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RESEARCH ARTICLE

Aligning Teachers' Attitudes with Blended Learning Practices in Malaysian Primary ESL Classrooms

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ABSTRACT – The rise of blended learning as a transformative approach has gained considerable attention in the current educational landscape. Nevertheless, there is a scarcity of research which focuses on the alignment between teachers' perceived attitudes and their actual classroom practices, particularly within the Malaysian primary ESL context. Therefore, this study investigates the alignment between teachers' perceived attitudes and their practices in implementing blended learning within the Malaysian primary school English as a second language (ESL) classroom. This study uses a mixed-method approach, combining surveys, classroom observations, and stimulated-recall interviews. Findings revealed that teachers overall held positive perceived attitudes towards blended learning implementation. The findings also revealed a contextually bounded alignment between teachers' perceived attitudes and their observed blended learning practices, therefore suggesting that perceived usefulness and perceived ease of use supported teachers' enactment of blended learning practices within classroom constraints. Consequently, the findings of this research recommend professional development programs aimed at further aligning teacher attitudes with effective blended learning practices, thus assisting Malaysian primary school ESL teachers to reach the optimal use of blended learning.

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1.0 INTRODUCTION

The rise of digital technologies has certainly brought significant changes in the educational landscape. Tanis (2020) posited that the introduction of technology presents compelling arguments for educational establishments to adapt to new developments. As a result, it has caused a change in the global educational landscape that promotes the replacement of traditional learning methods with blended learning. The term "blended learning" is not unfamiliar in the educational landscape as academics have regarded it as a "new norm" in course delivery (Adams et al., 2020; Evans et al., 2020). Generally, blended learning can be defined as the combination of online learning and face-to-face learning. According to Ghazizadeh and Fatemipour (2017), blended learning is an integral component of the course itself rather than just incorporating technology to enhance a learning program. Thus, it is not only about adopting technology, but it is also about how teachers use it to achieve the greatest benefits. Since there are no established formulas or recipes for the ideal blend, it is solely dependent on the teacher to "blend" various instructional strategies to cater to the needs of the students. In Malaysia, blended learning has gained growing support by the Malaysian Ministry of Education to be conducted at all educational levels in the country as researchers supported that it could enhance engagement, interaction, and learning flexibility (Hong & Stapa, 2023). However, the integration and comprehension of a blended learning are still in their infancy, particularly in Malaysian primary schools (Zulkflee et al., 2022).

On the other hand, the effectiveness of blended learning is largely reliant on the role of the teacher. Specifically, teaching and teacher education have long placed a strong emphasis on teachers' attitudes, which determine how technologies are integrated into instruction. In order for effective technology integration, teachers' attitudes are a crucial factor in helping them to adjust to the incorporation of online pedagogy and assume new responsibilities in the teaching and learning process. Thus, to explain teachers' attitudes, many studies adopt the Technology Acceptance Model (TAM) which emphasizes perceived usefulness and perceived ease of use as key determinants of attitudes towards technology adoption. In the language education context, TAM has been widely applied to examine teachers' willingness to adopt digital tools and blended learning approaches. However, existing research on the TAM has mainly focused on self-reported survey data and has focused primarily on intention rather than their actual classroom practice (Ndebele & Mbodila, 2022; Ngabiyanto et al., 2021; Turan et al., 2022). As a result, there is a scarcity of research that focuses on the alignment between teachers' perceived attitudes and their actual classroom practices, particularly within the Malaysian primary ESL context. Addressing this gap, the present study examines the alignment between teachers' attitudes with their blended learning practices in Malaysian primary schools based on the TAM. The study can be conceptualized based on Figure 1 below:

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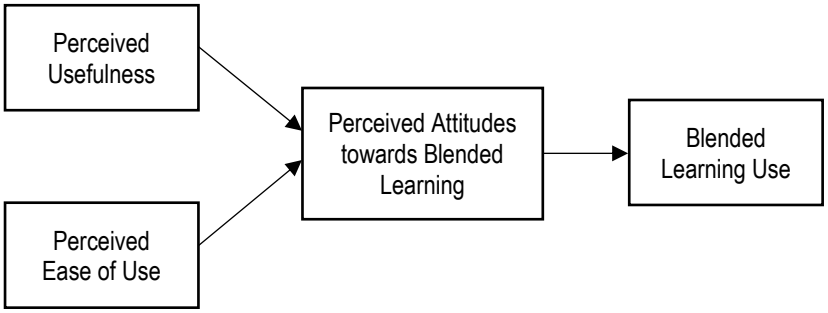
Figure 1

Conceptual framework



The following research questions are addressed in this study:

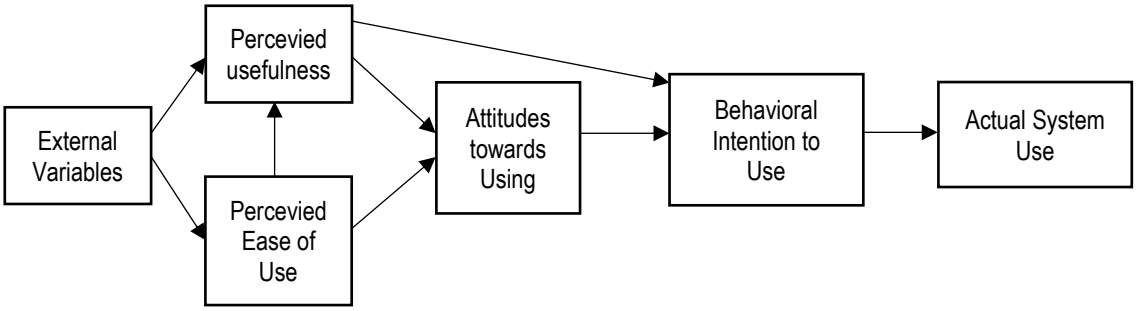
1. What are the perceived attitudes of teachers towards the implementation of blended learning in the Malaysian primary ESL classroom?
2. How do teachers' perceived attitudes towards blended learning align with their observed blended learning practices?
   a. How does perceived usefulness align with teachers' observed blended learning practices?
   b. How does perceived ease of use align with teachers' observed blended learning practices?

1.1 Technology Acceptance Model (TAM)

Teaching attitudes are an important element in the line of education as it is one of the deciding factors affecting the flow of the teaching and learning processes (Ozturk, 2021). Unquestionably, attitudes play a vital role in governing how an individual acts in different classroom contexts. Fishbein (1976) defines attitude as the emotion that prepares an individual to respond consistently in a different manner. In line with the definition given above, attitude is a personal factor that could affect teachers' use of blended learning. Therefore, to put into the context of blended learning, attitudes towards blended learning can be defined as the teacher's feelings towards computer-mediated instructions and activities (Parilah & Joscyln, 2015). Thus, this study examined teachers' attitudes towards blended learning in primary ESL classrooms using the Technology Acceptance Model (TAM), which was developed by Davis et al. (1989) (see Figure 2). The foundation of the TAM is based on Fishbein and Ajzen's (1975) idea of Reasoned Action, which outlines the elements of attitudes. The tenets of TAM propose that two cognitive beliefs, namely perceived usefulness (PU) and perceived ease of use (PEOU) that can account for instructors' attitudes, behavioural intentions to use, and actual system use. While PEOU refers to the degree to which an individual feels that utilising a given system is free of both mental and physical effort, PU can be thought of as the degree to which an individual believes that using a particular system will boost task performance.

Figure 2

Technology Acceptance Model (TAM) (Davis et al., 1989)



1.2 Blended Learning

With the advent of ICT, blended learning courses have grown in importance as a supplement to conventional teaching methods. Combining computer-mediated instruction (virtual environment) with in-person instruction (physical environment) is currently popular and a widely recognised approach (Hrastinki, 2019). The objective of blended learning, according to Tucker (2019), is to combine active, engaged learning online with active, engaged learning in the classroom to give students more control over the path, pace, place, and time of their learning.

Blended learning has undoubtedly had encouraging results over time. Specifically, blended learning assists teachers in involving students in active learning that fosters abilities like creativity, communication, information literacy, and teamwork, all of which translate into the capacity to employ digital technology for various objectives (Johler, 2022). Additionally, prior research has suggested that blended learning enhances students' academic performance and fosters a sense of belonging among students (Ahmad Radzuan & Mohd Arif, 2025; Gouseti et al., 2020; Hong & Stapa, 2023; McHone, 2020). Aside from the vast advantages of blended learning for

students' performance, teachers too benefit from the application of blended learning. This is because blended learning is not only able to assist teachers in delivering learning materials but also able to track students' performance and participation through various platforms (Hong et al., 2025b). This is confirmed by Ottenbreit-Leftwich et al. (2018) who posited that teachers value technology as one of the ways to improve their teaching efficiency and effectiveness. It means that when teachers value technology, they try to work around the constraints as they believe that it will allow them to be competent in the use of technological tools. Hence, a blended learning classroom does not mean that the role of teachers is replaced with computers. Instead, it allows a class to shift from a mostly traditional teacher-centered to a more student-centered approach.

1.3 Teachers' Attitudes and Blended Learning

The TAM has been widely employed to explain teachers' adoption of educational technologies. Within this framework, perceived usefulness and perceived ease of use are posited as key predictors of attitudes, behavioural intention, and eventual technology use. Numerous studies in language education confirm the predictive strength of these constructs, reporting strong associations between PU, PEOU, and teachers' intention to adopt blended or technology-enhanced instruction (Anthony Jnr, 2024; Ndebele & Mbodila, 2022; Turan et al., 2022). In the blended learning context, teachers themselves need to have positive attitudes towards technology integration to ensure the effectiveness of a blended learning classroom. Magana (2017) stated that in order for teachers to change their teaching practice, they must have the belief that there will be a considerable return on their efforts. For example, teachers need to make sure that they willingly adopt technology, and not because of the curriculum or school requirement. Instead, they believe that blended learning can benefit students immensely. Thus, when teachers have positive beliefs together with an adequate level of knowledge towards technology, it will lead to a positive attitude which can help to overcome any challenges that can make technology integration difficult (Heath, 2017).

Several studies have shown that teacher attitudes towards technology play a crucial role in determining how well they integrate it. For example, a review of the literature on teachers' attitudes towards technology use was done by Wijnen et al. (2021). They found nine underlying constructs namely perceived usefulness, perceived ease of use, perceived relevance, perceived effect on student motivation, anxiety, enjoyment, self-efficacy, context-dependency, and subjective norms that make up primary school teachers' attitudes towards integrating technology into their lessons based on their review of 78 publications. Additionally, Zhang (2023) examined the attitudes of teachers and students regarding the efficacy of blended learning in a few Shandong Province colleges and discovered that both groups had favourable opinions about the implementation of blended learning. They also discovered that teachers between the ages of 31 and 40 thought blended learning was more successful. In a related study, Hong et al. (2025a) examined teacher self-efficacy beliefs towards blended learning and found that teachers who perceived technology to be useful are more confident in using it in their classrooms. On the other hand, Lien's (2022) study on teachers' perceptions, confidence, and practices of adopting blended learning revealed that language teachers generally view blended learning as necessary, feasible, useful, and easy to use, which shows a positive attitude.

Despite all the positive findings above, there is a critical gap in the existing literature which is the limited examination of alignment between teachers' attitudes and their classroom practices. While many earlier studies found positive attitudes toward blended learning, most of the findings relied on self-reported data whereas few investigate whether these attitudes manifest consistently during classroom instruction. This gap is particularly evident in the Malaysian primary ESL research as existing studies tend to focus on attitudes generally without systematically examining how teachers' beliefs interact with instructional decision-making. As a result, there is insufficient empirical evidence on how perceived usefulness and ease of use shape actual blended learning practices in the actual classroom contexts.

2.0 METHODOLOGY

2.1 Research Design

This research adopted the mixed-method research design, and the explanatory sequential strategy was used. In the first phase, questionnaires were given to the research participants to obtain their level of perceived attitudes towards blended learning. Then, observations and stimulated-recall interviews were carried out to further explain the quantitative results and to look at the alignment between teachers' attitudes and their observed blended learning practice.

2.2 Participants and Sampling

Based on the data provided by the School Improvement Specialist Coaches Plus (SISC+), the target population consists of 230 ESL teachers. Hence, the survey respondents were 144 primary ESL teachers from primary schools in the district of Port Dickson, Negeri Sembilan, Malaysia, as determined based on Krecjie and Morgan's (1970) Table of Sample Size. The simple random sampling technique was employed to ensure broad representation across schools.

For the qualitative phase, five teachers were selected using purposive sampling to undergo semi-structured interviews and classroom observations related to their blended learning practices. The criteria for being chosen as a participant are actively teaching English and have active involvement in blended learning. Participants also varied in teaching experiences and academic qualifications, factors that may influence their attitudes and implementation strategies. The profiles of the participants are shown in Table 1 below:

Table 1

Profiles of the participants

Participants	Teaching Experiences (year)	Academic Qualifications	School Type
Teacher 1	1	Degree	Government (National School)
Teacher 3	2	Degree	Government (Chinese National-Type School)
Teacher 7	9	Master	Government (National School)
Teacher 8	14	Degree	Government (National School)
Teacher 14	32	Diploma	Government (National School)

2.3 Instruments and Data Collection

In the first phase, 144 ESL primary school teachers from the Malaysian state of Negeri Sembilan were selected to participate in the survey. Teachers were given a 17-item survey to complete in order to gauge their perceived attitude towards the use of blended learning in primary ESL classrooms. The items were adapted from Park (2009), Sharma and Srivastava (2020), Weng et al. (2018), and Wu & Wang (2005) in accordance with the sub-variables that stemmed from the Technology Acceptance Model. The instrument consisted of 17 items measuring perceived usefulness, perceived ease of use, and overall attitudes toward blended learning. All items were rated on a five-point Likert scale ranging from strongly disagree to strongly agree. A pilot study has been conducted and the results of the scales' psychometric qualities showed strong construct reliability and internal consistency. The findings indicated a Cronbach Alpha score of 0.829. A Cronbach Alpha value of 0.70 or higher is generally acceptable (Taber, 2018).

Next, five teachers were specifically selected to participate in observations and stimulated-recall interviews during the second phase. The observations served to look at teachers' blended learning practices whereas the stimulated-recall interviews provide additional insight into the observed practices regarding teachers' blended learning reflections. Prior to data collection, approval was obtained from the school's headmaster and school authorities were informed that the study was conducted for research purposes only and not for teacher evaluation. Additionally, written informed consent was obtained from all participating teachers before their involvement in the classroom observations and stimulated recall interviews. Participation was voluntary and teachers were assured of confidentiality and anonymity. Pseudonyms were used for all teachers and schools in transcripts, analyses, and reporting.

Classroom observations were conducted to examine how blended learning was implemented in authentic instructional contexts. Observations focused on teachers' use of digital tools, lesson structure, degree of teacher control, student interaction patterns, and integration of technology with pedagogical objectives. Each observed lesson lasted two teaching periods or 60 minutes. Each teacher was observed twice with a total observation time of 600 minutes. An observation checklist aligned with TAM constructs guided data collection, operationalizing perceived usefulness and perceived ease of use at the instructional level through teachers' pedagogical decisions, classroom control, and technology-mediated task design. The sessions were also video-recorded in preparation for the stimulated-recall interviews.

Following classroom observations, stimulated recall interviews were conducted. Specific classroom episodes involving technology use were used as prompts to elicit teachers' reflections on their instructional decisions. Teachers were asked to explain why particular tools or strategies were chosen, how manageable they felt during the lesson, and whether the technology supported their instructional goals. These interviews provided insight into how teachers interpreted their own practices in relation to perceived usefulness and ease of use. Each interview lasted approximately one hour and the sessions were audio-recorded for transcription and analysis.

2.4 Data Analysis

The Statistical Package for Social Science (SPSS) version 25.0 was used to analyse the quantitative data and produce descriptive statistics based on the Likert Scale. The results were presented in the form of three levels which are high, average, and low. These levels were adapted from Hadiyanto et al. (2013) which focused on the use of the technology in teaching and learning. Hence, these levels of interpretation were seen as similar to the context of this research, thus suitable to be used to analyse the questionnaire. The results were interpreted based on Table 2 below:

Table 2

Mean interpretation scale (Hadiyanto et al., 2013)

Mean	Mean Interpretation	Level
1.00 – 2.33	Disagree / Strongly Disagree	Low
2.34 – 3.66	Uncertain	Average
3.67 – 5.00	Agree / Strongly Agree	High

Regarding the qualitative data, the observations and stimulated-recall interviews were videotaped, transcribed, and subjected to content analysis in accordance with Christou (2023), which entails familiarizing with the data, coding, theme identification, theme review, theme definition and naming, and writing up. To provide a better grasp of the ideas, operationalisation and coding, description examples were added in Table 3 below:

Table 3

Example of thematic analysis

Coding Descriptions	Sub-categories	Categories	Theme
"...I feel that it is an important element to allow them to activate their previous knowledge to link to their senses and experience as well as a smooth transition into the content of the lesson…"	Activate previous knowledge Smooth transition	Perceived usefulness	Perceived attitudes towards blended learning
"…I choose this activity because it is easy to find teaching materials, exercises, and assessments regarding this topic."	Easy access to materials	Perceived ease of use	

3.0 RESULTS

3.1 Teachers' Perceived Attitudes towards Blended Learning Implementation

This section aims to answer research question one which is "What are the perceived attitudes of teachers towards the implementation of blended learning in the Malaysian primary ESL classroom?". Teachers' perceived attitudes were measured using questionnaire with a five-point Likert scale. Higher mean values indicate stronger agreement with statements related to teachers' perceived attitudes. Accordingly, Table 4 below presents the mean scores of teachers' perceived attitudes towards blended learning implementation.

Table 4

Mean scores of teachers' perceived attitudes

Attitudes	Mean	Level
Using various technologies and multimedia (e.g. Quizizz, Youtube, Google Classroom) to complement my blended learning lesson helps me to control the pedagogy.	4.31	High
Using blended learning in my class enhances the teaching performance.	4.45	High
Using blended learning increases my productivity	4.40	High
I find multimedia materials to be useful in my blended learning classroom.	4.51	High
Using technology in a blended learning classroom makes it easier to catch individual students' needs.	4.30	High
I think learning to use multimedia is easy in a blended learning classroom.	4.18	High
I think finding what I want to teach via multimedia is easy in a blended learning classroom	4.40	High
It is easy for me to become skillful at using technology.	4.15	High
I find it easy to apply the multimedia material in my blended learning classroom.	4.28	High
Using multimedia materials make my blended learning lesson easier and understandable.	4.40	High
Using multimedia materials is more flexible to teach than traditional one.	4.35	High
Using technology to teach in a blended learning class is good.	4.42	High
It is a positive influence for me to use technology in a blended learning classroom.	4.40	High
I think it is valuable to use multimedia material in a blended learning classroom.	4.39	High
I think it is a trend to use multimedia material in a blended learning classroom.	4.10	High
I tend to use multimedia materials in my blended learning classroom.	4.29	High
I increase the occurrences of using multimedia materials in my blended learning classroom.	4.20	High
Average	4.33	High

Based on the results in Table 4 above, the average mean score for the overall teachers' attitudes is 4.33 with each item's mean ranging from 4.10 to 4.51 which indicate that all 17 attitude items obtained high mean scores. Therefore, the high mean scores show that teachers have positive attitudes towards blended learning implementation in the Malaysian primary ESL classroom. In particular, items related to perceived usefulness showed high mean values, suggesting strong agreement that blended learning supports

instructional effectiveness, pupils' engagement, and classroom facilitation. Perceived ease of use items also showed high positive scores, indicating that teachers generally viewed digital tools as manageable within their teaching practices.

3.2 Teachers' Perceived Usefulness (PU) and Blended Learning Practice

Based on the qualitative data, the classroom observations revealed that blended learning was integrated consistently across lessons, which indirectly reflects teachers' PU. Teachers employed digital tools such as presentation slides, online quizzes, and learning platforms at different stages of the lesson, including lesson introduction, guided practice, and consolidation. To exemplify, Teachers 1 and 3 exhibited PU by seamlessly integrating online elements, such as YouTube videos, into the initial phase of their lessons for set induction. Moreover, during the stimulated recall interview, they reflected on the usefulness of videos in capturing their pupils' interest and participation, activating their previous knowledge, as well as a smooth transition into the content of the lesson during the stimulated recall interview.

> "I usually start my class with videos to get them to think and guess the topic. When pupils watch the video; it activates their prior knowledge..." (Teacher 1)

> "…I can see that pupils are more interested in watching something rather than just me asking questions about the topic. So, I feel that it is an important element to allow them to activate their previous knowledge to link to their senses and experience as well as a smooth transition into the content of the lesson." (Teacher 3)

These reflections indicate that perceived usefulness was not limited to pupil engagement but functioned as a pedagogical mechanism that supported lesson initiation, content sequencing, and controlled transition into core instructional activities.

Moreover, another instance of PU emerged during Teacher 7's lesson observation where she could be seen using videos and PowerPoint presentation software to explain grammar rules followed by online exercises through Liveworksheet. Therefore, her PU towards blended learning manifested in two ways. Notably, technology was used to divert pupils' attention to the visual stimulus of the content (videos and presentations) and also technology was used throughout the lesson to achieve the lesson objectives.

> "I don't think I can exclude technology when planning my lessons. My class is usually noisy whenever I do not plan technology-mediated lessons. I have experienced this a few times. Conversely, when I use videos and interactive applications, they seemed to be more motivated and fully engaged. At the same time, it increases my work productivity as I can cover the topic faster and more effective." (Teacher 7)

As seen in Teacher 7's reflection, she underscored how technology serves as a valuable tool in enhancing lesson delivery and to increase her productivity, particularly in the aspect of classroom facilitation and lesson material development, thus reflecting her PU in terms of improved instructional efficiency, classroom facilitation, and lesson planning control. This finding is also in corroboration with the PU item "using blended learning increases my productivity" from the questionnaire.

Another display of PU is regarding how teachers perceived that technology is useful in catering to pupils' individual needs. This is in confirmation with the PU item which is "using technology makes it easier to catch individual pupils' needs". In practice, it is observed that teachers chose suitable technology in accordance with their pupils' proficiency level as well as their learning styles. For instance, Teachers 1 and 8 articulated during the stimulated-recall interview that their pupils are more visual-oriented which explained why they blended learning practice activities such as interactive videos, quizzes, and online worksheets. In a similar manner, Teacher 14 who taught pupils with higher levels of proficiency opted for more challenging blended learning tasks such as group discussions, searching for information on the internet, and presentations which required pupils to be more independent. The excerpt below shows the teachers' reflections towards the usefulness of technology in catering to their pupils' needs. This demonstrates that perceived usefulness was enacted through teachers' ability to differentiate instruction and make informed pedagogical choices aligned with learner readiness, rather than through technology use alone.

> "I know that most of them are visual learners as they like to watch videos that I have prepared beforehand. I usually quiz them after watching the videos, and surprisingly they are pretty good at it. So, it becomes one of my practices to use videos for my lessons" (Teacher 1)

> "I can see that most of them are visual learners. They understand better by watching rather than looking at paragraph after paragraph." (Teacher 8)

> "One good thing about technology is that I can differentiate my instructions in accordance with my pupils' level…" (Teacher 14)

As such, it can be summarized that teachers' PU of blended learning was evident through consistent integration of digital tools to enhance lesson flow, engage pupils, increase instructional efficiency, and support differentiated teaching based on learners' needs and styles.

3.3 Teachers' Perceived Ease of Use (PEOU) and Blended Learning Practice

The classroom observations revealed that teachers demonstrated a high level of operational confidence and instructional fluency in utilising digital tools as part of their blended learning practices, reflecting strong PEOU. For instance, Teachers 1, 3, 8, and 14 all could be observed using videos that they could instantly find on YouTube regarding the topics for their pupils to watch whereas Teacher 7 searched and adopted PowerPoint presentation slides and online worksheets on the internet regarding the topic of Past Tense without having to create them on her own. For their assessment practices, Teachers 3 and 7 could be seen using readily available online worksheets from Liveworksheet whereas Teacher 1 used online quizzes that she saved in her quiz library. Hence, the adoption and

effective utilization of these digital resources serve as tangible manifestations of teachers' positive perceptions of ease of use. These practices indicate that ease of use was experienced not only in terms of access to materials, but also in reduced cognitive and instructional effort during lesson preparation and delivery.

Next, another display of teachers' PEOU is when some teachers reflected about the convenience of searching for materials. At the same time, it concurs with the statement "I think finding what I want to teach via technology is easy in a blended learning classroom".

> "During my teaching, if the pupils can't imagine the things that I'm teaching, I can directly open YouTube or Google to find any supporting teaching material for me to show to the pupils." (Teacher 3)

> "I choose this activity because it is easy to find teaching materials, exercises, and assessments regarding this topic." (Teacher 7)

These reflections demonstrate that perceived ease of use enabled teachers to make real-time instructional adjustments without disrupting lesson flow, reinforcing manageability and instructional continuity.

Moreover, some teachers also reflected on the ease-of-use in relation to catering to pupils' learning styles and levels of proficiency. Example of excerpts were depicted below:

> "Using videos is the easiest, most convenient, and most engaging kind of teaching aid to begin my lesson. I can see that pupils are more interested in watching something rather than just me asking questions about the topic." (Teacher 1)

> "I usually give a topic and ask them to search about it online for this class (higher-proficiency class). It is easier when using technology because I can use the same materials and activities for my other class (lower-proficiency class)." (Teacher 8)

In the excerpts, Teacher 1 mentioned the ease of use of technology to suit her pupils who are more visual-oriented. In alignment with her PEOU, she could be observed using YouTube videos and interactive online quizzes that contain interesting visuals which can cater to her pupils' learning styles. Besides, Teacher 8 as she reflected how she could adjust her blended learning approach for pupils of different levels of proficiency. When observing her higher proficiency classroom, her activities involved giving pupils more autonomy through group discussions, searching for information on the internet, and slide presentations. Conversely, when teaching pupils with lower levels of proficiency, she applied simpler blended learning tasks such as whole-class discussions, and guided presentation slide creations. This suggests that perceived ease of use supported teachers' ability to adapt instructional complexity efficiently across classes, rather than increasing pedagogical burden.

4.0 DISCUSSION

Overall, the research participants implied that they have positive attitudes towards blended learning implementation. This is consistent with Adhya and Panda (2022), Eze et al. (2021), and Islahi and Nasrin (2019) who found that teachers overall have positive attitudes towards technology use. Hence, the survey results suggest positive perceptions of usefulness and ease of use, while the qualitative findings demonstrate how these perceptions were enacted in practice under classroom constraints. While prior studies have largely reported positive teacher attitudes towards technology integration, many rely exclusively on self-reported data. The present findings extend this body of work by demonstrating that positive attitudes do not translate uniformly into practice but are instead mediated by classroom-level constraints such as pupil readiness, lesson manageability, and instructional control. This suggests that the alignment between teachers' attitudes and practices in blended learning is conditional rather than absolute, particularly in primary ESL contexts.

From the questionnaire, Item 1 to Item 5 reflects on PU towards blended learning use. It can be seen that all the items under this construct displayed high mean scores, thus indicating that teachers are positive that blended learning is useful to achieve the learning objectives set. For example, Item 4 which is "I find multimedia materials to be useful in my blended learning classroom" showed the highest mean score of 4.51. This indicated that most of the teachers strongly agree that various multimedia and presentation tools such as Youtube, Powerpoint, Quizizz, and others are useful and help in enhancing the blended learning process. The statement above is in line with Oyunge (2021) who infers that the emergence of digital tools enables teachers to improve lesson delivery.

Without a doubt, teachers will use technology if they find it beneficial to them. Turan et al. (2022) studied pre-service teachers' behavioural intentions about using Web 2.0 gamification tools and the critical factors affecting their usage. They discovered that instructors' PU had a greater impact on their views, indicating that if teachers think Web 2.0 gamification technologies will improve the learning process, they will employ them. Correspondingly, Item 1 which is "using various technologies and multimedia (e.g. Quizizz, Youtube, Google Classroom) to complement my blended learning lesson helps me to control the pedagogy" also garnered a high mean score of 4.31. This indicated that using various technological tools help teachers to formulate various authentic blended learning activities which transformed their role from a knowledge transmitter to a facilitator. This is in line with Lytras et al. (2020) who argued that blended learning environments will be most effective when the role of the teacher shifts to a facilitator. Moreover, Dhawan (2020) postulated that blended learning provides pupils with opportunities to learn beyond what they can offer in their traditional classrooms in terms of flexibility and accessibility.

Also, the findings also indicated that teachers perceived technology to be useful for their pupils too. As seen in Item 5, teachers perceived that using blended learning can help them to catch individual pupils' needs. Through various authentic blended learning tasks, pupils experienced a different method of learning compared to the previous traditional face-to-face learning. As a result, pupils will be thrilled when they are exposed to something "new" and fun. This complements Ni and Cheung's (2023) study which found that enjoyment has a significant direct impact on perceived usefulness. Indirectly, it will trigger their curiosity to be involved in the tasks and learning content, thus promoting learning. According to Çebi and Güyer (2020), the significance of a "real" and meaningful blended learning assignment will encourage students to actively participate. Thus, it can be said that the fun and enjoyable environment that

blended learning provides will enable students to participate actively in the learning process while also providing them with the autonomy and motivation to direct their own learning. Although previous studies have established perceived usefulness as a strong predictor of technology adoption, the present findings strengthened this relationship by showing that usefulness was enacted primarily through pedagogical control and classroom manageability rather than pedagogical transformation. Teachers valued technology not because it altered their instructional approaches, but because it supported lesson flow, pupil engagement, and behavioural regulation. This finding refines existing TAM-based interpretations by highlighting how perceived usefulness operates in the primary school settings.

On the other hand, Items 6 to 11 which reflect teachers' PEOU. The high mean scores on Items 6, 7, and 8 demonstrated that teachers have the perception that learning to use technology, finding materials via technology, and becoming skillful at using technology is relatively effortless. In the current digital era, teachers can search for anything such as educational videos, presentation slides, animated media, and interactive exercises with the help of search engines and an abundance of educational websites to supplement their blended learning classroom. Therefore, it is no surprise that teachers would find it easy to look for materials are there are innumerable resources on the web to be explored.

With proper planning, it is unquestionable that teachers will not find it difficult to use technology in a blended learning classroom. Aside from providing teachers with the necessary support and training, the availability of infrastructure is another crucial aspect that will affect teachers' PEOU towards blended learning. Based on Ndebele and Mbodila (2022), the prerequisite for computer-mediated instruction in the classroom is a smooth internet connectivity to access the learning management system and find materials related to the subject matter. In the context of Malaysian schools, the Ministry of Education reported that all schools in Malaysia are equipped with Internet access (Kementerian Pendidikan Malaysia, 2017). In addition, some schools are also equipped with projectors, television, or even smartboards, therefore encouraging teachers to use these tools to enhance pupils' learning experience. Importantly, while teachers reported high perceived ease of use, qualitative findings indicate that ease of use did not imply the absence of effort, but rather the regular use of technology use through familiarity and repetition. This challenges interpretations of PEOU as effort-free adoption and suggests that sustained exposure, institutional support, and accumulated experience play a critical role in shaping teachers' PEOU.

Moreover, Item 11 which is "using multimedia materials is more flexible to teach than traditional one" obtained a high mean score of 4.35. This indicated that teachers strongly agree that there is no barrier of place and time when using technology to teach. This is because technology allows pupils to access more meaningful materials even after school hours which can be made possible through various technologies such as online learning platforms, educational websites, social medias, and learning management systems.

Furthermore, Items 12 to 15 depicted teachers' overall attitude to use technology in the class. Rather, it is concerned with teachers' evaluation and their likelihood to employ blended learning in their classrooms. As shown in Item 12 with a high mean score of 4.42, it indicated that teachers overall are positive that using technology to teach in a blended learning class is good. As discussed above, when teachers have positive PU and PEOU, they will eventually have a high tendency to use them in their blended learning classrooms. Despite the positive attitudes shown by the respondents, Item 15 which is "I think it is a trend to use multimedia material in a blended learning classroom" showed the lowest mean score of 4.10. It showed that quite a number of teachers are uncertain about this statement. A possible explanation could be teachers perceived that primary school pupils are not yet independent in using technology for educational purposes on a daily basis. In contrast to secondary schools and higher education institutions that use learning management systems (LMS) and other educational software platforms more often, primary school teachers may feel that pupils at their age are not yet ready to adopt technology in their studies as a trend. Rather, they use technology more for enjoyment and social purposes, hence requiring a lot of guidance and discipline to take charge of their learning.

Correspondingly, Item 16 and Item 17 garnered high mean scores of 4.29 and 4.20 respectively which portrayed that teachers have a high tendency to adopt blended learning in their classroom as well as make it a continuous practice. When teachers hold positive attitudes towards blended learning, perceiving it as beneficial, effective, and valuable for pupils' learning, they are more likely to have a higher intention to incorporate it into their instructional strategies. This corroborates the findings Chen et al. (2021) and Khlaif et al. (2023) found a positive association between teachers' attitudes to use and their intention to use.

4.1 Alignment between Teachers' Perceived Usefulness (PU) and Blended Learning Practice

In essence, the findings suggest a clear but contextually bounded alignment between teachers' perceived usefulness (PU) and their observed blended learning practices. All the examples of teachers' blended learning practice above highlighted how PU serves as a guiding principle in shaping teachers' instructional practices. By aligning technological interventions with pupils' needs, preferences, and proficiency levels, teachers can leverage technology effectively in their blended learning classrooms, thereby enhancing the overall learning outcomes. In support of the findings, previous research also found that PU is an important factor in determining teachers' actual use of a particular system (Anthony Jnr, 2024; Mohammadi, 2015; Ndebele & Mbodila, 2022; Weng et al. 2018). Thus, the findings presented in this study provide further validation for the existing body of literature that suggests the implementation of blended learning hinges significantly on the PU construct. Indeed, when a particular digital tool is found to be difficult to use, not user-friendly, not useful for their blended learning instruction, and not beneficial to their pupils, teachers surely would not use it in the classroom. Therefore, the choice of whether to use certain digital tools is highly dependent on their usefulness to the user or the recipient.

To link to the above, Turan et al. (2022) researched on the intentions of pre-service teachers regarding the utilization of Web 2.0 gamification tools and the elements influencing their adoption. Their findings found that PU among teachers has a significant impact on their attitudes, indicating a tendency for educators to incorporate Web 2.0 gamification tools when they perceive these tools as enhancing the efficacy of the learning process. Besides, a recent study by Anthony Jnr (2024) examined students' perceptions of

blended learning integration and acceptance and found a significant relationship between blended learning integration and PU. Factors such as flexibility, ease of use, interactivity, responsiveness, user-friendliness, and stability were cited as important elements that influenced PU. Hence, similar to the context of this study, teachers in this study used technology in their blended learning classroom when they felt that it is able to enhance pupils' understanding, cater to pupils' needs, and improve the overall teaching and learning process.

4.2 Alignment between Teachers' Perceived Ease of Use (PEOU) and Blended Learning Practice

Next, the findings indicate a clear but contextually bounded alignment between teachers' perceived ease of use (PEOU) and their blended learning practices. This implied that the teachers perceived that using technology required less effort, was more flexible, and was easily accessible, thus resulting in seamless integration into their blended learning classroom. Firstly, it was evident that the PEOU statements from the questionnaire such as "I think learning to use technology is easy in a blended learning classroom" and "It is easy for me to become skilful at using technology" exhibited strong correlation with all the teachers' observed practice of technology integration in their blended learning classroom.

Additionally, the teachers also depicted the convenience in accessing various resources that can enhance their pupils' understanding without having to go through the effort of creating teaching materials. Without a doubt, the internet contains insurmountable resources uploaded by teachers around the world. With the availability of free online educational platforms such as Liveworksheet, YouTube, Quizizz, and others, teachers can have easy access to any kind of teaching materials. Therefore, it is not surprising that teachers tend to adopt the readily available materials that can be found online instead of creating their own teaching materials. This is in confirmation with Huang et al. (2021) who put forward that the aspect of convenience plays a part in teachers' blended learning utilization. They posited that when time and effort to use are reduced, it will lead to positive attitudes and higher usage of technology.

Besides, another interesting finding worth highlighting that displayed the alignment between PEOU and blended learning practice is how the teachers viewed the flexibility of technology in their blended learning classroom to cater to their pupils. This is to say that they find it easy to select and apply digital tools that are suitable for their pupils' level of proficiency and learning styles, as well as making their lesson to be more comprehensible for their pupils. At the same time, it corroborates the statements in the questionnaire "I find it easy to apply the technological materials in my blended learning classroom" and "using technology makes my blended learning lesson easier and understandable".

Based on the discussion above, teachers' perceived ease of use appears to support their blended learning practices, particularly in terms of instructional manageability and adaptability. This is in alignment with the findings by Liu and Zhang (2020) who found that teachers' PEOU remains a key factor in their willingness to use and their decision to integrate technology. However, Bokiev and Ismail (2021), Kemboi and Yungungu (2022), and Yang and Pu (2022) noted that contextual factors such as time constraints and the availability of facilities remain significant external barriers that may affect teachers' PEOU of technology integration. These contextual elements create an environment that either facilitates or hinders teachers' perception of utilizing technology effectively for blended learning practices. Therefore, concerning teachers' PEOU, the provision for support and facilities added with thorough preparation on the part of the teacher needs to be given attention in order for teachers to integrate blended learning into their classroom practices.

Overall, based on the comprehensive discussions surrounding teachers' perceived usefulness (PU) and perceived ease of use (PEOU) in relation to their blended learning practices, it can be concluded that teachers' attitudes demonstrated clear but contextually bounded alignment with their blended learning practices. Throughout the discourse, it becomes evident that teachers who perceive blended learning as valuable and beneficial (PU) are more likely to integrate technology seamlessly into their instructional routines. This alignment is further reinforced by their perceptions of ease in utilizing digital tools and technology (PEOU), which enable them to navigate the complexities of blended learning. Therefore, the alignment observed between teachers' attitudes towards blended learning and their actual implementation underscored the critical role of the Ministry of Education and school administrators in creating a supportive environment that promotes teachers' positive attitudes towards technology integration. Taken together, these findings contribute to blended learning research by demonstrating that alignment between teacher attitudes and practice is not merely a function of positive perceptions, but a negotiated outcome shaped by contextual realities in primary ESL classrooms.

5.0 CONCLUSION

This study contributes to understanding the relationship between teachers' attitudes and their blended learning practices in Malaysian primary ESL classrooms. Quantitative findings indicate generally positive attitudes towards blended learning, while qualitative evidence demonstrates how these attitudes were enacted in practice under specific classroom conditions. The qualitative findings suggest a contextually bounded alignment between teachers' perceived attitudes and their blended learning practices, shaped by pedagogical demands, pupil readiness, and classroom management considerations. This alignment suggests that fostering positive attitudes towards blended learning could enhance its adoption and efficacy in educational settings which highlights the significant effect of teacher attitudes in assisting Malaysian primary ESL school teachers to reach the optimal use of blended learning. As a result, it urges educators to consider their views on blended learning and to be conscious of the enormous influence that technology is currently having in the 21st century. This study contributes to the growing discourse on teacher cognition by offering empirical validation for the alignment between perceived attitudes and pedagogical practices within a primary ESL context. The originality of this study lies in its mixed-method triangulation approach, integrating attitude surveys with direct observations and stimulated-recall interviews, an underexplored methodology in the Malaysian primary education literature. It also adds value by focusing on early-stage adopters of blended learning, providing timely insights for digital education policy formulation.

However, there may have been limitations in generalizing the results to other contexts with differing demographics and geographic regions. Thus, it may not be representative of the entire population of the whole English Primary schools in Malaysia. Moreover, the sample of this study is only ESL primary school teachers. Hence, the result of this research may not be generalized to teachers of other levels such as secondary school teachers. Despite the limitation, this research has provided important insights into the critical role of teacher attitudes in the successful use of blended learning in the Malaysian primary schools. Future studies may explore other inter-related factors influencing teachers' attitudes towards blended learning which can support teachers in effectively leveraging blended learning in the primary ESL classrooms.

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CONFLICT OF INTEREST

The authors declare no conflicts of interest.

AUTHOR CONTRIBUTIONS

Andy Lim Teik Hong (Conceptualization; Data Curation; Formal Analysis; Investigation; Methodology; Writing – original draft; Writing – review & editing)

Mahani Stapa (Conceptualization; Investigation; Resources; Supervision; Writing – review & editing)

Kiang Xin Tian (Software; Writing – original draft; Writing – review and editing)

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