Kahoot! in Higher Institution: A Comparative Study of Lecturers' and Students' Perceptions on a Game-Based Learning Platform

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Abstract

Game-based learning platforms (GBPs), such as Kahoot!, are tools that can enhance learning experiences for both lecturers and students. However, existing studies on GBPs often yield inconclusive results due to a narrow definition of learning that does not fully address both the input and output stages. Additionally, there is also a lack of comparative information on the perspectives of lecturers and students. This study therefore aims to investigate the perceptions of lecturers and students regarding the use of GBPs and the discrepancies between them. It involves 252 students undertaking compulsory English courses and 130 lecturers teaching English at a language centre in a Malaysian university. Data were collected using a mixed-methods explanatory sequential design, which included questionnaires and follow-up interviews. The findings suggest that both lecturers and students agree that GBPs have positively influenced their teaching and learning experiences. However, subtle differences between the two groups were observed, especially in motivation, likely due to the teaching preferences, reliability of the tool in summative assessment, and issue with GBPs subscription. In conclusion, this study highlights the need to further study policy implementations on the ground, particularly at the ICT initiatives involving lecturers in higher institutions.

Keywords: Game-based learning platforms, higher education, Kahoot!, Quality Education (SDG 4)

Introduction

The recent trends in promoting Quality Education (SDG 4) in Malaysia, indicate a focus on improving Malaysia's higher education quality and relevance, with technological integration and acceptability being notable priorities (Alyoussef, 2023). The significance of technology in education is more evident now than ever as tertiary institutions in Malaysia and beyond have started embracing remote and online learning modes in the post-pandemic era (Jaafar et al., 2022; Jamaluddin & Saly, 2023). A close examination of the *Malaysia Education Blueprint (Higher*

Education) 2015-2025 (Ministry of Education, 2015, p. 11) revealed the need to 'actively pursue technologies and innovations that address students' needs and enable greater personalisation of the learning experience'. Pertaining to this, GBPs play an integral role in facilitating and enriching students' higher education experience in both on-site and online settings. The recently launched Digital Education Policy (The Star, 2023) further cemented the pivotal role of technology-enhanced language learning (TELL), within which GBP applications, such as Kahoot and Quizizz, are increasingly gaining traction among instructors and learners. While the Digital Education Policy, initiated by the Malaysian Ministry of Education, is mainly targeted at school-going children and teenagers, its goals of nurturing, among others: 1. 'digitally competent students' by 'equipping students with essential digital literacy skills and knowledge to thrive in the digital age', and 2. 'competent digital educators' by 'empowering educators to integrate digital technology effectively into their teaching methodologies', are particularly relevant in the context of this study. With digitally-savvy students making the transition into higher education in the years to come, educators should therefore be armed with the technological know-how to cater to the increasing demand for incorporating ICT and digital tools in English language education.

However, past studies on GBPs have continuously highlighted the need to address two pivotal issues for GBPs to be effectively implemented in classrooms. First, a need to include both input and output stages when researchers review its effectiveness. Secondly, there is a lack of understanding regarding the perceptions of the two primary sets of users of these platforms in the classroom, namely the teachers and students (Chen, 2022; Rajabpour, 2021). Misalignment of perceptions between these groups as well as lack of alignment between input and output stages can lead to an inefficient learning experience, frustration, role adjustment difficulties, non-cooperative behaviours, and time management issues (Wang & Tahir, 2020).

Given the importance of addressing the two pivotal issues, this study aims to examine the disparities between lecturers' and students' perceptions regarding the use of game-based platforms during learning sessions within a context that addresses both input and output stages. To achieve this objective, three research questions are proposed: 1. What are students' perceptions regarding the use of game-based platforms as tools for learning? 2. What are lecturers' perceptions regarding the use of game-based platforms as tools for learning? 3. Are there any differences between the perceptions of the lecturers and students concerning the use of game-based platforms as tools for learning? If yes, what are the factors that contributed to these differences? To answer these questions, this paper is structured into four main sections. These sections will guide readers through the current issues in GBPs, the methodology of this study, our findings, and the subsequent discussions and future directions.

Literature Review

### Definition of Game-Based Platforms

Scholars have provided various yet overlapping definitions of GBPs. According to Wang et al. (2022), GBPs can be installed on devices such as computers and mobile devices. They are characterised by their integration of creative techniques that blend entertainment with educational elements, hence facilitating understanding across a broad user base. This integration involves experts to ensure the effectiveness of the learning experience (Santórum et al., 2023). Govender and Arnedo-Moreno (2021) further elaborated that GBPs utilise gaming strategies to deliver educational content, which can be manifested through various mediums, including both analogue

(e.g., board games, card games, scavenger hunts) and digital games. Bratel et al. (2021), advocated for the inclusion of GBPs in educational settings. They argued that the synergy between gamification and technological advancements enriches the teaching and learning processes. On a similar note, Reinhardt and Thorne (2020) defined GBP as the adaptation of computer games for educational purposes, specifically through educational games. Steinkuehler (2007) demonstrated that digital games offer a multitude of literacy practices or what Thorne et al. (2012) described as 'semiotic ecology'. Despite the variations in defining GBPs, it is understood that GBP is not limited to the use of technology and devices only. It can also be physical objects brought into the classroom to create excitement during teaching and learning sessions. However, for this paper, we will define GBP as any applications created for teaching, accessed through smartphones or laptops that are connected to the Internet.

GBP for Learning and Assessment of Learning

As mentioned in the introduction, learning is a dual process (Lachman, 1997). At the micro level, it involves receiving input and assessing the achievements based on lesson objectives. At the macro level, it involves revisions of the topics that students have learned and assessing their mastery at the summative stage. To demonstrate how a GBP can achieve this, Kahoot!, a popular game-based learning platform, with 70 million monthly active unique users and used by 50% of US K-12 students (Wang & Tahir, 2020) was chosen as an example.

Figure 1
LMS in Kahoot! (source: Kahoot! website)
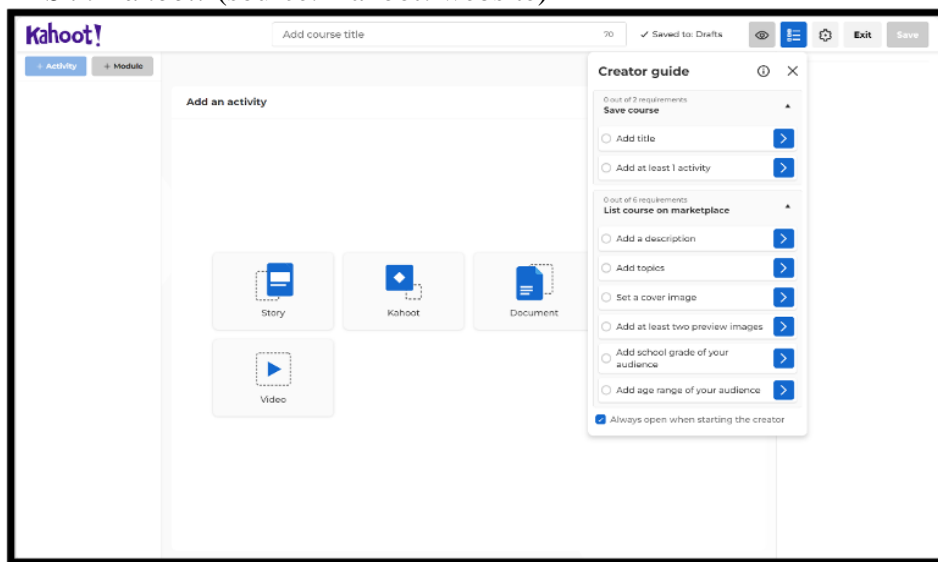
To ensure students can receive input during teaching and learning sessions, Kahoot!'s Learning Management System (LMS) (Figure 1), offers educators the capability to develop their courses and register their students. Although gaining access to its comprehensive features would require educators to subscribe to the system, the system's functionality would enhance the learning environment for teachers and students in the classrooms.

Figure 2
Input Option (source: Kahoot! website)
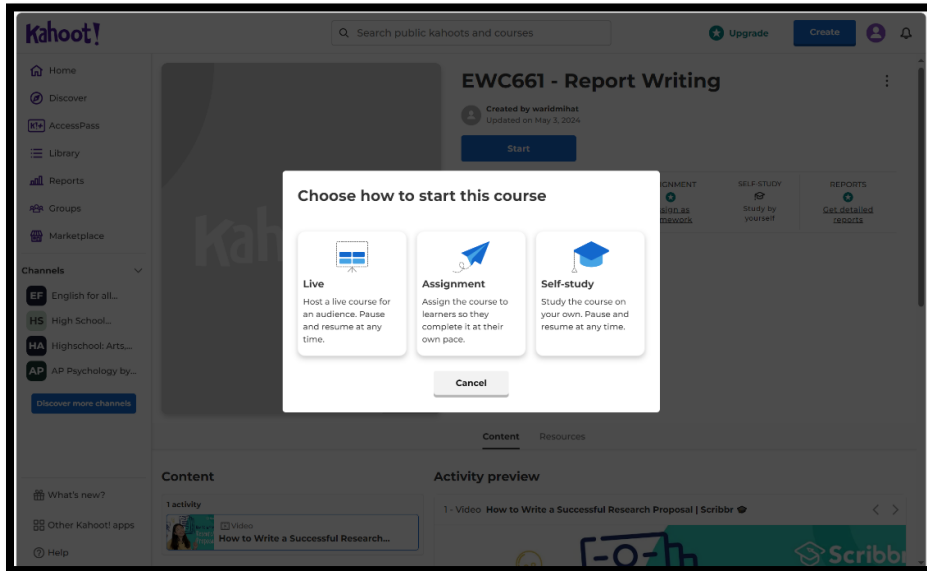
In Kahoot!, the process of delivering input can be done by developing a course for students. The input can be presented in a series of activities or modules with different learning objectives for students to achieve in each section. The content can be presented in the form of video, document, Kahoot! or story. As a learning system, Kahoot! would allow educators to transform passive PowerPoint slide shows into more interactive sessions through live options, presented by the educator in front of the class. Additionally, there is also a self-study function for educators to opt for, if they are interested in promoting student agency in their classroom.

Figure 3
Output Option (Source: Kahoot! Website)
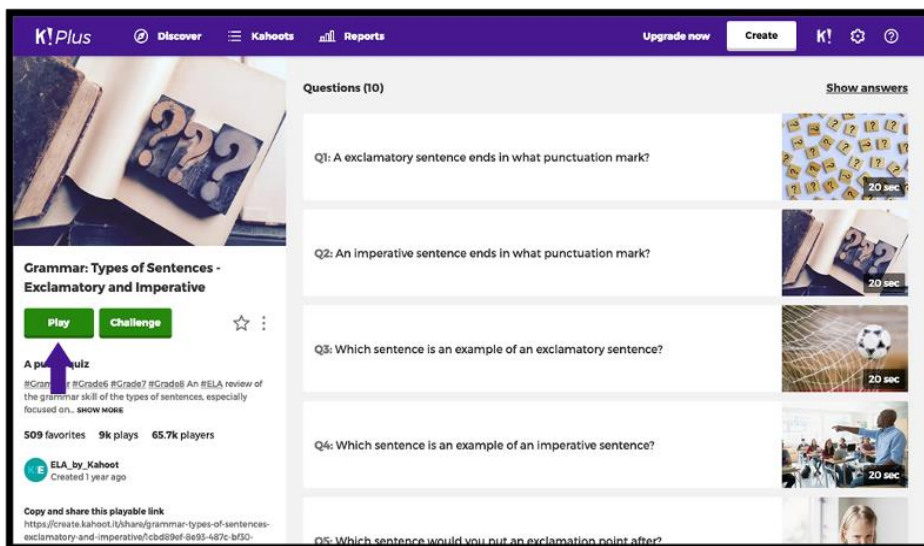
As discussed, the output stage plays a crucial role in evaluating the efficacy of teaching methodologies, approaches, interventions, and resources (Poulton, 2020). By practice, assessment can be done in two settings, either as a formative or summative. A key form of formative assessment involves various activities conducted by teachers and students that provide feedback used to modify ongoing educational activities. Black and Wiliam (2010) defined formative assessment as encompassing activities undertaken by teachers, and/or by their students aimed at providing information to be used as feedback to modify ongoing teaching and learning activities. Klenowski (2009) further elaborated that assessment for learning constitutes everyday practice where learners, teachers, and peers engage in seeking, reflecting upon, and responding to information gathered through dialogue, demonstration, and observation to enhance continuous learning. On the contrary, assessment of learning is a form of summative assessment used in the classroom. According to Glazer (2014), summative assessment is generally applied to give learners a numerical score with limited feedback. Therefore, summative assessment is commonly used to measure learning and is rarely used for learning.

To evaluate the extent of learning during a session, Kahoot! provides opportunities to its users through assessment and game options. In the assessment option, teachers can create a module and assign it as an assessment for students to complete within the time frame given. In the game option, teachers can assess their students' learning through live or assigned quizzes where learners respond to questions displayed on the shared screen using their devices. Each answer option is enclosed in a box that has a specific colour and shape corresponding to those displayed on the players' screens. Based on these options, GBP can be assigned as both formative and summative assessments, depending on the teachers' objectives of using the platform. The data collected by Kahoot! on learner responses is invaluable for teachers. It facilitates a detailed analysis of class performance, revealing common challenges and misunderstandings that can be addressed in subsequent lessons or through targeted revision sessions. Additionally, its flexibility makes it suitable for a wide range of subjects, from mathematics and science to history and language arts, allowing teachers to design content specifically for the assessment needs of different curricula.

Past Empirical Studies

Having introduced readers to one of the widely used GBPs, the next part of this review will look at the past studies done on this topic.

Kahoot! As a Tool to Deliver Input

Studies on GBPs, as tools to deliver inputs to students, have seen a collective focus on its applications, such as polling and questioning. Almusharraf (2023), for example, examined the integration of questioning strategies with Kahoot! in English literature courses within an English as a Foreign Language (EFL) context. The results indicated that Kahoot! fostered a positive learning environment, enhanced student enthusiasm, and promoted active participation in identifying knowledge gaps. Similarly, Phelps and Moro (2022) compared the effects of interactive polling, using Kahoot!, in both face-to-face and online education. Their findings suggested that interactive polling was perceived positively across delivery formats, being enjoyable, engaging, and valuable for learning. This study underscored Kahoot!'s effectiveness in hybrid or blended learning environments, providing evidence-based support for its widespread use across various educational modalities. Recently, Palos-Sanchez et al. (2024) explored the adoption of game-

focused student response systems, applying the theoretical framework of the hedonic-motivation system adoption model to Kahoot!. Their study confirmed the model's adequacy for the adoption of such tools, with significant correlations in all but the Temporal Dissociation variable. This research offers insights into how educational sectors might better accept and understand the functionalities of GBP, potentially leading to more widespread implementation.

The consensus among several researchers, including Ortiz-Martínez et al. (2022), Almusharraf (2023), Phelps and Moro (2022), and Tao and Zou (2023), posited that GBP exerts a positive influence on student engagement, motivation, and learning attention during input session. Common GBP like Kahoot! has been consistently recognised for its ability to boost student enthusiasm and participation. Moreover, the versatility and broad applicability of GBP across various academic disciplines have been demonstrated in studies such as those by Almusharraf (2023) and Pratiwi and Waluyo (2023), which show enhanced educational experiences across a spectrum of subjects. Furthermore, the past studies highlight not only academic improvement but also the enhancement of social competencies and cognitive processes, as noted by Antonopoulou et al. (2022), suggesting that gamification contributes to a more holistic educational development. However, the impact and implementation of GBP varied significantly across different educational settings and levels, ranging from primary education to tertiary education, as indicated by studies from Antonopoulou et al. (2022) and Ortiz-Martínez et al. (2022). Additionally, the diversity in the GBP and approaches to gamification, such as those compared by Leon and Peña (2022), and the varied methodologies employed in these studies, like t-tests and ANOVA, underscored the nuanced differences and depths of analysis achieved.

Kahoot! As a Tool to Assess Output

Having discussed studies on how GBP was used as a tool in delivering inputs to students, the next part will discuss how GBP was used as an assessment tool in the output stage. Chen (2022) conducted a classroom-based study to investigate EFL learners' perceptions of lessons that incorporated GBPs for assessment (Kahoot!) and collaboration (Padlet). The study revealed a noteworthy finding: although only a few class activities employed these GBP, learners' perceptions of gamification were significantly enhanced. This indicated that even partial integration of GBP can markedly elevate learners' positive perceptions of the entire lesson. Despite the widespread advocacy for the integration of technology in educational settings, teachers may lack clear guidance on effective implementation strategies.

In a similar vein, Coveney et al. (2022) conducted a single-stage observational cross-sectional study across Ireland and Italy to investigate the perceptions of first-year nursing students using Kahoot! to assess their knowledge prior to skills laboratory sessions. The findings indicated that students perceived Kahoot! as user-friendly and beneficial for learning, particularly within the context of formative assessment. Additionally, it was noted that Kahoot! effectively prepared students for the practical components of their course.

Next, Garza et al. (2023) evaluated the utility of Kahoot! as a discriminative tool for formative assessment in medical education across two distinct subjects. The study analysed the correlation between students' Kahoot! scores and their final grades in neuroanatomy, finding significant positive correlations across all evaluations: Kahoot! exercises, theory tests, image exams, and final grades. Furthermore, students who participated in the Kahoot! exercises consistently achieved higher scores across all exam components. In the study of human histology, it was found that the use of Kahoot! resulted in significantly higher scores on theory tests, image

exams, and final grades compared to traditional methodologies. This highlighted Kahoot!'s potential as an effective GBP in medical education, providing a strong correlation between its use and improved academic performance. Studies also consistently demonstrated that GBPs positively influenced student engagement, motivation, and enjoyment during assessment (Lohitharajah & Youhasan, 2022; Lashari et al., 2024). These factors are frequently linked to enhanced learning outcomes and elevated academic performance. Moreover, several studies, notably those by Garza et al. (2023) and Coveney et al. (2022), concentrated on the specific application of GBP for formative assessment, underscoring their role in providing immediate feedback and promoting an interactive educational environment.

In conclusion, there is substantial evidence supporting the beneficial role of game-based platforms (GBP) for input delivery and input mastery assessment. However, as stated in the introduction, while numerous studies have documented the effectiveness of GBP for learning, we found that the concept of learning was not fully represented across both input and output stages, making the discussion less reflective of the actual process. Furthermore, there is a need to examine the congruence between teachers and students, the two main users of GBP in the classroom, to ensure a more holistic educational outcome. Hence, this study seeks to explore the differences in perceptions between lecturers and students regarding the use of these platforms for learning purposes.

Perceptions between Teachers and Students

GBPs such as Kahoot! have attracted attention for their role in enhancing educational experiences across various learning contexts. The perceptions of these tools vary significantly between lecturers and students, highlighting both their potential benefits and areas for improvement. To initiate, lecturers have generally viewed GBPs, including Kahoot!, as effective instruments for fostering dynamic and interactive learning environments. Rajabpour (2021) reported a study on 13 lecturers who had used Kahoot! in their lectures and found changes in their students' engagement, motivation, and energy levels. Similarly, he also found GBPs improve classroom dynamics, provide immediate feedback, and facilitate lesson revision. Following that, Phelps and Moro (2022) underscored the versatility of interactive polling tools like Kahoot! in both face-to-face and online education settings. They noted that such tools were perceived positively across different delivery formats, emphasizing their utility in hybrid and blended learning environments. This adaptability is crucial for lecturers who aim to maintain high levels of student interaction regardless of the teaching format. All in all, these findings reflect a broader recognition among educators that GBPs can stimulate engagement and motivation among students.

Students' perceptions of GBPs like Kahoot! are equally positive, with many recognising these tools as enhancing their learning experience. Chen (2022) found that even partial integration of GBPs in classroom activities significantly elevated students' perceptions of gamified lessons. This suggests that students appreciate the interactive and engaging nature of GBPs, which can make learning more enjoyable and effective. Moreover, Coveney et al. (2022) supported these findings in a study involving first-year nursing students, where Kahoot! was used to assess knowledge before skills laboratory sessions. Students perceived Kahoot! as user-friendly and beneficial for formative assessment, indicating that GBPs can effectively prepare students for practical components of their courses.

Therefore, both lecturers and students recognised the benefits of GBPs like Kahoot!, albeit from different perspectives (Xie et al., 2021). Lecturers valued these tools for their ability to create

an engaging and interactive learning environment that is adaptable to various teaching formats (Yassin & Abdulgalil, 2022). They saw GBPs as an effective tool for enhancing student participation, motivation, and overall learning experiences. Students, on the other hand, appreciated GBPs for their interactive nature and the immediate feedback they provided. They found these tools engaging and beneficial for both learning and assessment, leading to improved academic performance and a more enjoyable learning process. Despite the positive perceptions from both groups, it is essential to note the variation in the impact and implementation of GBPs across different educational settings and disciplines. While the overall consensus points to the effectiveness of GBPs in enhancing educational experiences, the specific outcomes and efficacy can vary based on the context and subject matter. As Rajabpour (2021) points out, to maximise GBPs potentials, it is crucial to understand and address the specific needs and perceptions of both lecturers and students, ensuring a more holistic and effective educational experience.

Research Method

Research Design

This study employed a mixed-methods research design through a sequential explanatory approach. There were two reasons why this choice was made. First, mixed-methods research is commonly employed to investigate complex and multi-dimensional constructs like motivation or perception (Dörnyei, 2007). Second, the sequential explanatory design allows the researcher to understand better the significant results of the survey (Creswell, 2015).

Our Context

This research was conducted at a university in Malaysia. The study employed purposive sampling, involving 252 students from various faculties who were required to complete an English language module as part of their course requirements. All students were at the degree level and had used Kahoot! in their learning sessions. On the lecturers' side, 130 lecturers participated in this study. They were from a language centre and had taught for more than 5 years. All lecturers in this study have access, at least, to the free Kahoot! account and have used it in their learning sessions.

Instruments

This study was conducted in two phases. Due to the absence of suitable pre-existing questionnaires that could address the research questions of this study, the research team   decided to develop their own questionnaire drawing upon previous studies (see Rajabpour, 2021; Wang & Tahir, 2020). The questionnaire used a 5-point Likert scale (1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree). The Cronbach's Alpha value of the items in the survey was $\alpha = .82$, indicating suitability for factorial analysis. The range of value used in this study was taken from Sözen and Guven (2019), as indicated below:

Table 1

Interpretation of *Means* (Source: Soven & Guven 2019)

	Value	Range
Strongly disagree	1	1.00 – 1.80
Disagree	2	1.81 – 2.60
Neutral	3	2.61 – 3.40
Agree	4	3.41 – 4.20
Strongly Agree	5	4.21 – 5.00

The first phase aimed to collect quantitative data through a survey. Seven variables were identified from past studies (see Rajabpour, 2021; Wang & Tahir, 2020) to define the concept of 'learning' that includes input delivery and assessment of output. They are as follows:

1. Engagement (Items 1-5)
2. Learning Effectiveness (Items 6-10)
3. Motivation (Items 11-15)
4. Collaboration (Items 16-20)
5. Feedback and Assessment (Items 21-25)
6. Ease of Use (Items 26-30)
7. Preferences (Items 31-35)

The second phase of the study involved conducting interviews. The interview questions were derived from the significant data obtained in the first phase and the purpose of this instrument was to ensure the robustness of the data for subsequent discussion. 15 lecturers were interviewed in this study.

Data Collection Procedure

The data collection for this study was carried out in several stages. First, a comprehensive survey was designed based on the research objective. The survey was then distributed to the target population, which in this case were the selected students and language lecturers. An online platform was used to distribute the survey, allowing for a wide reach and easy access for participants. Participants were given a two-week window to complete the survey.

To ensure the validity of the responses, participants were required to log in with their university email addresses. This helped to verify that the responses were indeed from the target population. Additionally, the survey included an informed consent form at the beginning, ensuring that participants were aware of their rights and the purpose of the study. Once the survey window closed, the responses were collected and anonymised for analysis purposes. The data was then cleaned and prepared for analysis, which involved removing incomplete responses and coding open-ended responses. This procedure ensured a systematic and ethical approach to data collection, providing robust and reliable data for the study.

Data Analysis Procedure

Once the data had been cleaned, they were then coded and entered into a statistical software package. Descriptive statistics were calculated for each item on the questionnaire to provide an overview of the data. This includes measures of central tendency (mean, median, mode) and measures of dispersion (range, standard deviation). A normality test, through Shapiro-Wilk, was conducted to ensure the data were normally distributed and suitable for parametric tests an independent T-test and effect size Cohen's d were then used to understand the differences between lecturers' and students' perceptions of using a GBP for learning.

The interviews were transcribed verbatim to ensure accuracy (Braun & Clarke, 2006). The transcriptions were then read multiple times to gain a thorough understanding of the data. A coding scheme was developed based on the research questions and the data itself. The transcriptions were coded line by line, and these codes were grouped into categories. These categories were then used to identify themes in the data. The themes were analysed in line with the research questions, and quotes from the interviews were used to illustrate the themes. The findings from the qualitative data were then triangulated with the findings from the quantitative data to provide a comprehensive understanding of the research topic.

Findings and Discussions Derived from the Quantitative Analysis

RQ 1 – What are lecturers' perceptions regarding the use of game-based platforms as a tool for learning?

Table 2
Lecturers' perceptions on using GBP for learning

	Variables	Mean
Learning as input and output process. (Lecturers)	Engagement	3.94
	Learning Effectiveness	3.84
	Motivation	3.79
	Collaboration	3.70
	Feedback & Assessment	3.79
	Ease of Use	3.68
	Preference	3.74

Table 2 offers valuable insights into lecturers' perceptions of using a game-based platform, Kahoot!, in the learning sessions. The mean values for various aspects of the learning have been evaluated on a scale of 1 to 5, with 1 indicating strong disagreement and 5 indicating strong agreement.

All the variables fall into the category of "agree" with the engagement receiving the highest mean score of 3.94. Learning *Effectiveness* and *Motivation* and the other variables followed closely behind as shown in Table 1. The lowest mean score is on the *Ease of Use*.

In summary, the data suggest that lecturers have a positive perception of using Kahoot! in their teaching sessions. They find it engaging, effective, motivating, collaborative, and easy to use. These findings underscore the potential of game-based platforms like Kahoot! in enhancing the teaching experience.

RQ 2 – What are students' perceptions regarding the use of game-based platforms as tools for learning?

Table 3
Students' perceptions   of using GBP for learning

	Variables	Mean
Learning as input and	Engagement	4.14
output process.	Learning Effectiveness	3.86
(Students)	Motivation	4.14
	Collaboration	3.86
	Feedback & Assessment	4.02
	Ease of Use	3.91
	Preference	3.72

While Table 2 presents the lecturers' perceptions, Table 3 provides an insightful overview of the students' perceptions of using the game-based platform, Kahoot!, in their learning sessions. Similar to the lecturers, students perceive learning with Kahoot! as positive. All variables scored above 3.41, which sufficiently indicates agreement. Thus, it appears that students, like the lecturers, also hold a positive perception of using Kahoot! in their learning sessions, finding it engaging, effective, collaborative, and easy to use.

RQ3 – Are there any differences between the perceptions of the lecturers and students concerning the use of game-based platforms as tools for learning? If yes, what are the factors that contributed to these differences?

Given that all variables had a range mean score of more than 3.40, indicating 'Agree', it is suggested that both lecturers and students have generally positive perceptions of the use of Kahoot! in learning. However, the Independent t-test reveals some nuances in these perceptions (See Tables 4 and 5).

Table 4
Mean scores for both groups

	Respondents	N	Mean	Std. Deviation
Engagement	*Lecturer*	*130*	*3.94*	*.88*
	Student	*252*	*4.13*	*.51*
Learning Effectiveness	*Lecturer*	*130*	*3.84*	*.85*
	Student	*252*	*3.86*	*.60*
Motivation	*Lecturer*	*130*	*3.79*	*.94*
	Student	*252*	*4.14*	*.77*
Collaboration	*Lecturer*	*130*	*3.70*	*.85*
	Student	*252*	*3.86*	*.58*
Feedback & Assessment	*Lecturer*	*130*	*3.79*	*.79*
	Student	*252*	*4.01*	*.48*
Ease of Use	*Lecturer*	*130*	*3.68*	*.86*
	Student	*252*	*3.91*	*.38*

Preference	*Lecturer*	*130*	*3.73*	*.86*
	Student	*252*	*3.72*	*.77*

The data analysis revealed that in general the lecturers' ratings were consistently lower than those of the students as shown in Table 6. The following indicated the significant differences in perceptions between the two groups. The threshold for significance was set at $p < .05$. ;

1. Engagement: Students' perception (M = 4.14, SD = 0.5) was significantly higher than that of the lecturers (t (374.142) = -2.75, p = .006).

2. Motivation: Students also rated this aspect (M = 4.14, SD = 0.7) significantly higher than the lecturers did (t (309.808) = -3.930, p < .001).

3. Feedback and Assessment: Students' perceptions were significantly higher than the lecturers' (t (370.620) = -3.390, p < .001).

4. Ease of Use: Students' perceptions (M = 3.91, SD = 0.3) were significantly more positive than the lecturers' (t (372.691) = -3.568, p < .001).

Table 6

Effect Size

	Cohen's d Value
Engagement	.28
Motivation	.44
Feedback	.34
Ease of Use	.34

To further understand the findings, this study then looked at the effect size of the differences (Table 6). Cohen's d values suggest that the variables under consideration exhibit small to medium effect sizes. Engagement (d=0.28) shows a small effect size, indicating a slight but potentially non-significant difference between the two groups. Motivation (d=0.44) is nearing a medium effect size, suggesting a more substantial difference that may be of practical significance. Feedback and Ease of Use both have a d value of 0.34, falling in the small to medium range, indicating some difference, but not as pronounced as Motivation. These results provide a preliminary indication of the variables' impact and engender questions such as why the effect size for motivation is higher than the other three. This question will be further addressed in the next part of the analysis.

Table 5

Independent t-test results

		Levene's Test for Equality of Variances		t-test for Equality of Means						95% Confidence Interval of the Difference	
		F	Sig.	t	df	One-Sided p	Two-Sided p	Mean Difference	Std. Error Difference	Lower	Upper
ED	Equal variances assumed	11.043	<.001	-2.345	380	.010	.020	-.19560	.08342	-.35962	-.03159
	Equal variances not assumed			-2.747	374.142	.003	.006	-.19560	.07121	-.33563	-.05558
LE	Equal variances assumed	6.886	.009	-.311	380	.378	.756	-.02582	.08313	-.18928	.13764
	Equal variances not assumed			-.346	344.597	.365	.730	-.02582	.07465	-.17265	.12100
MT	Equal variances assumed	4.723	.030	-3.689	380	<.001	<.001	-.35275	.09563	-.54077	-.16472
	Equal variances not assumed			-3.930	309.808	<.001	<.001	-.35275	.08975	-.52935	-.17615
CL	Equal variances assumed	9.602	.002	-1.936	380	.027	.054	-.16154	.08343	-.32558	.00250
	Equal variances not assumed			-2.173	350.054	.015	.030	-.16154	.07435	-.30776	-.01531
FD	Equal variances assumed	11.822	<.001	-2.919	380	.002	.004	-.22253	.07624	-.37244	-.07262
	Equal variances not assumed			-3.390	370.620	<.001	<.001	-.22253	.06564	-.35160	-.09346
EASE	Equal variances assumed	72.029	<.001	-2.864	380	.002	.004	-.22912	.07999	-.38639	-.07185
	Equal variances not assumed			-3.568	372.691	<.001	<.001	-.22912	.06422	-.35540	-.10284
PF	Equal variances assumed	.115	.735	.140	380	.444	.888	.01264	.08998	-.16428	.18955
	Equal variances not assumed			.145	284.926	.442	.885	.01264	.08712	-.15885	.18412

* p < .05; ED: Engagement; LE : Learning Effectiveness; MT: Motivation; CL: Collaborative; FD: Feedback & Assessment; EASE: Ease of Use; PF: Preference

Findings and Discussion Derived from the Qualitative Analysis

       To further comprehend the discrepancy between students' and lecturers' opinions, it is essential to examine the qualitative results. Therefore, the next part of this writing will look at the factors that contribute to the differences in perceptions between the lecturers and students through thematic analysis, especially for the variable Motivation.

Preference for traditional approach to teaching

       While responses from both lecturers and students fell within the same mean range of "agree", it was found that the lecturers were more reserved towards GBP. They found it less motivating than the students. Based on the responses, it appeared that the lecturers especially the more senior ones preferred and trusted the traditional approach to teaching and learning more than the new methods that integrate technology as shown in the quotes below. They also sometimes find the transition to be too challenging and intimidating which accounts for their lower mean scores for "Ease of Use". Hence their reluctance to embrace GBP with the same enthusiasm as their students whom one lecturer described as the more techno-savvy generation.

Extracts Set 1
Preference for traditional approach to teaching

- I've been teaching for more than 15 years, and the shift to GBP in learning sessions has been significant. I find myself more reserved in its use, preferring to stick to the methods I know best. But I do admit its usefulness in education. (L8)
- I believe in the value of GBP, but I also think it's important to balance it with traditional teaching methods. The transition has been a bit challenging for me. (L9)
- The use of GBP in learning sessions is a bit intimidating for me. I feel it's more suited to the younger, more tech-savvy generation. (L1)
- While I see the potential benefits of GBP in learning sessions, I am more comfortable with the teaching methods I have used for years. It's a generational thing, I suppose.
- I've always found the traditional methods of teaching, using pen and paper, to be more effective. The introduction of GBP in learning sessions is something I'm still getting used to. (L13)

Issue with GBP as a summative assessment tool

       The next theme that emerged from the interviews that could have led to the differences in responses was related to feedback and assessment. According to the interviews, all the lecturers recognised the potential of GBP as a platform for formative assessment. However, at least 50% of them believed it was less suitable for summative assessment, favouring the more traditional approach. One teacher pointed out that to be effective a more formal setting is required. Conversely, the other 50% were open to embracing the revolutionary change in assessment with one even describing it as "a game changer". The following extracts illustrate their claims.

Extracts Set 2
Issue with GBP as a summative assessment tool

- I find Kahoot! to be a great tool for formative assessment. It allows for immediate feedback and encourages continuous learning. However, I'm not sure it's the best platform for summative assessments. (L6)
- I believe Kahoot! has the potential to revolutionize both formative and summative assessments. Its informality makes it more approachable for students. (L2)
- I see the value of Kahoot! for formative assessment, but I'm hesitant about its use for summative assessments. I think traditional methods are more suitable for that. (L13)
- While I appreciate the informality of Kahoot! for formative assessments, I'm not convinced about its effectiveness for summative assessments. I believe there's a need for a more formal setting for those. (L9)
- I'm excited about the possibilities of Kahoot! I think it could be a game-changer for my future. (S12)
- Kahoot! is transforming the way we learn and are assessed. I'm eager to see how it can be used in a more formal setting. (S5)

The Issue with the Need for GBPs Subscription

The third theme emerging from the interviews which may have affected the lecturers' motivation towards Kahoot! was the need for a subscription to access versions with more interactive tools. This theme highlights the influence of subscription requirements on the perceptions of these lecturers. Typically, the more features they need, the higher the cost. However, institutions or centres they worked in generally were not willing to purchase the premium version of Kahoot!, possibly due to financial constraints. Concurrently, it is also important to point out that the lecturers do spend some of their salaries to subscribe to other applications such as Canva, Grammarly, and ChatGPT. Given limited financial resources, the lecturers had to resort to using the free version, which limited their ability to design more stimulating interactive sessions and influenced their overall perceptions compared to their students. The following extracts illustrate their concerns and disappointment with this situation.

Extracts Set 3
The issue with the need for a GBP Subscription

- As a lecturer, I often find myself limited by the free version of Kahoot! There are many features that could enhance my teaching, but they are only available in the premium version. (L1)
- Our institution does not allocate a budget for Kahoot! or Quizzes. As lecturers, we have to subscribe to these tools personally if we want to use them in our teaching. (L7)
- I've noticed that my students enjoy the interactive sessions when I use Kahoot! However, I feel that I could do so much more if I had access to the premium features. (L5)
- It (Kahoot!) has various subscription options, but they can be quite expensive. It's a challenge to balance the cost and the potential benefits for my students. (L4)
- I believe that if our institution could support us in subscribing to the premium version of the Kahoot! it would greatly enhance our teaching and the students' learning experience. (L2)
- It's not that we don't want to subscribe. We have subscribed to other applications (Canva, ChatGPT etc) which are costly too. (L9)

Overall Discussion

Malaysia, a developing nation, is dedicated to enhancing the use of technology in classrooms across all educational levels. This commitment is evident in the introduction of initiatives such as the smart classroom, 1bestarinet, and 21st-century classroom (MoE, 2015; The Star, 2023). These programs emphasise the use of game-based platforms in the teaching and learning process.

Past studies, such as research by Naim and Abd Razak (2020) indicate that ESL lecturers in higher education possess strong basic digital skills, didactic ICT competence, learning strategies, and digital *Bildung*. Additional studies by Chen (2022), Almusharraf (2023), and Phelps and Moro (2022) corroborate these findings, highlighting both teachers' and students' positive experiences with game-based platforms.

However, this study uncovers subtle complexities within these positive experiences, particularly concerning motivation. This insight is crucial as it deepens our understanding of technology use in higher education among ESL lecturers (Rajabpour, 2021). It is essential to address these complexities that could hinder the achievement of lesson objectives.

Our findings indicate that the scores of lecturers for engagement, motivation, feedback, assessment, and ease of use are significantly lower than those of students. This disparity suggests that while students find game-based platforms engaging and user-friendly, lecturers may encounter challenges in adapting to this innovative teaching method. However, given that the effect size between these two groups ranges from small to moderate, rather than large, this suggests that the problem is not major and steps can be undertaken to minimise it through future Government policies.

Interestingly, while previous studies have attributed issues of differences to a lack of familiarity or comfort with the technology (Xie et al., 2021; Wang et al., 2022), this study suggests that this is no longer a major problem though a few senior lecturers do still adhere to their belief that the traditional approach to teaching and learning is still better. Instead, some are more concerned with the suitability of GBPs for assessment purposes which is an issue that needs further investigation. Additionally, they express concern over their inability to access the premium platforms due to lack of financial resources. From another perspective, it can be argued that the practice of using GBPs in higher institution within the context of this study is not fully maximised and constrained to the free version. The overreliance on the free version might also raise concerns about sustainability and continuity. If the GBP providers decide to change the terms of the free version, users may find themselves in a challenging position. This situation, therefore, should be addressed in future Government policies. As reiterated by Naim and Abd Razak (2020), the successful integration of technology into classrooms necessitates a harmonisation of teacher education, infrastructure, and teacher agency.

Limitations, Implications and Conclusion

This study provides insight into the current situation with regard to the use of GBPs in a tertiary institution. In general, the views of the lecturers and students towards the use of GBPs are positive but there are factors that lead to the lecturers being less receptive than the students. The findings suggest the need for further investigation and underscore the need for budget allocation for game-based platform subscriptions or development, comprehensive training for lecturers, and ensuring these platforms cater to the needs of both students and educators. Addressing these issues can help reduce discrepancies in perceptions between educators and students, and enhance the overall effectiveness of game-based learning in the classroom.

Since this study only focuses on ESL lecturers and students at one particular university, the findings could not be generalised to the whole population in Malaysia. Despite that, this study has emphasized the importance of addressing the differences in opinions between two types of users in the classrooms to enhance the effectiveness of game-based learning as put forward by Rajabpour (2021) in the conclusion of his paper. Future research in Malaysia should strive to go deeper into these complexities, by looking at how other stakeholders, especially the Ministry of Higher Education and university top management, view the application of GBPs in the classroom by adding another important variable into the questionnaire, that is the *subscription*.

In essence, existing national policies seem determined to push the boundaries of technological innovations to provide a vibrant and dynamic higher education experience for students. However, perennial practical issues including inadequate capacity building and professional development for technology use, lack of resource and material deficiency, budget constraints, and unequal access to quality technological tools, continue to impede policy implementation on the ground, often resulting in ineffective and inefficient educational outcomes.

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