, thoughts, ideas, and facts on a web page to be more entertaining. Students may ask questions or express their emotions or feelings about the games being played and are free to express themselves. As shown in Figure 4, the forum menu brings in the moment and engages students in contributing their thoughts, opinions, and ideas among them. It will significantly facilitate and encourage students to continue playing games to enhance their study and learning.

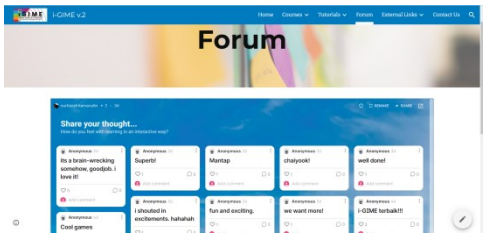

Figure 4. Forum

Contact us is a page that uses the tawk.to application to communicate and contact the developer about technical concerns or questions. When the web developer is online, the queries will be answered immediately. Figure 5 shows the page where the users can contact the developer regarding technical issues during the games played.

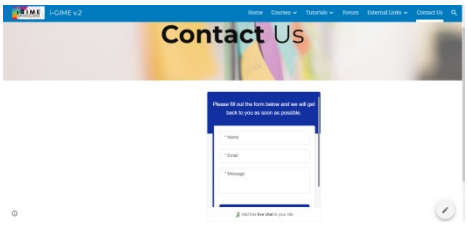

Figure 5. Contact us

According to research, students are more likely to maintain interest in an instructional activity when technology is incorporated (Felszeghy, 2019). Thus, i-GIME v.2 is developing new menus as additional activities to allow students and educators to engage actively. The menus were included to create an exciting moment through efficient and prompt interaction between them.

3. FINDINGS

The online survey was conducted to assess the student's perception of i-GIME v.2. In total, 46 students from a public institution of higher education participated in the survey. The results found that gamification can positively impact teaching and learning delivery. Based on the statistical analysis, the study found six significant students' perceptions of the i-GIME, which are; 1. The results indicated that students understood the instructions given in i-GIME and how they can apply them in their learning; 2. The students comprehended the material better and found the gamification method amusing using

blended or online learning. It shows that students have a positive perception of gamification; 3. The students favour gamification in online learning, improving their understanding of the information skills subject; 4. The students believed that gamification in i-GIME also advances their knowledge in cataloging skills subject that demands technical skills like information skills subject; 5. It showed that students' positive perception of gamification could motivate them to be interested in the topic taught; 6. It revealed that students believed it would be more fascinating if instructors used i-GIME in their lessons. Hence, i-GIME may help students practice the knowledge that they have. Students can cultivate thinking and problem-solving skills through i-GIME and experience the thrills of winning and losing in a competitive atmosphere. Overall, the findings are coherent, as the results found that gamification positively impacts teaching and learning. Gamifying learning could increase students' interest in the course and drive them to more achievements.

4. DISCUSSION

The goal of evolving i-GIME v.2 was to boost students' learning attentiveness, motivation, and interest. The i-GIME v.2 was designed to enhance the quality of education in interesting ways. It does this by using a new method called "gamification" to keep students' attention, motivation, and interest in the learning process high while they are in an online class or course. With the evolution of i-GIME v.2, educators realized and believed in active learning that motivates student flexibility and involvement in the learning experience. Thus, students responded well to the comments section in the i-GIME v.2, displaying that they were having great moments and trying to assemble knowledge within them simultaneously. Consequently, the educators were delighted and contented that i-GIME v.2 managed to arouse and create interactive learning experiences that are more participatory and entertaining to their students. The achievement of i-GIME v.2 would encourage more growth of other comparable gamification-based teaching and learning approaches that matches the need of the digital native generation.

5. CONCLUSION

In a nutshell, students are responding positively to game-based learning. Interaction and participation in the learning process are essential for successful students. Self-learning using this i-GIME v.2 is a relevant and appropriate way to grasp the practical aspects of the syllabus content. Furthermore, students can be more understanding, able to deal with problems, and develop learning abilities with this games-based learning. Besides, i-GIME v.2 enables students to assess their learning creatively, efficiently, and excitingly. Educators can assess how effectively students retain material and adjust their instruction to the next level or re-teach a topic if students do not understand it (Cameron & Bizo, 2019). As a result, the authors conclude that game-based learning outperforms traditional classroom instruction in student learning.

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