



LEARNING MANAGEMENT SYSTEM (LMS) PREFERENCE AMONG MALAYSIAN EDUCATORS: A COMPARISON BETWEEN GOOGLE CLASSROOM AND MICROSOFT TEAMS

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Abstract

The integration of a learning management system (LMS) into higher education and other educational levels has become a significant factor in the adoption of digital learning approaches. With a vast array of options available, making accurate decisions in this dynamic landscape poses challenges. This paper seeks to streamline the selection process and ensure the most suitable match for an institution's particular goals and needs. This research primarily centres on the investigation of free e-learning platforms, chosen for their cost-effectiveness and alignment with the study's specific scope. Hence, this research explores the preferences of Malaysian educators concerning LMS usage, focusing on a specific comparison between Google Classroom and Microsoft Teams. The research employed a quantitative approach, utilising an online survey to collect and record domain comparisons. The results revealed that educators showed a preference for Google Classroom over Microsoft Teams when it came to teaching and facilitation. Several factors contributed to this preference, as evident from the analysis of the collected data, which fell into three main categories: functional suitability, compatibility, and portability. It is hoped that this study will help Malaysian educators to comprehend the suitability of technology for learning and the exchange of knowledge to benefit the students, institutions and the country in general.

Keywords: *E-Learning; Language Learning Platform; Learning Management System; Malaysian Educators; Platform Comparison*

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INTRODUCTION

The world is in the process of shifting towards a knowledge-based economy, where there is a swift and continuous expansion of information. The nature of this information is becoming progressively more specialised and complex. As a result, it becomes imperative for university instructors to equip students with the ability to engage in self-learning and independent study (Khoa et al., 2020). The learning management system (LMS) serves as an educational platform that offers a comprehensive solution for teachers, learners, and institution managers to publish, collaborate, and share educational resources (Thuseethan et al., 2014; Prahani et al., 2022). The incorporation of a learning management system (LMS) in higher education or other educational levels has emerged as a prominent consideration in the implementation of digital learning methods (Ayouni et al., 2021). Professionals and specialists stress the importance of aligning the role of the LMS with established teaching and learning theories (Prahani et al., 2022). Its purpose is to detect disparities in teaching and learning, automatically analyse the data, and generate reports. Given its e-learning nature, it emphasises the delivery of materials and resources in both asynchronous and synchronous formats. The appearance of Learning Management Systems (LMS) can vary, with one example being Computer-assisted Learning (CAL). A Learning Management System enables educators to unite all stakeholders within a single platform. This means that it's not limited to just teachers and students; instead, parents, coaches, and administrators can also participate in the platform (Ferdianto, 2019).

In the beginning, e-Learning was just an optional nature of learning, lacking a mandatory policy to encourage staff participation. However, the situation underwent a profound transformation during the COVID-19 pandemic, when stringent social distancing measures were implemented. Lecturers received guidance to conduct their classes remotely, ensuring that students could access learning materials and attend lectures from a distance. Lecturers began recording their lectures and disseminating them to students who were subject to lockdown measures across the country (and even overseas), utilising tools like LMS and various Web 2.0 platforms (Mutanga & Motshegwe, 2023). Similarly, in Malaysian context, in order to maintain the continuity of lessons, educators have embraced the mode of e-teaching, employing a range of technologies such as video conferencing platforms like Zoom, Cisco Webex, Microsoft Teams, and Google Classroom with the last two platforms as the most popularly used in academic settings. Additionally, they have also utilised communication tools like WhatsApp and Telegram to facilitate interaction.

In general, there are two prevalent challenges that arise when implementing digital learning: obstacles at the educator level and barriers at the institution level. Educator-level obstacles encompass issues related to teacher self-assurance, competence, resistance to change, and a negative mindset. On the other hand, institution-level barriers include limited time availability, inadequate training opportunities, insufficient accessibility, and a lack of technical support (Multazam & Munir, 2022). Although it takes time and money, frequent faculty and staff training is essential to ensuring a positive teaching and learning environment (Ahmad et al., 2023). The rapid progression of educational technology has also raised the question of which technologies can and should be incorporated into the pedagogical approach during the pandemic (Teras et al., 2020). As students' interaction with technology continually evolves, especially now in the post-pandemic, it becomes the responsibility of educators to comprehend how students engage with technology for learning and the exchange of knowledge (Mazlan et al., 2022).

Nonetheless, there have been numerous comparative studies conducted in the past. However, they often become outdated quickly as the e-learning landscape evolves rapidly. The ever-growing number of available training options makes it challenging to make a well-informed choice in this rapidly changing context (Quadoud et

al., 2017). Thus, the purpose of this study is precisely to assess the inclination of Malaysian educators in using LMS. The objective of this research is to conduct an investigation into the preference of Malaysian Educators, specifically comparison between Google Classroom and Microsoft Teams.

LITERATURE REVIEW

Technology Acceptance Model (TAM) with Additional Constructs

To gain a deeper understanding of the factors influencing the acceptance and adoption of Learning Management Systems (LMS) among educators, it is pertinent to introduce the Technology Acceptance Model (TAM). TAM, proposed by Davis in 1989, is a well-established theoretical framework for examining users' acceptance of technology, especially within educational contexts. TAM consists of key constructs, notably perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which a technology is believed to enhance job performance, while perceived ease of use concerns the degree to which a technology is seen as user-friendly (Davis, 1989). This model serves as the basis for examining educators' acceptance of Learning Management Systems (LMS).

In the context of this study, we further extend TAM by incorporating three crucial evaluation criteria, as defined by Quadoud et al. (2017):

1. **Functional Suitability** pertains to how well a product or system fulfils both explicit and implicit requirements by offering the necessary functions while operating within specified conditions. In the context of LMS, functional suitability refers to the effectiveness of the platform in meeting the explicit and implicit requirements of educators' teaching processes.
2. **Compatibility** extends to the extent to which a product, system, or component can effectively communicate and interact with other products, systems, or components, and perform its intended functions seamlessly within a shared hardware or software environment. In terms of LMS, compatibility assesses the ability of the platform to integrate smoothly with educators' existing teaching methods and practices.
3. **Portability** involves the level of effectiveness and efficiency with which a system, product, or component can be smoothly transferred from one hardware, software, or operational environment to another. In the context of LMS, portability relates to how easily educators can transition their teaching activities between different settings and devices.

The integration of these additional constructs enhances the TAM framework, providing a comprehensive understanding of Malaysian educators' preferences for Google Classroom and Microsoft Teams in terms of functional suitability, compatibility, and portability. For a visual representation of this extended TAM framework, please refer to Figure 1 below.

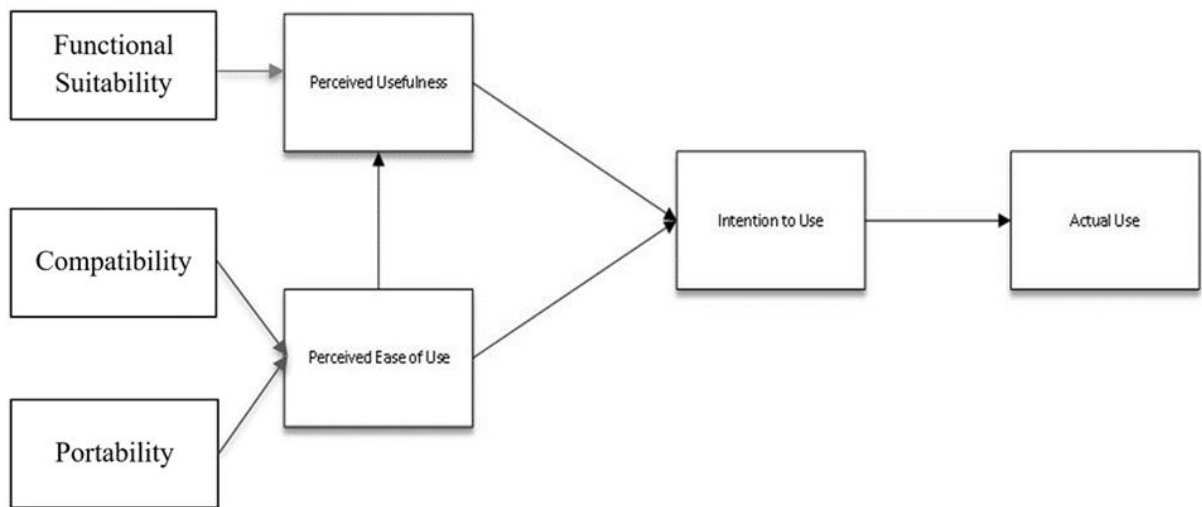


Figure 1: Extended Technology Acceptance Model (TAM) for LMS Evaluation

In this revised model, Functional Suitability, which relates to how well the system fulfils explicit and implicit requirements, fits naturally under Perceived Usefulness. Compatibility and Portability, which pertain to the system's ability to interact with other components and be smoothly transferred between environments, align more closely with Perceived Ease of Use.

Application of TAM to LMS

The application of the Technology Acceptance Model (TAM) within the realm of Learning Management Systems (LMS) has been instrumental in understanding educators' adoption behaviours. Previous research has utilised TAM to explore the factors impacting educators' acceptance of LMS. Notably, these studies have sought to analyse how perceived usefulness and perceived ease of use influence educators' decisions to embrace LMS in their teaching practices.

Comparing Google Classroom and Microsoft Teams

Transitioning from the theoretical foundation of TAM, we shift our focus to a detailed comparison between two prominent LMS platforms—Google Classroom and Microsoft Teams. These platforms represent cutting-edge solutions in the educational technology landscape, each offering unique features and capabilities that cater to the diverse needs of educators and students.

Google Classroom (GC)

Google Classroom (GC) was launched in 2014 as a free online LMS designed for educators to manage their classes, assignments, and communication with students (Azhar & Iqbal, 2018). It is a part of the larger suite of Google Workspace for Education (formerly branded as Google Apps for Education) tools and services which also include Gmail, Google Drive, Docs, Sheets, Slides, Forms, Calendar, and Sites (Amadin et al., 2018). The seamless integration of these tools with GC has been positively received by students in higher education settings (Rejón-

Guardia et al., 2019). Moreover, GC facilitates extensive collaboration by integrating with application program interfaces (APIs) to enable information sharing with third-party educational software tools like Flipgrid, Buncee, and Edpuzzle (Heggart et al., 2018).

According to Hussaini et al. (2020), some of the key features of Google Classroom that enhance teaching and learning process are as follows:

- i. Google Classroom allows instructors to easily share lecture notes, create assignments, make announcements, and set due dates for assignments.
- ii. Teachers have the ability to create multiple groups within a single classroom, allowing for differentiated assignments. This fosters an active and engaging learning environment.
- iii. Teachers can conveniently track students who have missed assignments or submitted them late, enabling effective monitoring of student progress.
- iv. The platform offers flexibility, allowing teachers to extend due dates for assignments to accommodate all students. Additionally, teachers can update or review students' grades within Google Classroom.
- v. Previous posts made by teachers can be reused and shared with the same group or different groups, saving time and effort in content creation.
- vi. Teachers can invite other teachers to join the classroom, enabling collaboration and the ability to grade students' assignments collectively.

GC has been found to aid various context of learning, namely collaborative learning (Beaumont, 2018), blended learning (Barari et al., 2020; Raman & Rathakrishnan, 2020), mobile learning (Kumar et al., 2020) and cultivate dynamic learning strategies (de Campos Filho et al., 2019). Shaharane et al. (2016) conducted empirical research on 100 students to analyse active learning activities on GC and found that it fosters learner-centred education, inquiry-based learning, interactive dialogue, active engagement, and creative thinking. Additionally, the study found that students responded positively towards GC in the areas of communication, perceived usefulness, ease of use, and overall satisfaction.

Nonetheless, there are also several limitations of GC reported in past studies. Martínez-Monés et al. (2017) highlighted that GC falls short in terms of tailoring learning analytics to the specific requirements of diverse educational settings. The paper concluded that this lack of actionable and user-friendly visualisations of the system could hamper reflection and intervention within the learning scenarios. Aside from that, though GC has a straightforward and comprehensive design, the platform was also found to be unengaging (Alia & Hamtini, 2019) and lacking in personalization and peer interaction (Kumar et al., 2020). However, it is important to take into consideration that users' adaptation to GC is influenced by various factors, including demographic background and technical competencies (Abazi-Bexheti et al., 2018). Efiloglu Kurt & Tingöy (2017) emphasised that cultural and geographical contexts play a vital role in adaptation to GC which may vary based on individual circumstances.

Microsoft Teams (MS Teams)

Microsoft Teams (MS Teams) is a software application that fosters collaboration and cooperation within the Office 365 environment, and it has been widely adopted across various organisations (Mahmud & Wong, 2023). It offers educators the ability to establish collaborative classes, engage in professional development communities, and connect with fellow educators, all within a single platform (Mohd Khidir et al., 2022). MS Teams allows its users to schedule meetings, conduct web conferences, manage participant roles (attendee or presenter), record web conferences, download recordings, send chats, and share files, documents and screen (Rojabi, 2020). Next, instructors also have the option to assign tasks to individual students, small groups, or the entire class using the assignment function in MS Teams (Allison & Hudson, 2020; Pretorius, 2018). It offers the flexibility to create general or customised channels and includes various tabs such as “post,” “file,” “class notebook,” “assignment,” and “grade,” which further support student involvement. Additionally, MS Teams also provides the option to create break-out rooms, enabling active online learning. These rooms can be utilised for the Jigsaw method in teaching, promoting the development of metacognitive skills and fostering reflection (Mahmud & Wong, 2021). Moreover, it provides a wide range of features that can enhance the functionality of desktop and mobile applications which allows users to select the most relevant features to meet their specific needs (Mahmud & Wong, 2023).

Though these features are similar to many other LMS, some studies claimed that MS Teams has distinctive attribute as it imitates the functionality of social media allowing more collaborative discussions through chats, content sharing, and video conferencing (Buchal & Songsore, 2019; Henderson et al., 2020; Hubbard & Bailey, 2018; Ilag, 2020; McVey et al., 2019). The user-friendly characteristics of MS Teams were found to be effective in increasing student engagement in academic environments (Hai-Jew, 2020; Mahmud & Wong, 2023; Tomczyk et al., 2020). Similarly, Rojabi (2020) found that utilising MS Teams for online learning improves student motivation and enhances their understanding of learning materials, making the learning process more effective. However, Almodaires et al. (2021) found that although the participants recognized the platform’s usefulness and value, they did not perceive it as being as beneficial as other online collaborative tools. This indicates the need for further comparative studies on MS Teams as an LMS to further explore its strengths and weaknesses.

Rationale for Choosing Google Classroom and Microsoft Teams

The selection of Google Classroom and Microsoft Teams as the focal points of this study is underpinned by their prominent positions in the ever-evolving landscape of Learning Management Systems (LMS). These platforms have garnered significant attention and adoption across educational institutions worldwide (Beaumont, 2018; Taghizadeh & Hajhosseini, 2020). However, it is essential to acknowledge the varying trajectories of their emergence and adoption in different educational contexts (Ali et al., 2021; Mamedova et al., 2023).

In recent years, the digital transformation of education has been accelerated by unforeseen global events, such as the COVID-19 pandemic. This swift transition to online learning has underscored the pressing demand for effective online tools and platforms (Al-Hail et al., 2023; Morra et al., 2022). Google Classroom, with its seamless integration into Google Workspace for Education, and Microsoft Teams, as part of the Office 365 suite, offer robust solutions for educators and students alike. Nevertheless, comprehending the nuances of their adoption and utilisation becomes paramount in addressing the unique challenges posed by the rapid digitalisation of education (Al-Hail et al., 2023).

The urgency of analysing these platforms is further emphasised by the current educational landscape, where educators, institutions, and policymakers are grappling with the evolving needs of remote and hybrid learning (Taghizadeh & Hajhosseini, 2020). To make informed decisions regarding LMS adoption, it is imperative to consider not only the features and capabilities of these platforms but also their historical development and adaptability in diverse educational settings.

In light of these considerations, a detailed comparison of Google Classroom and Microsoft Teams is vital for educators and institutions navigating the complexities of modern education. This study aims to provide insights into their functionalities, compatibility, and portability, contributing to the informed decision-making process that is crucial in addressing the urgent challenges of contemporary education.

METHODOLOGY

Research design

Research design of this study is quantitative. It was conducted to analyse the preference of Malaysian educators in using LMS, comparing between Google Classroom and Microsoft Teams. These two platforms were also chosen for their increasing popularity among Malaysian educators, especially after the new normal. The data was collected by using a survey method. Survey method ensures that every participant, irrespective of their computer access or role within the organisation, fills out the same questionnaire. This method also offers researchers the opportunity, provided they possess the necessary programming skills, to leverage cutting-edge technology for incorporating various question formats in the survey or for seamlessly collecting and storing data directly within a database system (Jansen & Corley, 2007). In this specific survey research, the primary focus is on exploring the two free e-learning platforms due to their cost-effectiveness and their alignment with the specific scope of this study.

Sampling

Convenience sampling was used in this study with thirty respondents involved in the survey. Convenience sampling is cost-effective, simple, and involves readily accessible participants. The primary assumption underlying convenience sampling is that the individuals within the target population share homogeneity. In other words, there is an expectation that research outcomes from a random sample, a nearby sample, a cooperative sample, or a sample collected from a less accessible segment of the population would yield similar results (Etikan et al., 2016). The population of this study consisted of educators selected from public schools, private institutions, and universities in Malaysia. As educators, the subjects involved were individuals with sufficient experience in using Learning Management Systems (LMS) and had direct exposure to Google Classroom and Microsoft Teams whether in teaching or learning. These individuals were active users of LMS in the context of the new normal and had firsthand experience with both the advantages and disadvantages of these platforms in classrooms. Therefore, they were vital for their ability to provide the necessary information for the study.

Instrument

The instrument used in this study is survey questions that was adapted from Ouadoud et al (2017). There were 24 questions, the survey consisting of four main parts; functional suitability (question 1-15) compatibility analysis

(question 16-19), portability analysis (question 20-23) and overall preference (question 24). The survey approximately took less than 20 minutes to complete and the respondents' feedback were received immediately after to be analysed.

Data analysis

The data obtained from the questionnaires were analysed by calculating the percentage, mean and standard deviation in each question using IBM SPSS software.

RESULTS AND DISCUSSION

Demographic of respondents

With reference to Figure 2, it is indicated that the frequency of female (21) respondents was the highest with the percentage of 70.0 percent. The male showed a frequency of 9 with the percentage of 30.0 percent.

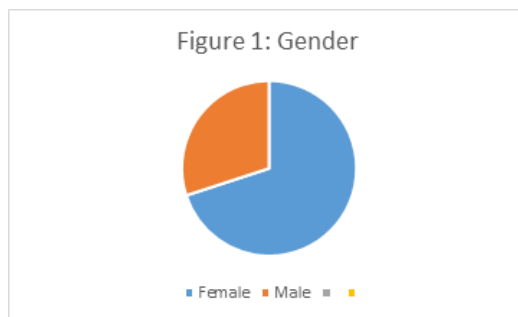


Figure 2: Gender of respondents in this study

Figure 3 indicated that the highest frequency of respondents were educators aged 20-29 years old (13) with the percentage of 50 percent. The second highest respondents came from educators age 20-24 years old (6) and 30-34 years old (6) with the percentage of 20.0 percent respectively. Respondents aged 40 years old and above (3) comprised 10.0 percent and respondents aged 35-39 years old indicated a frequency of 2 with the percentage of 6.7 percent.

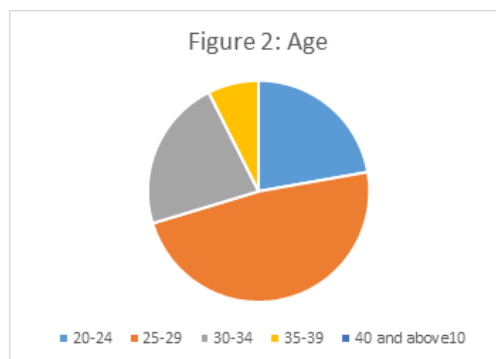


Figure 3: Age of respondents in this study

Figure 4 showed that the highest frequency of respondents were educators with 1-5 teaching experiences (15) with the percentage of 50 percent. The second highest respondents came from educators with less than a year teaching experience (9) with the percentage of 30.0 percent. Respondents with 11-15 years of teaching experiences (3) comprised 10.0 percent and respondents with 6-10 years of teaching experiences indicated a frequency of 2 with the percentage of 6.7 percent. Lastly, respondents with more than 15 years of teaching experiences (1) comprised 3.3 percent.

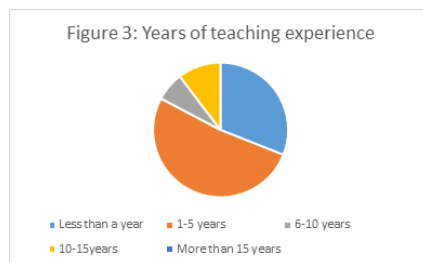


Figure 4: Year of teaching experience in this study

Functional Suitability

From Table 1, it is clear that the majority of the respondents preferred to use Google classrooms compared to Microsoft teams in terms of Functional Suitability. As an example, 83.3 percent of respondents chose Google classrooms whereas 16.7 percent chose Microsoft teams for resource management and students’ collaborative work. In addition, it can be seen that 80 percent of respondents preferred to use Google classrooms while 20 percent of respondents went for Microsoft teams when dealing with customizable platform and task management. Other than that, 73.3 percent of respondents favoured Google classrooms while the other 26.7 percent went for Microsoft teams on calendar, report on the frequency and the use of a course, and plagiarism detection tools. 66.7 percent of respondents chose Google classrooms while 33.3 percent chose Microsoft teams for online meeting and messaging. Apart from that, 63.3 percent preferred Google classrooms as compared to Microsoft teams with 36.7 percent for management of working time of learners and teachers, Notes display, Tracking statistics of a course, class announcement and students’ feedback. Majority of the educators preferred to evaluate or give feedback to their students using Google classrooms.

Table 1: Functional Suitability

	Google classrooms	Microsoft teams	Mean	SD
Online meeting	20 (66.7%)	10 (33.3%)	1.33	0.48
Calendar	22 (73.3%)	8 (26.7%)	1.27	0.45
Task management	24 (80%)	6 (20%)	1.20	0.41
Resource management	25 (83.3%)	5 (16.7%)	1.17	0.38
Management of working time of learners and teachers	19 (63.3%)	11 (36.7%)	1.37	0.49

Notes display	19 (63.3%)	11 (36.7%)	1.37	0.49
Report on the frequency and the use of a course	22 (73.3%)	8 (26.7%)	1.27	0.45
Tracking statistics of a course	19 (63.3%)	11 (36.7%)	1.37	0.49
Report on test results	22 (73.3%)	8 (26.7%)	1.27	0.45
Messaging	20 (66.7%)	10 (33.3%)	1.33	0.48
Plagiarism detection tools	22 (73.3%)	8 (26.7%)	1.27	0.45
Customizable platform	24 (80%)	6 (20%)	1.20	0.41
Students' collaborative work	25 (83.3%)	5 (16.7%)	1.17	0.38
Class announcements	19 (63.3%)	11 (36.7%)	1.37	0.49
Students' feedback	19 (63.3%)	11 (36.7%)	1.37	0.49

Compatibility Analysis

As for Compatibility analysis, Table 2 showed that the majority of the educators preferred to use Google classrooms compared to Microsoft teams. As for elaboration, 80 percent of respondents chose Google classrooms whereas 20 percent chose Microsoft teams for information and application sharing. Besides that, 73.3 percent of respondents preferred to use Google classrooms while 26.7 percent of respondents went for Microsoft teams in terms of interconnection platform. Other than that, 66.7 percent chose Google classrooms and 33.3 percent chose Microsoft teams for the possibility of using plugins. Lastly, 63.3 percent went for Google classroom and 36.7 percent favoured Microsoft teams for import and export of resources.

Table 2: Compatibility Analysis

	Google classrooms	Microsoft teams	Mean	SD
Interconnection platform	22 (73.3%)	8 (26.7%)	1.27	0.45
Import and export of resources	19 (63.3%)	11 (36.7%)	1.37	0.49
Information and application sharing	24 (80%)	6 (20%)	1.20	0.41
Possibility of using plugins (Word, Excel, Youtube etc.)	20 (66.7%)	10 (33.3%)	1.33	0.48

Portability Analysis

As for Portability Analysis, Table 3 illustrated that 83.3 percent of respondents chose Google classrooms while 16.7% went for Microsoft teams when it comes to adaptation to mobile terminals and compatibility with common browsers. Moreover, 73.3 percent of respondents favoured Google classrooms for instability of without errors platform as compared to Microsoft teams with 23.3 percent of respondents. Lastly, 63.3 percent of respondents voted for Google classroom while 36.7 percent preferred Microsoft teams for installation of the platform across different operating systems.

Table 3: Portability Analysis

	Google classrooms	Microsoft teams	Mean	SD
Adaptation to mobiles terminals (eg; mobile browsers/ apps)	25 (83.3%)	5 (16.7%)	1.17	0.38
Compatibility with common browsers (eg; Mozilla Firefox, Google Chrome, Opera, Microsoft Edge etc.)	25 (83.3%)	5 (16.7%)	1.17	0.38
Instability of without errors platform	22 (73.3%)	8 (26.7%)	1.27	0.45
Installation of the platform across different operating systems (eg; iOS, Windows, etc.)	19 (63.3%)	11 (36.7%)	1.37	0.49

Overall Preference

Based on Table 4, it can be concluded that the respondents favoured Google classrooms as the most impactful platform to reach the objectives of their language classes with 73.3 percent of respondents went for Google classrooms and only 26.7 percent favoured Microsoft teams.

Table 4: Overall Preference

	Google classrooms	Microsoft teams	Mean	SD
Overall preference	22 (73.3%)	8 (26.7%)	1.27	0.45

Overall, the findings indicated that educators favoured GC over MS Teams in the teaching and facilitation processes, which can be attributed to a variety of factors. This is evident from the three primary categories of the collected data: functional suitability, compatibility, and portability.

One of the benefits of using GC is that the media and learning materials can be accessed at any time and from any location, providing a flexible and innovative learning model. GC is a straightforward web-based communication tool designed for inexperienced users and requiring minimal technical expertise to set up due to its user-friendly interface and seamless integration with G suite services such as Gmail, Google Docs, and Google Calendar. This result is consistent with the findings of a study conducted by Shaharane et al. (2016), who found that there are numerous advantages to adopting GC for teaching English, such as the practicality, features, and simplicity that can support the e-learning environment. Educators can also easily conduct Google Meets meetings with up to 250 or 500 participants, depending on the pricing plan chosen by their institution. MS Teams only recently increased its meeting capacity to 300 participants. Unless mass lectures are required, this should not be a concern in classrooms with fewer students.

In terms of compatibility, the gap between those who prefer to use GC compared to MS Teams is not that significant except for information and application sharing factors. GC and MS Teams have very similar collaboration features, including file sharing, messaging, and breakout rooms. And despite the fact that both solutions offer whiteboard functionality, Google Classroom necessitates integration with Google Jamboard. Both have comparable content development and management features (Heggart et al., 2018, Mahmud & Wong, 2023). Educators can create assignments directly within Google Classroom, including uploading any required files, and students will receive a notification immediately. Regarding MS Teams, there is a separate Assignments tab where educators can create assignments, add content from other Office apps, create a grading rubric, modify due dates, and personalise the assignments for each student. Both platforms intended to encourage educators to engage students in virtual classes. Both have distinguishing characteristics that educators and students use to derive teaching-learning benefits (Alhassan, Rashad, & Gbolagade, 2015; Bakar, Razak, & Abdullah, 2013).

Lastly, the respondents also chose GC in terms of portability. Google Classroom is designed to be accessible from a variety of devices, such as workstations, laptops, tablets, and mobile phones. This portability enables users, including instructors and students, to access their coursework, assignments, discussions, and resources from virtually any Internet-connected location. According to Abazi-Bexheti et al. (2018), the adaptation of users to GC is influenced by a variety of factors, such as their demographic background and technical abilities. Majority of the respondents in this study have less than five years of teaching experience, which may result in similar backgrounds and skills. Educators may each have their own preferences. However, they have to adapt and accommodate their teaching strategies in every facet of the teaching and learning process.

The implications of research comparing the Learning Management System (LMS) preferences of Malaysian educators, specifically Google Classroom and Microsoft Teams, can be significant and multifaceted. Educators, students, educational institutions, and edtech companies may be affected by these ramifications. Nonetheless, the conclusions of this investigation are these two.

This research can first shed light on which LMS platform Malaysian educators favour and why. If it is determined that one platform is substantially more popular, educational institutions can allocate their resources more efficiently. They are able to invest in LMS-specific training materials, seminars, and support services in order to maximise resource utilisation.

Additionally, the option of LMS can have a direct influence on the student experience. If educators prefer one LMS over another, students utilising the preferred platform may have a more streamlined learning experience,

as educators will be conversant with the platform and able to assist students accordingly. Institutions may take this into account when selecting or promoting a specific LMS.

CONCLUSION

In conclusion, choosing the right platform is essential for the success and sustainability of any pedagogical device. It is crucial to select a platform that aligns with the philosophy of free platforms and their dynamic community. This approach aims to simplify the selection process and ensure the best fit for an institution's specific objectives and requirements. It is important to highlight that institutions have the freedom to select and prioritise the characteristics and sub-characteristics that best suit their unique needs, technical requirements, and functional and organisational expectations. This flexibility allows for a tailored choice that aligns perfectly with the institution's vision and goals.

This research can open up avenues for further investigation. For future research, it is suggested to determine whether there is a correlation between factors that might influence the intention to use GC or MS Teams such as specific features, user experiences, and pedagogical implications.. The outcomes of this research could be disseminated to interested parties and educators in order for them to overcome the various challenges of online learning methodology. Other than that, the current study is restricted to only two LMS platforms. In order for educators to optimise the teaching and learning process, it would be prudent to conduct additional research on the variety of other learning management systems, particularly those that are relatively new.

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