APPLICATION OF QUIZIZZ IN ACADEMIC VOCABULARY SECTION: IMPACTS AND PERCEPTIONS

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Abstract

The research aims to investigate the impacts of the application of Quizizz on the academic vocabulary learning process and students' perceptions of integrating this gamification app into the vocabulary stages. Participants included 64 intermediate students from the vocabulary pre-test in two academic listening classes. During the first eight weeks, the experimental group's teacher used Quizizz Live in class and gave Quizizz homework. There were a variety of tasks for each Quizizz set, including multiple-choice questions with sounds, multiple-choice questions with definitions, multiple-choice questions with incomplete sentences, multiple-choice questions with phonetic transcriptions, and fill-in-the-blank questions. The duration of each question also varied depending on the task's level of difficulty. After the treatment, both groups were required to take the vocabulary post-test, which includes all the vocabulary learned for eight weeks. A survey was also delivered to students in the experimental group to examine students' perceptions of this gamification application. Results from the post-test proved that students in the experimental group achieved higher scores. The questionnaires indicated positive outcomes in terms of usefulness, concentration, excitement, and motivation. However, some limitations related to using the apps should also be considered so that the research can be done on a larger scale.

Keywords: Academic vocabulary, mixed-method, perceptions, impacts, Quizizz

1 Introduction

It is indispensable that vocabulary plays a crucial role in learning all language skills, including listening, speaking, reading, and writing (Nation, 2001). Limited vocabulary knowledge in a second language may lead to challenges in comprehension and communication (Saengpakdeejit, 2014; Alqahtani, 2015; Iqbal, et al., 2015). How to help students improve their vocabulary to support their academic learning has attracted many scholars around the world, especially in Vietnam (Pham & Nguyen, 2018; Pham & Tran, 2021; Vu, & Peters, 2021). However, the barriers of lack of lexical knowledge still exist in EFL classes. Besides studies about diverse strategies used by learners in acquiring the English language, the issue of investigating the implementation of technology as a medium for enhancing vocabulary learning in the emerging era of technology 4.0

has become a concern for many researchers. Many applications such as Quizlet, Kahoot, Duolingo, and Quizizz have been studied to investigate the effects on improving students' vocabulary (Mansur & Fadhilawati, 2019; Ajisoko, 2020; Setiawan & Wiedarti, 2020; Huei & Hashim, 2021; Sibatuara, 2021; Waluyo, & Bucol, 2021). Among these, Quizizz has been receiving a lot of attention from scholars. It is reported that Quizizz made the learning process more entertaining with its characteristics, such as avatars, themes, memes, and music (Zhao, 2019). In addition, Quizizz is among the best alternative online tools as it is beneficial for students and makes their learning process easier (Degirmenci, 2021) for its main functions, such as designing diverse types of questions, including multiple choice questions, fill-in-the-blank questions, short-answer questions, and poll questions for the free version. Quizizz can also help lecturers stimulate students' interests, improve students' engagement, and motivate them to study in the classroom (Zhao, 2019). Although many previous studies found that Quizizz was considered to have positive impacts on students' engagement and learning outcomes (Zhao, 2019; Huei et al., 2021; Degirmenci, 2021), there are some aspects which have not been studied widely. These include the effects of the combination of different types of questions with various speeds and students' perceptions of learning academic vocabulary with this mode of learning. Therefore, this research will be conducted to investigate the impacts of using different types of questions with various speeds depending on the level of difficulty of the questions on students' vocabulary development and the reactions of students towards using this application as an alternative for their classroom activities. *Research questions:*

1. How does the application of Quizizz with a variety of question types and speed affect students' academic vocabulary learning?
2. What are students' perceptions of learning academic vocabulary with Quizizz?

2   Literature Review

2.1   *Quizizz*

Quizizz is considered a multiplayer question digital tool that allows the teacher to design question-and-answer quizzes for students (Candel & De Ory, 2021). It can also be defined as a gamification-based educational application that allows students to have fun and interactive quiz games in class (Zhao, 2019; Ramliyana & Ramdhan, 2019 cited in Setyaningsih & Dayu, 2022). It is reported to be one of the most exciting and reachable as students can participate in the games with any device including computers, laptops, ipads, tablets and smartphones with iOS and Andriod apps (Ju and Adam,2018; Pitoyo & Asib, 2019; Fadillah, & Maryanti, 2021). Quizizz is also described as a gamification-based teaching and learning method containing competitive factors which help engage students in the learning process (Nojen, 2021). It can be played interactively in class or assigned to students as a kind of homework (Setiyani, et al.,2021). One of the strengths of this tool is that the quiz creator can select the suitable type of questions and adjust the speed for each question (Suharsono, 2020). The teacher can design multiple-choice questions, fill-in-the-blank questions, poll questions, and open-ended questions (Muji, et al., 2021). Another feature that brings convenience to the quiz maker and also receives support from players is the feature that allows adding images, sounds and even short clips (Andresta & Anwar, 2022). In addition, this tool is cited to be preferable to Kahoot as students can see the question and even answers (if it is a

multiple-choice question) on their device not just on the screen of the teacher (Suharsono, 2020). In this research, Quizizz is used as a platform for the teacher to design both interactive quizzes for the control practice stage in class but also quizzes for revision at home. Both the quiz questions and the speed varied with the aim to stimulate students' engagement, memory and competitive atmosphere in class. Students are free to choose using the QR codes or "joinmyquiz.com" with a code to join the activity.

2.2   *Previous studies*

Studies related to utilizing online tools such as Quizziz in the educational environment have been carried out in recent years.

In terms of testing and assessment, Muji, et al. (2021) mentioned in their research investigating Quizizz as a choice for evaluation for university students that this tool helped make the process of assessment easier as it had many features and did not require the users to have any special skills to use. They appreciated the fact that Quizizz reduced the risk of cheating in assessments and enhanced students' discipline in doing the test by themselves. Following the trend, Andresta & Anwar (2022) conducted a study on the perception of high school students towards using Quizziz as a tool for assessment and concluded that the application was admitted to be practical and interesting in assessing students' English. It created challenges for students as they encountered the feeling of competition and self-reliance. As a result, they had more motivation to achieve the learning outcomes.

Regarding the impacts of Quizizz on the development of students' vocabulary, Arttırmak & Samet (2018) conducted a study on utilizing Quizizz.com to teach vocabulary to university students and found out that students in the experimental groups performed slightly better than those in the control group which shed a light on the future study on this application. One of the reasons for a not significant difference in this research mentioned is that students in both groups knew in advance the specific parts of the book would be tested. In 2021, Huei & Hashim implemented this tool into primary school vocabulary classes. Instead of showing a wordlist with pictures traditionally, they displayed both images and words concurrently in a sentence in Quizizz. The findings indicated that although it did not receive all support from participants, this tool was proven to help these primary pupils improve their vocabulary. In the same year, Pusparani (2021) carried out quasi-experimental research on eighth-grade students applying the Quizizz platform to teach vocabulary. Results from pre-tests and post-tests showed that Quizizz had a positive influence on students' vocabulary comprehension and mastery. It also indicated that this application contributed much to enhancing learning enjoyment in classes.

To investigate the students' perspectives on the application of Quizizz in teaching and learning, Irwansyah and Izzati (2021) stated that Quizizz was positively perceived by students and motivated them effectively in learning English. Another study about students' perception of Quizizz conducted by Dewi (2020) revealed that Quizizz not only helped the students motivate in learning, but it also improved their concentration during the learning process. On the engagement aspect, Asmara, et al. (2022) found out in their research about using Quizizz to measure EFL students' engagement that the application – Quizizz could be the right media to enhance students'

engagement in the learning process. In a nutshell, the research studies mentioned above have positive views on Quizizz and its application in teaching and learning English in terms of usefulness, excitement, engagement and concentration, and motivation improvement.

However, these categories haven't been fully examined together in any research related to the application of a combination of different types of questions with relevant speed to academic vocabulary classes in Vietnamese university students.

3 Methodology

3.1. Research Design

The research employed a mixed method of the quasi-experimental design and the survey. The paired and independent samples t-tests were used to figure out the impact of the implementation of the treatment on students' vocabulary mastery. The survey was designed with both Likert-Scale questions and open-ended questions to analyze the perceptions of students toward the application of the treatment to vocabulary classes.

3.2. Participants

Participants were intermediate freshmen from two academic listening classes. The prerequisite to study the academic listening courses was that students must achieve at least IELTS 5.5. After asking for permission from the university and students, the 30-minute pre-test was conducted. Scores were graded, and 64 students were placed into the control group and the experimental group based on the results of the pre-test ($p=0.648 >0.5$) (See Table 1). In order to save face for students, only the researcher knew which 64 students were chosen to be the participant in the research. As there was no statistical significance between the mean scores of the control group and the experimental group, and both groups were taught by a similar lecturer, it was easier for the researcher to investigate the impact of the treatment on students.

Table 1. Descriptive Statistics of the Pre-tests of the Control group and the Experimental group

Variable	Total Count	Mean	StDev	Minimum	Maximum
PRE-C	32	52.75	11.58	30.00	70.00
PRE-E	32	51.38	12.39	30.00	70.00

3.3. Data collection instruments

3.3.1. T-tests

The pre-test and post-test, which lasted for 30 minutes, were designed with similar formats and a score scale of 100. Both tests consisted of 20 questions for choosing the suitable definitions and 30 questions for filling in the blanks with the best choices. All of the words and phrases or collocations were taken from the vocabulary list of the lessons taught in 8 weeks, and this was announced right

at the beginning of the course so that students can have relevant preparation for the tests. These two tests were taken from a series of tests designed to use in the past 2 years and were proved to be valid and reliable thanks to the results of students from the previous courses.

3.3.2. Survey

The survey was designed with four five-point Likert-scale questions to determine the perception of students in terms of the level of usefulness, concentration, excitement, and motivation towards to integration of the treatment into the vocabulary teaching and learning process in the academic listening classes. The two open-ended questions related to what students apricated the most about the treatment and what limitations the teacher should consider more when conducting the learning mode were added to have a deeper insight into students' perception. The survey was designed in the form of a Google link so that the data can be stored and analyzed easily. The questionnaire was piloted with 30 intermediate-level students in other academic listening classes who had experience in learning vocabulary through Quizizz to improve the readability and comprehensibility of the questions and to measure the reliability of the questionnaire. The Cronbach's alpha value calculated was 0.9175, which proved a great level of reliability. The real questionnaire was administered to students with a QR code shown on the slide in the classroom on the post-test day.

3.4. Procedures

After taking the pre-test and being assigned to the control group and experimental groups, students in both classes started studying similar lessons in the syllabus and similar words and phrases on the course book named Q-Skills for Success, level 4: Listening and Speaking. Students worked with a similar teacher during the eight weeks and received similar methods and techniques in teaching and learning listening and vocabulary. However, participants in the experimental group were guided to get acquainted with how to use Quizizz effectively on a laptop, tablet and smartphone on the first day of the course and were instructed to have a habit of utilizing this application in the control practice stage in class and the revision stage at home. Instead of doing the printed vocabulary exercises in the coursebook or handout, students in the experimental group used Quizlet Live in the control practice stage (See Figure 1). The winners of the activity would receive rewards and bonuses for the ongoing assessment criteria.

As the level of students was intermediate, the variety of question types, question level of difficulties and speed were taken into consideration in the procedure of designing the Quizizz sets so that students would not lack motivation. Images, sounds, and transcriptions were also integrated into some questions to create more challenges. The two most common types of activities are questions to test the meanings or definitions of the vocabulary and the application of the words and phrases into the right context of the question. However, these two aims turned out to be a variety of question types in the real Quiziz set. Take the multiple-choice question feature in Quizizz as an example, the teacher can choose to add an image, a transcription, an audio or a word/phrase in the questions and to set definitions for students in the answer choices. Similarly, to put the correct words in context, the teacher can provide the answer choices for a multiple-choice question or ask students to type the answer for a fill-in-the-blank question. Depending on the level of difficulty of each question, students were allowed 10 seconds to 1 minute to finish each question. For the Quizizz

Live in class, the teacher chose the feature of showing the question on the slide so that after each question in the fill-in-the-blank part, the teacher would ask the students to mention the reasons to choose the words/ phrases for other friends to understand the answer choice clearly. In case students failed to provide an explanation, the teacher would assist them with explanations. Regarding the Quizizz sets at home, the teacher would read the results to know which questions students had problems with to remind the comment errors in the next class so that students could do the tasks better at a later time.
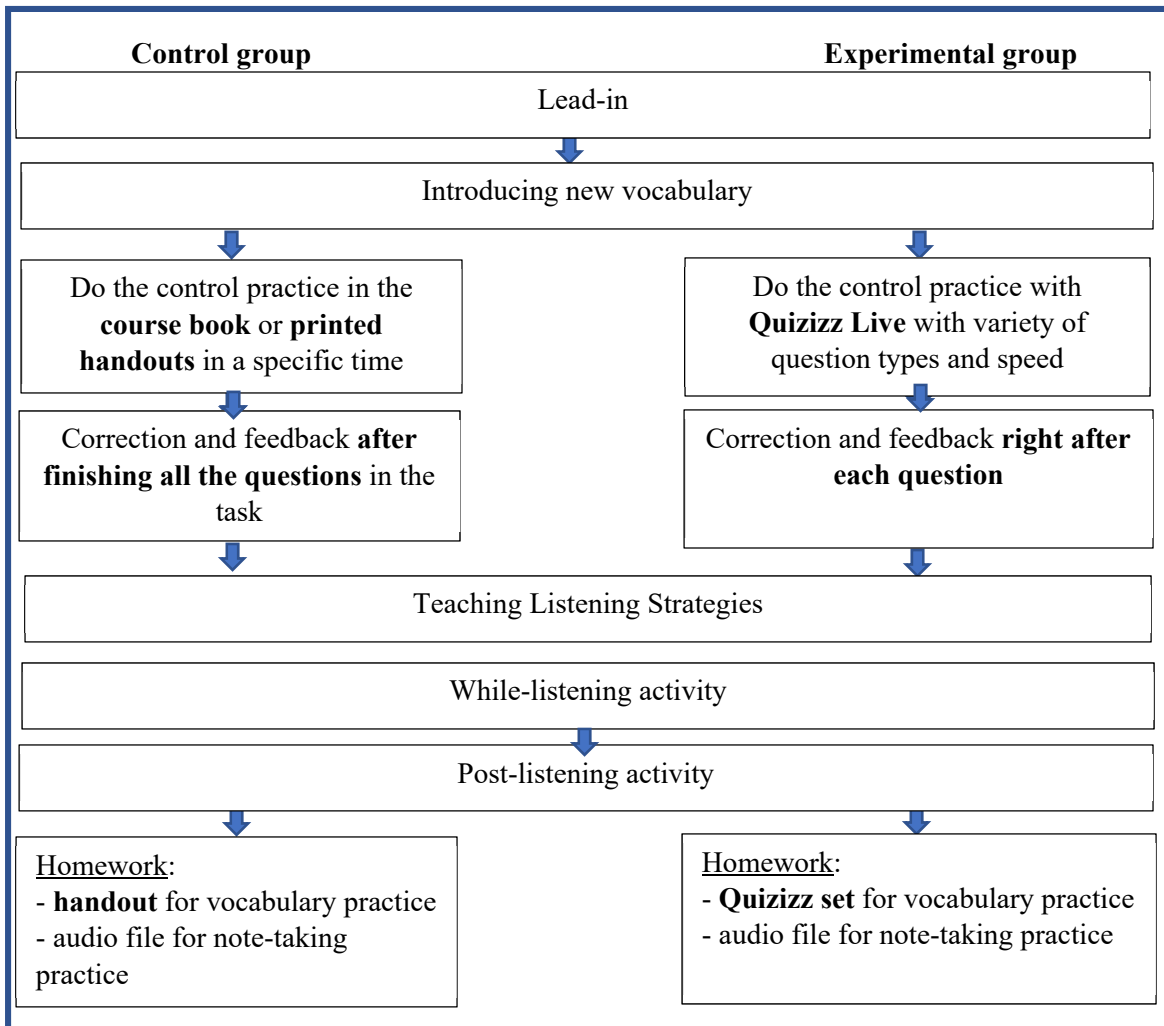
Fig. 1. Teaching and Learning procedures for control and experimental groups

After eight weeks of applying the treatments, participants in both groups take the post-test. At the end of the post-test, the link to the survey in form of a QR code was shown to students in the experimental group to get the responses about the perspectives of students towards the treatment. Because of the time constraint, the questionnaires were minimized to key factors related to perceptions of the treatment.

3.5. Data analysis instruments

Minitab 19 was employed to analyze the scores of the pre-test and post-test of the control and experimental groups and the data from Likert-scale questions in the questionnaires. Regarding the open-ended questions, the data were generated into the Spreadsheet and analyzed to figure out the similarities in the responses.

4   Results and discussion

Results from the paired samples t-tests of the control group revealed that students had an improvement in vocabulary after 8 weeks of learning, with the values of mean scores in the pre-test and post-test being 52.75 and 85.25 correspondingly (See Table 2).

Table 2. Descriptive Statistics of the Pre-test and the Post-test of the Control group

Variable	Total Count	Mean	StDev	Minimum	Maximum
PRE-C	32	52.75	11.58	30.00	70.00
POST-C	32	85.25	12.55	54.00	100.00

Findings from the paired samples t-tests of the experimental group also showed a significant difference in the mean scores of students in the pre-test (M=51.38) and post-test (M=94.938) (See Table 3).

Table 3. Descriptive Statistics of the Pre-test and the Post-test of the Experimental group

Variable	Total Count	Mean	StDev	Minimum	Maximum
PRE-E	32	51.38	12.39	30.00	70.00
POST-E	32	94.938	5.130	78.000	100.000

It is obvious that students in both groups could achieve the learning outcomes about vocabulary after the eight-week teaching and learning process. However, data from the independent samples t-tests indicated that students in the experimental group gained higher achievement in the post-test with mean scores of 85.25 and 94.938 respectively (see Table 4).

Table 4. Descriptive Statistics of the Post-tests of the Control and the Experimental group

Variable	Total Count	Mean	StDev	Minimum	Maximum
POST-C	32	85.25	12.55	54.00	100.00
POST-E	32	94.938	5.130	78.000	100.000

The value of Standard Deviation of the control group (SD=12,55) and the experimental group (SD= 5.123) in the independent sample t-tests also proved that the scores of students in the experimental group clustered tighter around the mean scores. As can be seen from table 4, even though both groups experienced students achieve 100 points, the minimum score in the experimental group was much higher than that in the control group, which was 78 and 54 respectively. Therefore, it can be inferred that the application of Quizizz with the above-mentioned mode had positive impacts on students' vocabulary mastery. It is paired with the findings of Pusparani (2021) that Quizizz was useful for junior high school students' vocabulary performance. It is also correlated with the conclusion of Huei et al. (2021) that Quizizz could help primary school students achieve better performance at the end of the course.

Table 5 showed the descriptive statistics of the questionnaire items ranging from 1 (strongly disagree) to 5 (strongly agree).

Table 5. Descriptive Statistics of the questionnaires

Variable	Total Count	Mean	StDev
Usefulness	32	4.625	0.492
Concentration	32	4.563	0.619
Excitement	32	4.5	0.622
Motivation	32	4.469	0.567

As can be seen from the table, all of the mean scores are greater than 4.0, proving the high level of agreement towards the level of usefulness (M=4.625), concentration (M=4.563), excitement (M=4.5) and motivation (M=4.469) that the implementation of Quizizz brought to students during the process of learning vocabulary. This revealed that students had positive perceptions toward the treatment.

Regarding responses to the opened ended questions, some common opinions related to the four above-mentioned items were recorded. In terms of usefulness, while some students stated that the fact that the questions can be diversified helped them memorize not only the meaning but also the spelling of a word, some other students mentioned that since they could practice both in class and at home with a variety of questions, they could remember the vocabulary longer and some respondents appreciated the change in speed as it created more challenges for them. This finding supported the result of Ngo and Tran (2022)'s study, which was making vocabulary learning more effective and increasing vocabulary retention by applying Quizizz. Regarding the concentration factor, the findings showed that students engaged and concentrated more through some crucial elements such as the desire to be on top of the leaderboard, the variety of speed in Quizizz's questions, and the difficulty of questions in Quizizz. It was quite similar to the results from Irwansyah and Izzati (2021), who also cited that using Quizizz in English classrooms improved students' engagement and concentration. Many students also stated that Quizizz made them feel more relaxed, enjoyable and excited, made the learning atmosphere less pressured, and made them prefer using Quizizz to using traditional learning methods to learn vocabulary. They showed great interest in the functions of speed and type of question change in such a competitive environment.

They also appreciated the fact that in case they failed to answer the question in the quiz, they had the opportunity to listen to the explanation of their peers or the teacher. They also loved the feeling of seeing their names on the leaderboard, and this motivated them to spend more time studying the vocabulary so that they could become the winners. This finding correlated with Pitoyo and Asib (2020)'s results concluded in their study that Quizizz's features, such as a leaderboard, could increase students' motivation to learn. Some students shared that the music in this gamification boosted their mood in playing Quizizz Live or even Quizizz set at home. Those factors could stimulate their motivation to take part in Quizizz Live in class more enthusiastically and take the quizzes in Quizizz sets at home regularly. Some students even revealed that they were looking forward to the Quizizz time so that they could conquer themselves and learn vocabulary better. They showed satisfaction with the post-test they had done right before the questionnaires. They mentioned that they felt very confident taking the test and many of them said that they could finish the test earlier than the required duration. The findings about motivation stimulation were in line with the conclusion from Lopez (2022) that Quizizz created a positive influence on students' level of motivation.

5   Conclusion

In short, the Quizizz version of a combination of a variety of question types and speed has proven to be effective for students to learn vocabulary, even for higher-level students such as intermediate-level students, as it created not only challenges but interests to motivate students to concentrate more on the process of learning vocabulary. This finding not only contributed to the research on using technology in teaching and learning vocabulary but also shed a light on teachers to keep being creative in using game-based applications such as Quizizz to boost the students' engagement, excitement and motivation to achieve the learning outcomes of the course.

Even though the research received positive findings, there appeared some limitations. First, the study lasted for a short period of time, just eight weeks, and the sample size was rather small, with just 64 students. In addition, the vocabulary tested in the tests was in the course book, and students were announced that they would encounter this vocabulary in the tests. Although the contexts of the questions of the tests were different, this awareness might affect the results of the tests as students were aware of the importance of learning the vocabulary for the tests. Moreover, because of the tight schedule of students, the researcher couldn't include many questions in the questionnaires. Therefore, the research could not examine deep insights into other types of perception related to using technology in teaching and learning.

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