

Students' Response towards Synchronous Game-based Learning

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Abstract—Game-based learning has emerged as an active learning technique over the years from traditional to digital. In the light of coronavirus disease (COVID-19), Hospitality and Tourism to You (Ht2U) games which started as a book, followed by traditional board games which then went online through a website, have recently been incorporated through the Jamboard, a Google feature attached to Google Meet. This paper aims to study the students' feedback on the latest form of the games in meeting the needs arising from the pandemic. The results highlight the characteristics of a good game extended by the online teaching and learning approach. It is hoped that future studies will lead to the expansion of online synchronous features that are predominantly suitable for vocabulary games.

Keywords—game-based learning, game theory, COVID-19, ODL

I. INTRODUCTION

It has been common for educators to carry out face-to-face classes in teaching at the various levels throughout the world for centuries. Since the COVID-19 outbreak, teaching and learning has changed significantly with the apparent rise of online learning. Open and Distance Learning (ODL) is a way of learning virtually without meeting face-to-face in a classroom. In the face of growing modernity and the COVID-19 pandemic, ODL is considered to play an important role in increasing access to education worldwide (Isangula et al., 2021). Even though ODL has been implemented as part of a course in certain institutions in Malaysia, the education system was not ready to go full swing when the pandemic started. The five factors which influenced the preparedness of ODL among the educators are teaching experience, number of family members, number of devices, the Internet data, and convenience of ODL (Noor Izyan et al., 2021). Educators began to explore the various platforms and features available online to equip their teaching skills. Lectures, exercises, activities, and assessments are fully conducted online. The challenge is to ensure students' understanding of the lessons.

Game-based learning is one of the ways that can be carried out online. In game-based learning, the games which consist of crossword puzzles and word search are used as a tool in

the teaching and learning process. The main objectives of the games are to enrich students' vocabulary and to assist students in understanding the course better. Hence, the purpose of this paper is to investigate students' response towards the use of Jamboard, an online feature, in conducting activities for the HTH500 course which is offered at the Faculty of Hotel and Tourism Management, Universiti Teknologi MARA (UiTM), Cawangan Pulau Pinang. Although there are many studies on game-based learning, studies to explore responses towards synchronous game-based learning are comparatively scarce.

II. LITERATURE REVIEW

Over the years, many have questioned the effectiveness of the traditional teaching and learning methods in higher education which has resulted in the search for more effective methods. In the late 1990s, eLearning was established and has since been progressively incorporated into higher education as an alternative to the traditional teaching and learning methods (Al-Asmari & Khan, 2014). At the same time, games began to play a vital part in promoting active learning since they involve interactive and distinctive elements (Selby et al., 2007). Games not only make learning more enjoyable but also motivate students' in-class involvement and cultivate their attitudes towards learning (Jones et al., 2015). In short, game theory is a theoretical framework for creating social situations among competing players. According to Raadt (2017), motivation is the main factor in using the game theory to understand classroom interactions.

Huyen and Nga (2003) said games are effective in helping students improve their vocabulary building skills. In addition, games indirectly lead students to engage in interaction with each other to learn by themselves and from others which indirectly lessens the fear of committing mistakes (Bavi, 2018). Thus, digital game-based vocabulary learning has considerable potential for language learners, educators and researchers (Di et al., 2019). Unexpectedly, 2020 marked a change in the education climate. COVID-19 has shaken the world and provided a whole new experience to educators and students in their teaching and learning environment (Adnan

& Anwar, 2020). Instead of combining traditional teaching and learning methods and eLearning, they have no choice except to embark on ODL.

III. HT2U GAMES

Hospitality and Tourism to You (Ht2U) games have evolved to cater for the medium of communication between educators and students for three different degree courses: HTH500 (Hospitality Service Management), HTH545 (Hospitality Consumer Behaviour) and HTH568 (Club and Theme Park Management). Ht2U games consist of two components namely crossword puzzle and word search. Both games are well-known for their contribution in improving vocabulary mastery. In the meantime, games are fun because they provide a source of enjoyment and pleasure (Prensky, 2001).



Fig. 2. The HT2U games book.

Figure 2 above shows the Ht2U games in the book form. The logo and the book of Ht2U games are copyrighted. Subsequently, crossword puzzles and word search were turned into Sahibba-like games to suit the nature of board games. Figure 3 below shows the Ht2U games in the form of board games.

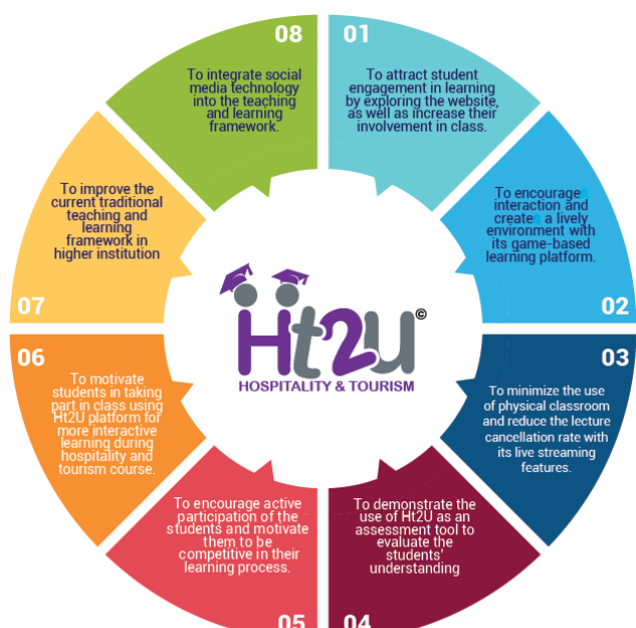


Fig. 1. The objectives of HT2U games.

Figure 1 above shows the objectives of Ht2U games. Among the objectives are to attract students' engagement in learning, to encourage interaction, to minimize the use of physical classroom, to demonstrate the use of Ht2U as an assessment tool, and to evaluate students' understanding. The games took form as a book for individual students before being transformed into board games to be played in groups during the physical class sessions.



Fig. 3. The HT2U board games.

Subsequently, Ht2U games were transformed into a website. Besides Ht2U games, there are other nine main menus which include live streaming, forum, and discussion on the website featuring interactive learning. Figure 4 below shows the Ht2U games website.

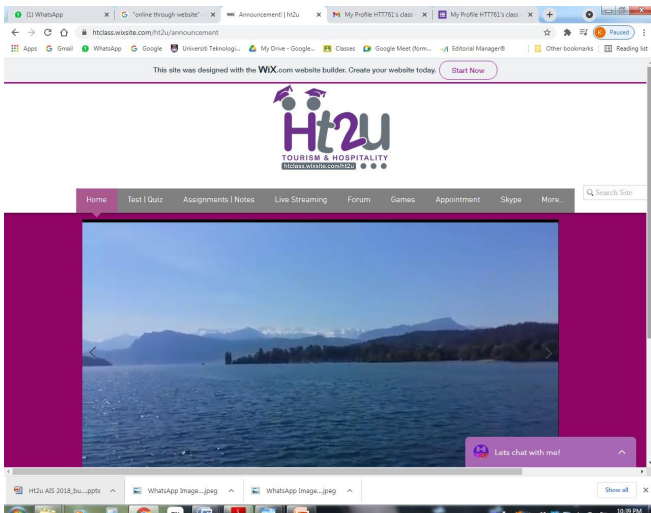


Fig. 4. The HT2U games website.

HT2U games have won several awards since the games were first introduced. In 2017, the Interactive Teaching and Learning Website for Tourism and Hospitality Students won Silver award in the International Conference and Competition on Teaching and Learning. In the same year, a Gold award was bagged in the International Food and Tourism Innovation, Invention and Creativity. The following year HT2U Games took part in the Asia Innovation Show and won two awards, a Gold, and a Special award from the World Invention Intellectual Property Associations (WIIPA). Figure 5 below shows the two awards won in 2018.



Fig. 5. The Gold and Special awards won by HT2U games.

Recently, due to the pandemic outbreak, the educator had to explore the suitable method to meet not only the learning outcomes of the course, but also students' readiness and the available options of online features. The educator decided to utilize the most easily accessible feature, Jamboard, which is attached to Google Meet. Jamboard is a digital whiteboard that allows educators and students to have a rich collaborative experience during Google Meet classroom sessions. Before

starting the Google Meet session for lecture and activities, the students were required to study the respective chapter that will be covered for that lesson.

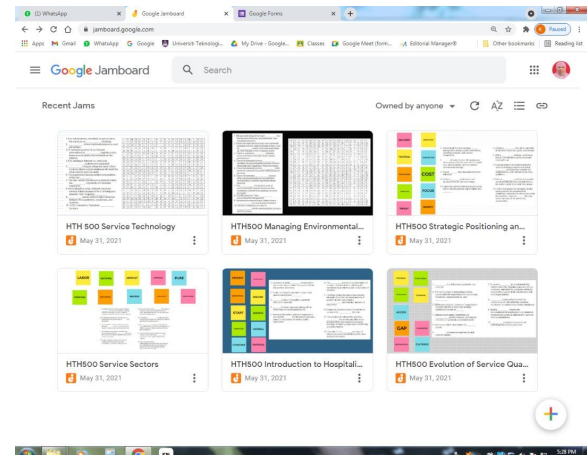


Fig. 6. The Jamboard interface for HTH500.

Figure 6 above shows the Jamboard interface for HTH500 course. Each activity or game covers a chapter. Due to the limitations of Jamboard whereby students are unable to type into the crossword puzzle vertically as a whole and creating a text box for each letter is time consuming, the crossword puzzle is turned into the act of dragging sticky notes to match the blanks. Students also have the choice to type in the answer in the blanks if they prefer to do so. Figure 7 below shows a fill in the blanks exercise on Jamboard for a chapter.

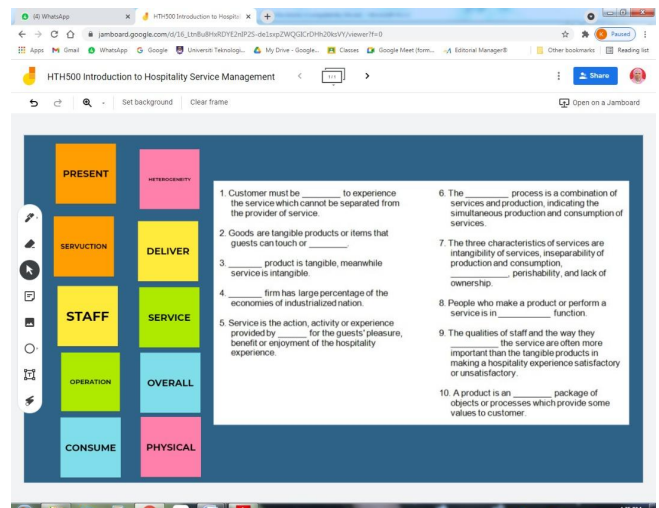


Fig. 7. A fill in the blanks exercise on Jamboard.

On the other hand, word search works well on Jamboard because of the availability of the pen function. There are many readily available applications on vocabulary games today. Games applications such as Quizizz and Nearpod allow students to answer on their own and share the results. However, they lack a criterion, educators' involvement. Live observation and synchronous movement are the key reasons

for choosing Jamboard over creating an application for the games.

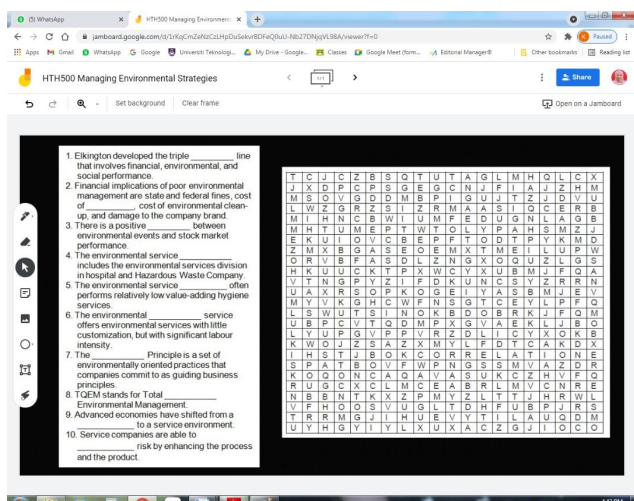


Fig. 8. Word search on Jamboard.

Figure 8 above shows word search on Jamboard for a chapter. For both games, educators can see who is attempting to complete the game and award points or marks to the respective student. Educators can also divide the students into groups to ensure everyone participates in the games. Discussions can be carried out simultaneously. Hence, at the end of the lesson, students will comprehend better on the new vocabulary and chapter learnt. The developers hope to patent the various versions of Ht2U games in the near future.

IV. METHODOLOGY

A qualitative research approach was chosen for this study since qualitative methods are very useful to determine the responses students provide to the events they experience. This paper employs an action model of Kemmis and McTaggart (1988) which consists of four steps: (1) understanding a problem and identifying potential strategies (plan), (2) executing the strategies (action), (3) noticing outcomes of the strategies (observation), and (4) evaluating the outcomes of the strategies (reflection). An action study is a participatory study consisting of following a spiral self-reflective cycle that is planned to initiate change. The action model adopted in this study gives room for changes to be made in the next cycle. Figure 9 below illustrates the conceptual model used in this study.

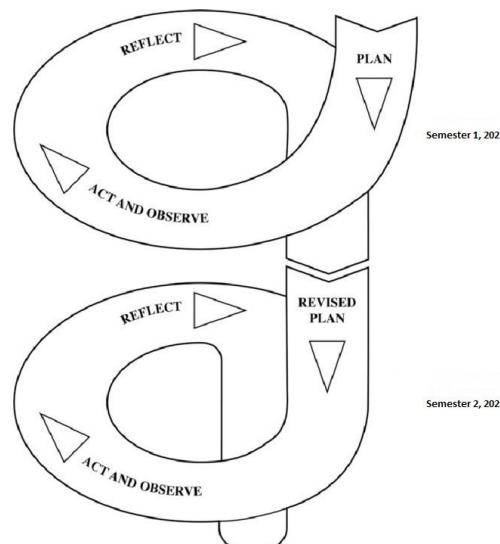


Fig. 9. A conceptual model of action research cycles (Kemmis and McTaggart, 1988).

The sampling in this study consists of 19-degree students from the Faculty of Hotel and Tourism Management, UiTM Cawangan Pulau Pinang who took the HTH500 course in Semester 1, 2021. The preliminary action research study involved a group of five students of a class who gave consent to be the respondent for the qualitative study.

Before the Ht2U website was designed, the researchers gathered information on participation problems in synchronous online learning settings. Firstly, a pre-test was conducted at the beginning of the semester to gauge the students' vocabulary knowledge and familiarity with Jamboard. Secondly, the students were divided into groups and required to study the respective chapter before the online lecture was conducted. The games were then handled by the educator teaching the course who is also one of the researchers of the present study. In the final step, the researcher was able to observe and record the events during the Google Meet session. Once the researcher covered half of the syllabus and conducted the prepared activities, a post survey was carried out to gather feedback from students for improvement. Open-ended questions were used in the pre- and post-test. This allowed flexibility to explore in-depth responses. Both tests were distributed using Google Form to ease the data collection process. The next cycle or the final action research study will be carried out in the coming semester, Semester 2, 2021.

V. RESULT AND DISCUSSION

The methods of teaching and learning of HTH500 course were determined and derived from the first step, under the plan phase, following the current situation of COVID-19 pandemic in the country. Figure 10 below shows the results of the pre-test in which the students were asked about their preferred methods of learning during ODL to gauge their readiness of the teaching approach. Based on the data analysis, respondents chose four main methods in their answers: listen to lecture, participate in discussion, play games-based learning, and a mix of the three methods.

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