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TESL Trainee Teachers' Perceptions Toward Implementing Blooket in the Online English Language Teaching and Learning Process

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ABSTRACT

Teaching English language using traditional methods is no longer sufficient for students in the 21st century. As a result, teachers must develop new and innovative educational methods. This study aims to investigate the perceptions of trainee teachers majoring in Teaching English as a Second Language (TESL) at the Institutes of Teacher Education Malaysia (ITEMs) on the use of the game-based platform (i.e., Blooket) in the online English language teaching and learning process. Trainee teachers are now familiar with game-based learning, thanks to the exposure to a variety of technological teaching aids during their teacher training. This survey research was conducted with a focus on TESL trainee teachers' beliefs, attitudes, and thoughts. The study employed simple random sampling to gather data from 201 TESL trainee teachers of the June 2018 intake from five ITEMs in Malaysia. The results indicate that TESL trainee teachers have a favorable view of Blooket in terms of beliefs, attitudes, and thoughts regarding its implementation in the online English language teaching and learning process.

KEYWORDS: Blooket, Teaching of English as a Second Language (TESL), Trainee Teachers' Perceptions

INTRODUCTION

The English language is extensively studied and taught across the globe. House (2018) and Honna (2019) suggested that English has become a global language due to its compulsory nature in many

countries, leading non-native speakers to take measures to keep up. To engage Generations Z and α students who are major stakeholders in education and due to their digital nativism and early exposure to technology, schools and teachers must continuously improve their teaching methods and pedagogy (Ahmad et al., 2019). Coman et al. (2020) argued that traditional teaching methods are no longer relevant in today's competitive world, and thus, teachers must change their teaching methods (Djami and Kuswandono, 2020).

To meet the demands of today's competitive world, Ahmad et al. (2019) found that applications and websites for teaching and learning have rapidly advanced due to technology development. One such way to incorporate technology into teaching and learning is through e-learning tools that use electronic devices and internet technologies. Reyna et al. (2018) noted that many teachers now use online resources to make learning more engaging for all students, regardless of their academic ability, race, or background. According to Almeida and Simoes (2019), games promote a lifelong process of play and learning based on five game characteristics: joy, meaning, engagement, repetition, and social interaction. Hartt et al. (2020) stressed on the power of digital games in capturing the students' attention and motivating them to push their limits. This sense of freedom encourages students to engage in any activity that resembles a game, and it is important to note that students have control over games, which they do not have in real life (Kaimara et al., 2021).

On a similar note, Da Wan et al. (2018) noted that Malaysia is a developing country striving to become a developed nation, and the implementation of academic assistance websites or applications with gamification features is crucial in achieving this goal (Baharin et al., 2018). Li et al. (2022) suggested that gamification is supported by the theoretical framework of Technological Pedagogical and Content Knowledge (TPACK), which requires the teachers' professional development and training to foster positive perceptions toward technology integration and good practices in the learning environment. Teachers' perceptions toward new teaching methods influence their implementation and the students' motivation to learn (Albiladi and Alshareef, 2019), thus highlighting the need for research on the perceptions of using game-based platforms like Blooket (https://www.blooket.com/) in various classroom settings such as online classes, including online English teaching and learning process. Therefore, this study aims to determine how Teaching English as a Second Language (TESL) trainee teachers perceive Blooket and how it can aid in online English language teaching and learning process.

PROBLEM STATEMENT
Education should prioritize learning over examination performance, yet some practitioners in Malaysian primary classrooms, according to Singh et al. (2021), still rely on rigid, memorization-based methods, inadvertently limiting creativity and do not empower students with the practical application of their knowledge. Liu et al. (2018) emphasized the importance of students directly engaging with new material and learning to use it practically. Therefore, there is a need for a shift in educational practices toward utilizing technology and e-learning tools, particularly with the current generations of learners, Generations Z and α students (Ahmad et al., 2019). E-learning, defined as formal online learning using various technologies, including game-based activities, such as Blooket, can enhance English language teaching for current learners (Mahyoob, 2020). Blooket is one game-based platform of many that provides game-based learning and this necessitates further exploration of its potential to improve online English teaching and learning (May, 2021),

particularly in the Malaysian context (Halili and Sulaiman, 2019). Furthermore, as few studies have examined the trainee teachers' perceptions of Blooket, investigating their views is critical to understanding its role in the online English language teaching and learning process. The researcher seeks to gather TESL trainee teachers' beliefs, attitudes, and thoughts on the implementation of Blooket in the online English language teaching and learning process.

LITERATURE REVIEW

The literature review for this study consists of the following relevant parts: (1) the context in which Blooket is used to enhance the learning experience of the 21st century students and (2) the previous studies conducted by various researchers to provide an overview of the conceptual framework used in this study.

Use of Blooket

In the present era, the development of technology is geared toward empowering students to take charge of their education. This shift in focus toward students ensures that they receive the best possible education through the use of advanced teaching methods and technologies. Unlike in the past, where teachers were the sole source of knowledge, today's students are self-reliant and responsible for their own learning (Polgampala, 2021). Blooket is a combination of social gamification and education, as pointed out by Bratel et al. (2021). Blooket's unique learning platform is a great example of the student-led revolution by promoting engagement, autonomy, collaboration, and personalization in learning. It empowers students to actively participate in their education, encouraging them to take ownership of their learning process. However, alternative solutions may not be the only or universal solution. Therefore, the researcher is interested in investigating TESL trainee teachers' perceptions of using Blooket in online English language education and its relevance to the Malaysian educational context. Blooket's use in education is advantageous due to its cost-effectiveness, as it costs nothing to use. Additionally, it is not only user-friendly but also secured for students' formative assessment as it uses encryption protocols to protect data transmitted between users and their servers, which safeguards sensitive information, such as login credentials and user data, from unauthorized access. Furthermore, Blooket provides flexibility in its use, as teachers can choose how to integrate it into their teaching and learning process: teacher can create their own quizzes, customize existing games and use it for individual or group practice.

Blooket is one game-based platform of many that entails assessment capabilities. Teachers can use it to grade students using multiple-choice questions, and it also offers several game modes that teachers can incorporate at any time such as Gold Quest, which involves answering questions to collect gold and Jumble, in which students reorder scrambled words or phrases to form the correct answer. Blooket's implementation shows how modern technologies can inspire and engage young learners. Instead of solely assigning homework or revision, Blooket allows students to have fun while completing their tasks on time. Students can still complete their assigned tasks even while playing the games. Therefore, if students choose Blooket for assessments, teachers will not hesitate to implement it. Moreover, to enhance students' learning experiences, Blooket provides opportunities for students to answer questions they had previously answered incorrectly, which helps them learn from their mistakes throughout the assessment. In modern times, educators utilize online platforms to provide convenience for their students (Halim and Hashim, 2019). The idea of

having access to educational resources from any location using any device is appealing to them. Carrying around a laptop can be burdensome, while mobile phones are always on hand for students. Hence, students prefer online platforms that can be accessed through a mobile application. Similar to online platforms such as Google Classroom, Flipgrid, Mikan and Quizlet, Blooket is also compatible with mobile phones, iPads, and other smart devices, thus eliminating the need for personal computers (PCs) or laptops. As students frequently move between classes, Blooket could be an effective teaching and learning platform for trainee teachers at the Institutes of Teacher Education Malaysia (ITEMs) during their practicum phases. It is important for trainee teachers to carefully plan for the learning needs of their students.

Bratel et al. (2021) suggested that gamification has been incorporated into the teaching and learning process due to the correlation between gamification and technological variables. According to Maziriri et al. (2020), the opinions of trainee teachers can impact the use of tools in online English language teaching and learning. While traditional teaching methods may still be preferred by conventional teachers, teachers in the 21st century education must recognize the significance of shifting pedagogies and delivery methods. Trainee teachers are also inspired by the benefits of Blooket and may consider using it in their future classroom lectures (Licorish et al., 2018). According to Bratel et al. (2021), Blooket is a simple way to incorporate interactive technology into teaching and learning. Therefore, the perceptions of trainee teachers about Blooket are crucial as they will soon become English teachers themselves. In summary, various studies have examined the significance of Blooket in education, focusing on its benefits such as cost-effectiveness, mobile accessibility, and instructional change. However, the perceptions of TESL trainee teachers from the ITEMs toward Blooket may differ, as they may have different ideas on how to make Blooket an effective tool for online English language teaching and learning. Therefore, the researcher is concerned about exploring the TESL trainee teachers' beliefs, attitudes, and thoughts toward implementing Blooket in the online English language teaching and learning process.

The Underpinning Concepts
According to Montero (2018), emotion plays a significant role in second language learning, as demonstrated by the Affective Filter theory as proposed by Stephen Krashen. This theory links emotional factors, such as motivation, confidence, and anxiety, to the acquisition of a second language. Students who are motivated and self-assured are likely to learn the target language more quickly (Meng, 2021). Conversely, anxiety can impede second language acquisition (Gregersen et al., 2014). Mehmood (2018) noted that a lack of enthusiasm and confidence, as well as anxiety, can increase the affective filter, creating a mental barrier. Pitoyo et al. (2019) suggested that incorporating gamification, such as Quizziz and Blooket, in the English language teaching and learning process can decrease affective barriers and increase student motivation, leading to greater responsiveness to English language learning. This is due to its anxiety reduction capabilities.

The adoption of a gamified learning platform is a component of the wider acceptance of educational technology. To comprehend user acceptance and assess new technologies before implementation, Davis (1989) developed the Technology Acceptability Model (TAM). The TAM model identifies that ease of use and usefulness are the primary factors that influence an individual's inclination to adopt new technology.

Ertmer (1999) categorized technology integration barriers into two main types: external and internal. Internal barriers refer to teachers' beliefs about their role in relation to students, curriculum, and assessment. Dong (2016) and Hernwall (2016) found similar results to Ertmer's ideas, highlighting that both external and internal factors impact the teachers' perceptions, including policies and curriculum. Despite possessing technical skills and the removal of external barriers, teachers may not be able to use appropriate Information and Communication Technologies (ICTs) in their classrooms due to internal obstacles such as their attitudes and perspectives toward ICTs in education.

Mseleku (2020) classified teachers into four categories with regards to their attitudes toward new media: techno-optimists, techno-realists, techno-pessimists, and techno-ignorants. Techno-optimists are enthusiastic about the potential of new media to enhance the quality and effectiveness of education (Kaimara et al., 2021). Techno-realists approach new media with caution and critical thinking, without being opposed to change (Ionescu et al., 2020). They believe that new technologies may be useful but also potentially harmful to human development. Techno-pessimists, on the other hand, view new media as a threat to education, and are resistant to change (Kaimara et al., 2021). Finally, techno-ignorants choose not to utilize new media in their learning process.

Past Studies
There are limited studies that address the utilization of Blooket as a tool for teaching and learning. Ibberson (2021) investigated the effects of game-based learning, specifically using Blooket and Quizlet, on the seventh-grade math students' motivation and academic performance. The study revealed that incorporating game-based learning in math lessons increased student engagement and motivation, resulting in better retention of information and problem-solving skills. Ibberson (2021) recommended the use of Blooket due to its significant impact on the students' willingness to participate and comprehend the content taught.

In May's (2021) study, the most effective practices for implementing gamification and game-based learning in K-12 education were identified in order to enhance student engagement. The study also discussed the challenges associated with implementing these methods. Although Blooket was not specifically mentioned as the tool used, the focus was on general gamification implementation. The study explained that gamification allows teachers to incorporate and monitor elements such as leaderboards, badges, experience points, guilds, onboarding, achievements, power or level ups, quests, items, skills, currency, punishments, trades, and special challenges into their teaching. May discovered that gamification and game-based learning increase the students' engagement by allowing them to remain actively involved in their learning and collaborate with their peers through the use of leaderboards and badges. However, May also found that the implementation of gamification and game-based learning comes with its own set of challenges, such as students becoming overly competitive or struggling with time management. Additionally, May suggested that Blooket, a game-based learning platform, may also require solutions to prevent excessive competition.

In summary, the two studies related to Blooket uncovered opportunities for further exploration and development. However, neither of these studies focused on Blooket as their main subject or used

it as their primary tool. Additionally, the studies did not investigate the trainee teachers' opinions on Blooket implementation. Therefore, this research aims to provide a more comprehensive understanding of Blooket, which currently boasts over 8 million users worldwide, including both teachers and students. Through gathering the beliefs, attitudes, and thoughts of TESL trainee teachers at the ITEMs, this research will highlight the features of Blooket, its advantages and disadvantages, and its potential effectiveness as a tool for online English language teaching and learning process.

RESEARCH QUESTION

The research question for the study is framed as follows: What are the TESL trainee teachers' beliefs, attitudes, and thoughts toward implementing Blooket in the online English language teaching and learning process?

RESEARCH METHOD

In this study, the data needed to answer the research question was collected using a questionnaire. Brace (2018) explained that a questionnaire serves as a means of communication between the researcher and the subject, therefore the researcher needs to have adequate knowledge and skill to construct items that consider the variables of the research. In the first part of the questionnaire, demographic information on the respondents' profile (i.e., gender) obtained provides additional insights for the researcher, specifically about the target respondents. In the second part of the questionnaire, a five-point Likert scale was used to gather data on the TESL trainee teachers' perceptions of Blooket implementation in the online English language teaching and learning process in terms of their beliefs, attitudes, and thoughts.

Sampling

The ITEMs accept new students once a year, and the first semester starts in June of every year. In June 2018, 427 TESL trainee teachers enrolled and they were in their final semester of the TESL program when this research was carried out. The chosen ITEMs were situated across Malaysia, namely Institute of Teacher Education Malaysia Ipoh Campus, Institute of Teacher Education Malaysia Gaya Campus, Institute of Teacher Education Malaysia Batu Lintang Campus, Institute of Teacher Education Malaysia Dato' Razali Ismail Campus, and Institute of Teacher Education Malaysia International Languages Campus. Lakens (2022) defined a sample as a subset of a larger population that is used to make inferences about the population. In this study, the TESL trainee teachers who completed practicum phases 1 and 2 were selected using a simple random sampling technique. The reason for choosing this group was that they were aspiring English teachers and the survey questionnaire was focused on the online English language teaching and learning process. The decision to select trainee teachers from the June 2018 intake was because they had completed teaching practicum phases 1 and 2. This allowed the researcher to gather insights from future teachers who had acquired teaching techniques, theories, and knowledge, and to investigate the implementation of Blooket in the online English language teaching and learning process. The sample size was determined using Krejcie and Morgan's (1970) table, with 201 respondents sampled out of a population of 427 TESL trainee teachers who were of the June 2018 intake.

Design of the Study

The main aim of this study is to investigate how TESL trainee teachers perceive the

implementation of Blooket in the online English language teaching and learning process, specifically in terms of their beliefs, attitudes, and thoughts. The study utilized a survey research design and quantitative method to collect data. According to Nardi (2018), surveys are used to gather information about the attitudes, opinions, beliefs, and behaviors of a population that cannot be directly observed. Likewise, the quantitative method involves collecting data from a group of respondents through multiple survey questions (Kelley et al., 2003). Due to the big number of respondents (i.e., 201 TESL trainee teachers), survey research was the most suitable research design to be opted for this study. By selecting this design, the researcher was able to address the research question posed in the study.

Instrumentation
For this study, an online survey using Google Forms was utilized, which was completed by TESL trainee teachers and then submitted to the researcher. The questionnaire was adapted from a study conducted by Sevik (2011). It was distributed in English to 201 TESL trainee teachers from five different campuses (Ipoh Campus, Gaya Campus, Batu Lintang Campus, Dato' Razali Ismail Campus, and International Languages Campus) via Telegram group and direct messages. Only TESL trainee teachers from the June 2018 intake were included as respondents because the researcher needed data from those who had undergone their practicum phases 1 and 2.

The questionnaire consisted of two parts. The first part required TESL trainee teachers to provide demographic information, while the second part comprised nine questions that employed a five-point Likert scale ranging from "Strongly Agree" to "Strongly Disagree". Section A featured three questions about TESL trainee teachers' beliefs of the pedagogical value of using Blooket, Section B consisted of three questions about their attitudes toward the implementation of Blooket, and Section C contained three questions on their thoughts of using Blooket. All respondents were required to select the answers that best reflected their perceptions of implementing Blooket during the online English language teaching and learning process.

Validity and Reliability
According to Dunn (2020), face validity occurs when an expert reviews the questionnaire items and agrees that the test is a valid measure of the concept being evaluated. The researcher adapted the questionnaire from a previous study by Sevik (2011) and obtained the expert validation to ensure that the questionnaire accurately reflected the main idea of the research. According to Clark and Watson (2019), content validity assesses how well an instrument measures a particular topic. To evaluate content validity, the readability, clarity, and comprehensiveness of the items are examined to ensure that they are appropriate for the final questionnaire. In this study, the researcher's supervisor reviewed and analyzed the questionnaire, followed by the expert validation. After the supervisor analysis and expert validation, several changes were made to improve the validity of the questionnaire such as adding the word "online" to the items in which the word was missing.

In addition, Pallant (2020) explained that a valid measurement process such as a questionnaire or observation should produce consistent results. Meanwhile, Schuwirth and Van der Vleuten (2018) indicated that reliability estimates are used to assess how well tests are performed on the same individuals at different times or with the same standard, and how well different individuals score the same behavior or event with the same instrument. The questionnaire used in this study

contained some questions adapted from Sevik (2011). The reliability index of the questionnaire was calculated to be 0.674, indicating moderate reliability, which may be due to the limited number of items and sample size. However, according to Shrestha (2021), any value above 0.670 is considered acceptable for survey questionnaire reliability.

Pilot Study
The researcher conducted a pilot study to test the reliability of the questionnaire. The pilot study involved 30 TESL trainee teachers from the Institute of Teacher Education Malaysia Ipoh Campus who completed the online questionnaire via a Google Forms link provided by the researcher. These respondents were excluded from the main study since they were included in the pilot study. The pilot study helped to test the suitability of the questionnaire. As defined by Nardi (2018), a pilot study is a small-scale study conducted to test research protocols, data collection instruments, sample recruitment strategies, and other research techniques in preparation for a larger study. In this study, the pilot study was an essential stage as it identified any potential problems that could occur during the main study and ensured that the questionnaire used was suitable and easy to understand.

Data Collection and Data Analysis Procedures
Several steps were taken to gather data for this study. The questionnaire utilized in the study was based on an English questionnaire previously used by Sevik (2011), for which permission was obtained through consent forms sent to the author via email. The questionnaire was then shared via Google Forms with 201 TESL trainee teachers, who had completed their two phases of practicum, and the data collected was based on the responses received by the researcher.

After the questionnaire was completed by the respondents, the researcher used the 27th version of the Statistical Package for the Social Sciences (SPSS) software to analyse the data. Since the questionnaire was designed to obtain numerical data in the form of the number and percentage of respondents who answered the questionnaire, the data obtained from the survey was quantitative in nature.

RESULTS
A total of 201 TESL trainee teachers who underwent practicum phases and had experience in the online English teaching and learning process participated in the survey. They were selected from five ITEMs and were asked to answer a questionnaire about their perceptions of implementing Blooket. The selection process involved simple random sampling. Table 1 displays the number of respondents by gender.

Table 1. Number of Respondents

Gender	N	%
Female	149	74.1%
Male	52	25.9%

Table 2 provides details of the means and standard deviations for the 9 items representing the three attributes of TESL trainee teachers' perceptions of the implementation of Blooket in the online English language teaching and learning process, namely: beliefs (B), attitudes (A), and thoughts (T). Based on the overall results of the survey, respondents were rated as having a positive attitude

toward the implementation of Blooket (M = 4.55; SD = .53), followed by the second rating attribute, positive beliefs about the pedagogical value of implementing Blooket (M = 4.53; SD = .49), while the last attribute of thoughts was the lowest rating attribute with a mean of 3.92 and SD = .65.

In general, the mean scores for the three attributes were relatively high, indicating that many TESL trainee teachers have positive perceptions toward implementing Blooket in the online English language teaching and learning process (M > 4.01). Table 2 contains further explanations of the individual results.

Table 2. The TESL Trainee Teachers' Beliefs, Attitudes, and Thoughts, Mean, Standard Deviation, and Total Number of Respondents (N = 201)

Item Code	Item	Mean	Standard Deviation
Section A	The TESL Trainee Teachers' Beliefs about the Pedagogical Value of Implementing Blooket (Overall)	4.53	.49
B1	I believe implementing Blooket is an essential part of the online English language teaching and learning process.	4.56	.66
B2	I believe implementing Blooket makes my students feel motivated to learn English language online.	4.70	.53
B3	I believe implementing Blooket in online English language classes help my students to pay full attention.	4.33	.66
Section B	The TESL Trainee Teachers' Attitudes Toward Implementing Blooket (overall)	4.55	.53
A1	I can easily prepare assessment materials by implementing Blooket.	4.67	.58
A2	I can easily access Blooket during my online English classes.	4.42	.63
A3	I can easily understand the system in Blooket.	4.58	.73
Section C	The TESL Trainee Teachers' Thoughts Toward Implementing Blooket (overall)	3.92	.65
T1	I think trainee teachers can use Blooket for fun learning online, and breaking down boredom.	3.57	1.22
T2	I think implementing Blooket can lower students' anxiety toward learning English online.	4.63	.61
T3	I think implementing Blooket in my online English classes can be time-saving.	3.57	1.25

In terms of the highest rating attribute of TESL trainee teachers' perceptions, the respondents appeared to have positive attitudes toward implementing Blooket in the online English language teaching and learning process. The high mean values (i.e., A1 = 4.67, A2 = 4.42, and A3 = 4.58) indicated that the respondents strongly agreed that they can easily prepare assessment materials by

implementing Blooket, can easily access Blooket during online English classes due to the easily understood system in Blooket.

As for the second rating attribute of TESL trainee teachers' perceptions, the respondents appeared to have positive beliefs toward implementing Blooket in the online English language teaching and learning process. The high mean values (i.e., B1 = 4.56, B2 = 4.70, and B3 = 4.33) indicate that the respondents strongly believed that implementing Blooket as an essential part of the online English language teaching and learning process. This makes students feel motivated to learn the English language online and helps them to pay full attention.

As for the lowest rating attribute of TESL trainee teachers' perceptions, the respondents appeared to have positive thoughts toward implementing Blooket in the online English language teaching and learning process. The high mean value (i.e., T2 = 4.63) indicates that the respondents strongly thought that implementing Blooket could lower the students' anxiety toward learning English language online. Even though the other two mean values were lower than 4.01(i.e., T1 = 3.57 and T3 = 3.57), TESL trainee teachers still thought that they could use Blooket for fun learning online and breaking down boredom, and implementing Blooket in online English classes could be time-saving too.

DISCUSSION

The results indicate that the majority of TESL trainee teachers possess positive perceptions toward implementing Blooket in the online English language teaching and learning process. This suggests that they strongly believe in the importance of using Blooket in the online English language teaching and learning process. Blooket provides an engaging, efficient, and relevant platform for today's tech-savvy students (Licorish et al., 2018). Furthermore, TESL trainee teachers from the different ITEMs agree that Blooket motivates pupils to learn English language online and helps them pay attention during the online classes.

Moreover, the findings suggest that the majority of respondents found it easy to prepare assessment materials by implementing Blooket, as it is easily accessible and the system is easy to understand. Although some respondents disagreed that Blooket can be easily accessed during online English language classes, most of them strongly agreed with the statement. The findings also showed that while many respondents chose to remain neutral, a larger number of them strongly agreed that Blooket should be used for fun learning and to combat boredom. Blooket is an e-learning tool that incorporates gamification, which is crucial for engaging students in learning activities through games (Welbers et al., 2019). Furthermore, a large number of respondents strongly agreed that implementing Blooket in the online English language teaching and learning process can reduce the pupils' anxiety toward learning English language online. Lastly, although most TESL trainee teachers perceive implementing Blooket in the online English teaching and learning process as time-efficient, some of them did not agree with this statement.

CONCLUSION

Every research study conducted gives implications or impacts on relevant stakeholders, which can help them become more aware and concerned about the topic. This research provides the ITEMs and lecturers at the institutes with proper and appropriate measures to take regarding the implementation of Blooket in the online English language teaching and learning processes. Based on the results of the study, the majority of TESL trainee teachers had positive perceptions of

implementing Blooket in the online English language teaching and learning process. They also agreed that the implementation of Blooket in online English language teaching and learning process helped create motivating lessons, which reduced the students' anxiety. Websites like Blooket, which offer game-based learning, can assist teachers and trainee teachers in creating more meaningful, interesting, and effective teaching and learning sessions. Thus, relevant stakeholders, such as the ITEMs and lecturers, should provide more opportunities, resources, and mediums to trainee teachers to learn and explore more about Blooket, which will also widen their knowledge and vary their teaching practices, leading to effective learning among their pupils.

SUGGESTIONS FOR FUTURE RESEARCH
Based on the findings, several recommendations are suggested for future research on the topic. First, it is recommended to increase the number of respondents in the survey to obtain more accurate results. Instead of using simple random sampling to select only 201 TESL trainee teachers, the survey could include all TESL trainee teachers at all the ITEMs in Malaysia. A larger sample size would result in more precise data, which could be utilized by stakeholders to make better decisions. Additionally, conducting a survey among primary school teachers could be useful to determine if the results differ from those obtained from TESL trainee teachers. Comparing and contrasting the responses of teachers and trainee teachers from both surveys would enable us to draw conclusions about similarities and differences between them. Finally, a comparison with other applications, or even a comparison with non-gamification (i.e., pencil and paper) would be a possible direction to consider.

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