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Teachers' Self-Efficacy Beliefs and Blended Learning Practice in the Malaysian Primary ESL Classroom: Exploring Belief–Practice Alignment

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ABSTRACT

In the current digital era, the use of technology in education is not uncommon. However, in the context of blended learning, the perspective of the teacher is often overlooked as research in the field mainly focused on the learners. This oversight highlights the importance of teacher cognition, which examines the congruence between teachers' beliefs and their instructional blended learning practices. Therefore, the present study investigates the congruence between teachers' self-efficacy beliefs and their blended learning practice in the Malaysian primary English as a Second Language (ESL) classroom, an area that has received little attention compared to secondary or tertiary contexts. This research used the mixed-method approach where questionnaires, semi-structured interviews, and classroom observations were utilized to collect data. 144 Malaysian primary ESL teachers were from the district of Port Dickson, Malaysia were chosen as participants. Firstly, the quantitative findings indicated that teachers have high self-efficacy beliefs towards blended learning implementation whereas the qualitative findings showed that teachers' self-efficacy beliefs were in congruence with their blended learning practices. All five teachers reported and displayed high self-efficacy in employing blended learning in their classrooms, as evidenced by their high confidence and consistent integration of technology in their blended learning classroom. Consequently, these results highlighted the significance of fostering strong self-efficacy beliefs among language teachers, particularly in the realm

of blended learning, which will lead to more effective learning experiences for pupils in the Malaysian primary ESL classroom context.

KEYWORDS: Language Teacher Cognition, Teachers' Beliefs, Self-Efficacy Beliefs, Blended Learning, Primary ESL Classroom

INTRODUCTION

The field of language teacher cognition has gained significant traction in the educational landscape. Central to this concept is the idea of teachers' belief, which is a significant element in deciding a teacher's actions and has always been a focus in the field of teaching and teacher education. [1]Borg (2011) defines teachers' beliefs as premises that the teacher considers to be true, tacit in nature, have a strong evaluative and affective component, provide a basis for action, and are resistant to change. Therefore, the beliefs that a language teacher holds have a substantial influence on their instructional practices in the classroom (Hong et al., 2025b; Portolés & Martí, 2020; van Rijt et al., 2020). Within the framework of teachers' beliefs, self-efficacy can be described as teachers' personal perceptions of their capability to learn and carry out tasks to the desired standard (Hsu, 2016). In the context of blended learning, teachers' self-efficacy belief emerged as one of the critical aspects in the integration of technology (Gomez Jr et al., 2022).

Moreover, the concept of 'blended learning' is not a recent development in education. Numerous scholars have recognized the significance of blended learning in the field of education (Adams et al., 2020; Evans et al., 2020). Schools all around the world, are increasingly adopting the blended learning approach. However, despite the growing support from the Ministry of Education to adopt blended learning in various levels of education in Malaysia, the integration and understanding of a blended learning environment among primary teachers are still at an early stage, especially in primary schools in Malaysia (Zulkflee et al., 2022). Most of the research on blended learning aimed at measuring learners' performance, thus posing a gap in terms of teachers' perspectives as the proponents of blended learning. As asserted by Hong et al. (2025a), the integration of blended learning in the primary classroom certainly depends on the teacher to carry on this new role in the process of teaching and learning.

Despite the wealth of research on blended learning during the COVID-19 pandemic, previous research rarely investigate the belief–practice congruence in the Malaysian primary ESL classroom. This study contributes to the literature by applying teacher cognition theory to explore self-efficacy and practice alignment, thereby offering insights into how confidence translates into classroom action in a specific local context. At the same time, investigating teachers' self-efficacy beliefs will provide a basic understanding of whether they are ready to use blended learning in their classrooms. Therefore, this study aims to investigate the alignment between teachers' self-efficacy beliefs and their implementation of blended learning in Malaysian ESL classrooms. The research focuses on achieving the following objectives:

i) What are the self-efficacy beliefs of teachers towards the implementation of blended learning in the Malaysian primary ESL classroom?
ii) To what extent do teachers' self-efficacy beliefs are in congruence with their observed blended learning practice?

LITERATURE REVIEW

Teachers' Self-Efficacy Beliefs

Teachers' belief is not a unidimensional construct but encompasses a variety of different beliefs as most of the theoretical literature argued that they are part of a larger, comprehensive system of beliefs (Thurm & Barzel, 2022; Taimalu & Luik, 2019). Consequently, one aspect of teachers' beliefs is self-efficacy, which refers to the ability to assess one's capacity to handle situations that may be ambiguous, unpredictable, or particularly stressful (Bandura & Schunk, 1981). It is essential to emphasize that self-efficacy pertains to beliefs about what a person is capable of achieving, rather than self-concept or self-image, which relate to evaluations of one's attributes (Bong & Skaalvik, 2003).

This study adopts Bandura's (1997) self-efficacy theory, which posits that individuals' beliefs in their capabilities influence the choices they make, the effort they invest, and their persistence in overcoming obstacles. Bandura identified four principal sources of self-efficacy: mastery experiences, vicarious experiences, verbal persuasion, and physiological or emotional states. These sources operate interactively, shaping how teachers interpret their past successes or failures, observe and learn from peers, respond to encouragement or criticism, and manage stress or anxiety in their professional roles. In the teaching context, self-efficacy plays a decisive role in shaping instructional decisions, classroom management strategies, and willingness to embrace pedagogical innovations. Teachers with strong self-efficacy are more likely to experiment with new methods, adapt lessons to meet diverse learner needs, and persevere in the face of instructional challenges. Conversely, low self-efficacy may lead to a reliance on familiar, traditional methods and avoidance of perceived risks. Understanding self-efficacy is therefore essential not only for explaining variations in teaching behaviour but also for designing interventions that enhance teacher confidence and effectiveness across educational settings.

Blended Learning

In the current 21st century learning, the advent of information and communication technology (ICT) has significantly enhanced the relevance of blended learning courses as a complement to traditional teaching methods. According to Hrastinski (2019), blended learning can be conceptualized as the combination of face-to-face instruction with online learning environments, The core idea behind blended learning is to combine these two modalities to create an optimal educational experience, thereby offering an integrated learning experience for students. Many studies has proven that blended learning has significant benefits compared to conventional learning methods (Wei et al., 2017; Hong & Stapa, 2023), particularly in enhancing students' language skills. The blended learning approach encourages active participation, fostering essential skills such as communication, information literacy, creativity, and collaboration, which are crucial for effectively using digital technologies. For example, Gouseti et al. (2020) discovered that integrating digital tools into daily learning can stimulate playful engagement, boost motivation, and capture pupils' interest, leading to improved communication and

collaboration between teachers and students. Additionally, a blended learning environment does not eliminate the teacher's role; rather, it transforms the classroom dynamic from a primarily teacher-centered model to one that is student-centered (Keshta & Al Faleet, 2013).

Teachers' Self-Efficacy Belief and Blended Learning

In the context of blended learning, teachers' self-efficacy belief is a critical aspect in the use of technology. From the perspective of blended learning, self-efficacy refers to confidence rather than actual competence (Taimalu & Luik, 2019). This means the emphasis is on teachers' beliefs about what they can accomplish with technology and their perceptions of their ability to manage it, rather than solely on their technical knowledge or skills (Al-Awidi & Alghazo, 2012). Mei, Brown, and Teo (2018) identified teacher self-efficacy as a key factor influencing technology integration, ranking it among the most significant dimensions of teachers' beliefs and is a powerful predictor of teachers' pedagogical capabilities (Lee & Alieto, 2023). Similarly, Jones et al. (2017) and Vareberg and Platt (2018) emphasized that self-efficacy not only serves as a critical barrier to technology integration but also acts as a determinant of its effective use. Specifically, teachers must have confidence in their ability to integrate technology into classroom instruction. Within the context of this study, self-efficacy can be understood as teachers' confidence in employing technology in their classrooms. Without this confidence, teachers are less likely to adopt blended learning approaches. Conversely, high self-efficacy can encourage teachers to integrate technology into blended learning environments. This perspective aligns with Heath (2017), who argued that teachers with high confidence in ICT skills are more likely to take risks, resolve technical issues, and proactively address technological challenges.

This study adopts Bandura's self-efficacy theory as its conceptual foundation. The questionnaire items, adapted from Lailiyah and Cahyono (2017), were informed by the four sources of self-efficacy: for example, items assessing teachers' ability to troubleshoot technical problems reflect mastery experiences; items on learning from colleagues' use of technology relate to vicarious experiences; motivating students through technology use aligns with verbal persuasion; and managing classroom challenges during digital activities connects to emotional states. Understanding teachers' self-efficacy in blended learning is particularly relevant in the Malaysian primary ESL classroom, where levels of infrastructure, access, and training vary. Exploring the congruence between these beliefs and observed practice offers valuable insights into how teacher confidence translates into classroom action in a post-pandemic educational landscape.

METHODOLOGY

Research Design

A mixed-method research design was used to explore the congruence between teachers' self-efficacy beliefs and their blended learning practices. Creswell and Plano Clark (2018) suggested that employing a mixed-method approach provides a more complete understanding of a phenomenon. Consequently, the explanatory sequential strategy was implemented. In the initial phase, quantitative data were collected through questionnaires administered to participants to assess their self-efficacy beliefs regarding blended learning. Then, qualitative interviews and classroom observations were used to further explain the quantitative results and to see the congruence between teachers' self-efficacy beliefs and their observed blended learning practice.

Participants

This research involved a survey of 144 ESL primary school teachers from the Port Dickson district in Malaysia, selected through random sampling. Next, five teachers were purposefully chosen according to their teaching experiences to undergo semi-structured interviews and classroom observations related to their blended learning practices. The five participants reflect a range of teaching experiences from novice to veteran which enables the exploration of how experience level may influence belief–practice congruence. Each teacher was observed for two 60-minute lessons. Prior to the observations, the research obtained permission from the school's headmaster. The profiles of the participants are detailed in Table 1 below:

Table 1
Profiles of the participants

Participants	Teaching Experience (year)
Teacher 1	1
Teacher 3	2
Teacher 7	9
Teacher 8	14
Teacher 14	32

Data Collection

Firstly, questionnaires were distributed to the teachers to obtain their self-efficacy beliefs towards blended learning implementation. The questionnaire contained 16 items adapted from Lailiyah and Cahyono (2017) to suit the current study. A pilot study was done to ensure the reliability and the Cronbach Alpha value was at 0.812. Taber (2018) indicates that a Cronbach Alpha value of 0.70 or higher is generally regarded as sufficient and reliable.

Next, five teachers were chosen to undergo semi-structured interviews and classroom observations of their blended learning practices. These were to see whether teachers' self-efficacy beliefs were congruent with their observed blended learning practices.

Data Analysis

The quantitative data d were analyzed using the Statistical Package for Social Sciences (SPSS) version 25.0. The values were presented in the form of three levels which are high, average, and low. These levels were adapted from Hadiyanto et al. (2013) which researched the use of 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 analyze the questionnaire. However, it is important to note that the Likert-scale data in this study are ordinal in nature. The mean values are used here as an approximate indicator of relative positioning within the scale, and should not be interpreted as exact, continuous measures of self-efficacy. The results were interpreted based on Table 2 below:

Table 2
Mean Interpretation Scale (Hadiyanto et al., 2013)

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

The interview and observational data were audio-recorded, transcribed, and analyzed through content analysis following the methodology outlined by Christou (2023). The process involved several steps: familiarizing with the data, coding, identifying themes, reviewing themes, defining and naming them, and composing the final write-up.

RESULTS

Teachers' Self-Efficacy Beliefs

In this section, the participants expressed their self-efficacy beliefs regarding blended learning. They rated each statement based on the Likert scale that ranged from 1 (Strongly Disagree) to 5 (Strongly Agree). The mean scores are shown in Table 3 below:

Table 3
Mean Scores of Teachers' Self-Efficacy Beliefs

	Self-Efficacy Beliefs	Mean	Level
1.	I feel confident that I have computer capabilities well enough to maximize them in a blended learning classroom.	4.46	High
2.	I feel confident that I have the necessary skills to use the technology for language instruction in a blended learning classroom.	4.47	High
3.	I feel confident that I can successfully teach relevant subject content by using appropriate technology in a blended learning classroom.	4.38	High
4.	I feel confident in my ability to evaluate software for teaching and learning in a blended learning classroom	4.24	High
5.	I feel confident that I can use correct computer terminology when directing my students' computer use in a blended learning classroom.	4.35	High
6.	I feel confident that I can help pupils when they have difficulty with the computer in a blended learning classroom.	4.31	High
7.	I feel confident that I can effectively monitor students' computer use for project development in my blended learning classroom.	4.24	High
8.	I feel confident that I can motivate my students to participate in technology-based projects in a blended learning classroom.	4.21	High
9.	I feel confident that I can mentor students in appropriate use of technology in a blended learning classroom.	4.33	High

10.	I feel confident that I can consistently use educational technology in effective ways in a blended learning classroom.	4.21	High
11.	I feel confident that I can provide individual feedback to students during technology use in a blended learning classroom.	4.24	High
12.	I feel confident that I can regularly incorporate technology into my blended learning lessons, when appropriate to student learning.	4.25	High
13.	I feel confident about selecting appropriate technology for blended learning instruction based on curriculum standards.	4.31	High
14.	I feel confident about assigning and grading technology-based projects in a blended learning classroom	4.28	High
15.	I feel confident about using technology resources to collect and analyze data from student tests and products to improve my blended learning practices.	4.30	High
16.	I feel confident that I can be responsive to pupils' needs during technology use in a blended learning classroom.	4.26	High
	Average	4.30	High

From Table 3 above, it was evident that all 12 self-efficacy belief items showed high mean scores, ranging from 4.21 to 4.47 with an average of 4.30. Therefore, it indicated that the participants have relatively higher self-efficacy beliefs in comparison to the scale's upper range to implement blended learning into their classroom instructions.

Congruence between Teachers' Self-Efficacy Beliefs and Blended Learning Practices

To provide a more comprehensive understanding of the congruence between teacher self-efficacy beliefs and the practice of blended learning, five teachers were chosen to undergo interviews and observations of their blended learning practice. However, it must be first acknowledged that self-efficacy beliefs do not inherently guarantee the adoption of technology. Instead, self-efficacy beliefs serve as a necessary condition for technology integration (Wang et al., 2004). Therefore, in this research context, the congruence between teachers' self-efficacy beliefs and observed blended learning practice was deduced based on how confident and comfortable the teachers use technology in their blended learning classroom in correspondence with their stated beliefs.

Teacher 1

Firstly, concerning Teacher 1 self-efficacy beliefs, she emphasized the importance of acquiring adequate knowledge about technological tools before incorporating them into her lessons, reflecting a commitment to ensuring proficiency and effectiveness in their use. In her own words, she stated that she will only use the technological tools in her classroom once she is confident.

> *"I always believe that before I plan to use a certain tool in my blended learning classroom, I must have the knowledge of how to use it first. I would explore it during my free time. Once I am confident, then only I will use it in my classroom. In this way, I can avoid any problems as well as ensure the learning process goes smoothly." (Teacher 1)*

Moreover, she also stated that maintaining a positive professional image is a significant aspect of being a teacher, thus explaining why she is very careful in selecting the technological tools to be used in her blended learning classroom. That being the case, it is plausible to conclude that the deliberate selection process suggests a high degree of confidence in her ability to leverage technology effectively, prioritizing tools she feels competent in utilizing. Also, being a fairly novice teacher with only less than five years of experience, she demonstrates an open-mindedness and willingness to explore diverse teaching methodologies as seen in the excerpt below.

> *"I have tried conducting both traditional learning and blended learning. A blended learning classroom certainly is more fun for the pupils than a traditional classroom". (Teacher 1)*

Upon the observation of Teacher 1 classroom practices, her self-efficacy beliefs manifest in tangible ways, affirming the congruence between her beliefs and instructional practices. She began with a three-minute animated vocabulary video projected via LCD, followed by a 10-item interactive quiz on Quizizz. Out of the 24 pupils present, 22 participated actively, answering questions using their individual laptops provided by the school. She circulated around the classroom, offering immediate feedback and prompting less responsive pupils to join in, which resulted in a noticeable increase in participation. These actions closely mirrored her interview statement on using technology only after gaining confidence with a tool, underscoring the alignment between her stated beliefs and observed practice. Thus, it can be seen that the seamless integration not only enhances interactivity but also fosters enjoyment and participation among her pupils, aligning with her self-efficacy beliefs of motivating pupils to participate actively.

Teacher 3

Similar to Teacher 1, it can be inferred that Teacher 3 possessed high self-efficacy beliefs as she was the only teacher who used the flipped classroom model among the five teachers which suggests that she is confident and comfortable in using the blended learning model. Her adoption of the flipped classroom model exemplified her proactiveness in creating new learning experiences for her pupils. By pre-selecting and sharing relevant educational videos with her students via the classroom WhatsApp group, she leverages technology to provide early exposure to lesson content, effectively priming her pupils for in-depth exploration during face-to-face instructional sessions. Approximately 80% of the pupils indicated they had watched the videos at home. In class, she used Kahoot to review key vocabulary, followed by small group activities where pupils applied the words in sentence-building tasks. Consequently, this strategic use of digital resources not only fosters pupils' engagement but also empowers her pupils to be responsible for their learning. Despite some setbacks regarding pupils' access to technology, her effort proves that she is confident in creating engaging and new learning experiences for her pupils, thereby underscoring her high self-efficacy beliefs. Based on the above, it is reasonable to conclude that her self-efficacy beliefs are congruent with her blended learning practice.

Teacher 7

On the other hand, Teacher 7 also demonstrated congruence between her self-efficacy beliefs and instructional practice. She initially harboured apprehensions regarding technical failures which she described as a "mess" as seen in the excerpt below:

> *"I am always worried that if what I had planned did not materialize, I would not know what to do. It would waste the class time. For example, there is one occasion when the whole school is out of electricity. Since all my activities for that lesson involved using my laptop and the TV, I ended up teaching using the textbook, which is quite a 'mess'. Now, I always prepare a backup plan in case of any technical failure." (Teacher 7)*

However, over time, her confidence in her ability to navigate technological challenges evolved, indicative of a growth in self-efficacy. This is shown when she mentioned during the interview that blended learning complemented her professional needs such as facilitating the classroom and creating lesson materials

> *"I think that technology is useful to present the lesson content, help in pupils' learning, and increase pupils' engagement and interaction. So, I usually create suitable online quizzes through Quizizz to be used in my class." (Teacher 7)*

Hence, she continues to apply various tools such as videos, PowerPoint slides, LiveWorksheets, and online quizzes as seen during her classroom observation. Additionally, she also shared the positive culture in her school that encourages all the English teachers to collaborate, share experiences, and discover new applications for their classroom teaching which indirectly contributes to the increase in her self-efficacy beliefs.

> *"For me, it has become a culture in my school to at least integrate some kind of technology into our teaching. Every month, we have PLC (professional learning community) with all the English teachers to share our lessons. From there, I learn a lot of applications that can be used in my classroom." (Teacher 7)*

Teacher 8

Next, Teacher 8 commented on how she used blended learning activities to create a community of learners during her interviews as seen in the excerpt below. Her comment suggests that she has a strong belief in her ability to use technology to create independent learners and foster a collaborative blended learning environment.

> *"Based on my observation during blended learning tasks, I think that it is very beneficial for the pupils in terms of creating a community of learners who can contribute to knowledge building. In this way, they can learn from each other can develop their language skills." (Teacher 8)*

Congruent with her self-efficacy beliefs, the observation of her classroom practice depicted the skillful employment of technology to facilitate interactive discussions, promote peer collaboration, and encourage independent learning which are indicators of her high self-efficacy beliefs. During the observation, she facilitated a peer-feedback session where pupils, working in pairs on the laptop. She projected selected recordings for group discussion, prompting peer evaluation and self-correction. This observable emphasis on collaboration reflected her stated belief that blended learning fosters a 'community of learners.

Teacher 14

Lastly, as for Teacher 14, she mentioned in the interview that the ongoing professional development altered her overall beliefs. Earlier on, she had a negative impression of incorporating technology which may be partly due to the non-existence of early experience and exposure to technology. However, as she attended more courses, her belief changed. She started to think positively regarding the use of technology and found it enjoyable, which demonstrates her increase in confidence.

> *"For me, since there is not much technology available during that time, a typical English class is mostly memorizing grammar rules and reading lessons which is honestly quite boring. Now, since it is so easy to find interactive materials and videos, I am thinking, why not I change it instead of following what my teachers do." (Teacher 14)*

> *"However, I know that it is a trend now to apply all these tools in the classroom, and I know that it is very useful. Previously, I found it tedious to use it, but learning in all these courses and trying it in my classroom, it changed my perception of it. It makes my life easier now. I enjoyed it, my pupils enjoyed it, so it makes me believe that these tools are beneficial." (Teacher 14)*

Through deliberate practice and ongoing courses, she gradually cultivates the skills and confidence needed to effectively leverage digital tools in her instructional practices. During her observations, she managed to integrate presentation tools and conduct technology-mediated collaborative activities which indirectly, is a manifestation of her self-efficacy beliefs. She integrated Canva to design a digital storyboarding activity. Although she had only begun using Canva after a recent professional development course, she guided pupils step-by-step in creating illustrated vocabulary stories. Pupils expressed excitement when their work was displayed on the smartboard, reinforcing her interview comment that technology had 'made her life easier' and was 'enjoyable' for both her and her pupils.

Therefore, based on the data from the interviews and classroom observations, it can be concluded that all the participants' self-efficacy beliefs were congruent with their blended learning practice. These indicate that all five teachers reported and displayed high self-efficacy in employing blended learning in their classrooms, as evidenced by their confident and consistent integration of technology during their face-to-face instruction.

DISCUSSION

Teachers' Self-Efficacy Beliefs

Overall, teachers generally agreed that they have high self-efficacy beliefs towards blended learning. This is in agreement with Gomez Jr et al. (2022), Liu et al. (2017), Paetsch et al. (2023) who all found that teachers are confident in their ability to use technology in the classroom. For instance, the high mean scores from Items 1 and 2 indicate that teachers generally were positive that they possessed the skills to operate different tools for their blended learning instruction. This result can be anticipated as teachers currently are expected to possess competence in using technology in line with the 21st-century classroom. Moreover, Morrison (2019) who conducted a study on teachers' self-efficacy discovered that teachers are more inclined to use technology in the classroom if they have a higher level of self-efficacy. Likewise, teachers with low self-efficacy may shy away from teaching methods that they perceive as beyond the scope of their competence (Peker & Erol, 2018). Furthermore, Dean (2020) mentioned that the COVID-19 pandemic has provided teachers with the skills to operate technological tools when they were "forced" to use technology to teach remotely. This fact is reinforced by Yilmaz and Toker (2022) who revealed that the pandemic process has improved teachers' digital competencies which indirectly provides teachers with the confidence to use blended learning for language instructions when schools transition into the post-COVID era. On a positive note, teachers' knowledge of operating different digital tools indirectly contributes to their high self-efficacy as they are more familiar with how to use different technological tools. In Malaysia, the rise of blended learning within primary schools was only recently heightened as educators were driven to explore online learning tools and platform options that are available upon being hit by the COVID-19 pandemic (Zulkflee et al., 2022). For instance, the Malaysian Ministry of Education introduced a guideline during the COVID-19 lockdown which mandated teachers to continue conducting teaching and learning using online platforms such as Zoom, Google Meet, Google Classroom, social media platforms, and others.

Correspondingly, Bakar, Latif, and Ya'acob (2017) suggested that English language teachers should adapt their teaching methods to match the needs of pupils by fusing technology with their resources to enhance the teaching and learning process. Their research on the use of weblogs, or blogs, to expand ESL learners' learning opportunities revealed that blogging activities improved students' language skills and positively influenced their perceptions of online discussion forums. As an implication of their findings, it stresses the need for teachers to know how to choose suitable digital tools to supplement pupils' learning. Indirectly, it corresponded with Items 3, 4, and 13 which showed that teachers are fairly confident about selecting and evaluating the appropriate technology to teach the subject matter. Thus, teachers with a strong sense of self-efficacy are more receptive to innovative teaching techniques, and at the same time providing pupils with new learning experiences. This also concurs with Birisci and Kul (2019) who posited that teachers with higher self-efficacy are more motivated to contribute to the development of their instructional strategies than teachers who have low self-efficacy.

Similarly, Gacoin (2018) mentioned that when teachers have the freedom to make decisions, pupils learn more effectively. This includes their opinion towards the pedagogical applications of technology use in education and the best use of technology for pupils. In the Malaysian primary ESL classroom scenario, teachers are given full autonomy to utilize any form of technology deemed appropriate to supplement the teaching and learning process as long as they adhere to the content and learning standards stated in the Malaysian Curriculum Standard and Assessment Document. They can use

various technological tools and resources to make their lessons more interactive, engaging, and effective. Indirectly, it can cater to pupils' needs by providing them with an engaging and meaningful learning experience. As a result, teachers' experience with the continuous use of blended learning enables them to develop competence in integrating fun and meaningful learning through technology as well as increasing their self-confidence to use it in the classroom. Power (2018) similarly argued that teachers' confidence in their ability to effectively utilize technology increases through experiential learning gained from real-world classroom practices and pedagogical decision-making.

Aside from the importance of teachers' self-efficacy to select the right technology for their blended learning classroom, teachers' efficacy to be responsive towards pupils' needs during technology use also should not be undermined. The high mean scores on Items 6 and 16 suggest that teachers were confident that they could fulfill pupils' need for technological assistance and social needs during technology use. Teachers with high self-efficacy towards technology are more confident in their ability to use technology effectively where they can troubleshoot technology-related problems and innovate new ways to assist pupils. On top of that, when teachers are facilitating students in a blended learning environment, it is essential to nurture social and emotional connections to address the students' social needs. While blended learning provides new opportunities for educators to enhance their teaching with various technologies, maintaining interaction between students and teachers remains critical. Teachers must ensure that selected activities encourage engagement among students, as the collaboration within a blended learning community helps fulfill their social needs. This is in alignment with the findings from Huang's (2016) research which stated that blended learning activities allow teachers and pupils to interact and complement each other.

Additionally, another aspect to focus on is in terms of teachers' self-efficacy beliefs towards motivating pupils to participate actively in the learning process. This element is vital, as research has demonstrated that it can change teachers' use of technology from simply being an instructional tool to a systematic approach to teaching and learning that embodies constructivist practices (Birisci & Kul, 2019; Han, Shin & Ko, 2017). As seen in Item 8, it indicates that teachers believe in their capabilities to engage students in the blended learning classroom using technology. Besides, the high mean scores of Items 14 and 15 also indicate that teachers do not merely use technology for the sake of using it, but they are confident that technology can bring added value such as motivating pupils to take part actively. At the same time, they can conduct authentic assessments and reflect on the blended learning process to improve their practices. This finding is similar to Berkant and Baysal (2018) who found out that teachers with greater self-efficacy are more likely to employ more engaging instructional methods, utilize a range of teaching strategies, and remain committed in supporting pupils to encourage their active participation.

In sum, it was found that teachers have high self-efficacy beliefs towards blended learning implementation. Concurrently, it can be inferred that this dimension of teacher belief remains a significant aspect when implementing blended learning in their classroom, thus should be given considerable attention as it is essential to the integration of blended learning. Although teachers' self-efficacy beliefs are identified as one of the internal barriers to technology integration (Birisci & Kul, 2019), teachers are capable of implementing blended learning successfully with appropriate support from peers, institutions, and educational policies (Raphael & Mtebe, 2017). However, despite teachers exhibiting high efficacy levels, Kilic (2015) warned that it does not signify that they can effectively integrate technology into the classroom environment. Thus, careful lesson planning by taking into

account various factors is imperative as selecting the "wrong" technology for classroom usage will cause the lesson to be unimpactful, dull, and demotivating.

Congruence between Teachers' Self-Efficacy Beliefs and Blended Learning Practice

Overall, the results suggest that all five teachers' self-efficacy beliefs aligned with their blended learning practices. This aligns with earlier research highlighting a strong link between self-efficacy beliefs and blended learning implementation. For instance, Choi, Lee, and Kim (2021) conducted a meta-analysis examining the connection between teacher self-efficacy and classroom technology integration. Their results indicated that teachers with higher self-efficacy are more adaptable and open to changes, leading to more effective technology use in teaching. Similarly, Hatlevik and Hatlevik (2018) identified a positive relationship between teachers' ICT self-efficacy and their ability to integrate ICT into teaching. Additionally, Kent and Giles (2017) found that teachers with strong self-efficacy are more inclined to adopt blended learning approaches. Their survey of 28 pre-service teachers revealed that 91% had integrated technology into their lessons, with 95% expressing confidence in selecting and applying technology for teaching, and 90% believing they could effectively incorporate technology across the curriculum. These findings collectively reinforce the critical role of teachers' self-efficacy beliefs in shaping their blended learning practices, further supporting the conclusions of this research.

Besides, another aspect to highlight here is the importance of having digital literacy or technological knowledge which contributes to higher self-efficacy beliefs. As seen from all the cases above, it can be seen that teacher training, professional development courses, and continuous practice all play pivotal roles in increasing teachers' self-efficacy which leads to the usage of blended learning. For instance, as seen in Teachers 1 and 3, it is plausible to conclude the high self-efficacy beliefs shown by them above are due to their high digital literacy as both teachers are considered part of the "digital native" generation based on their age, early experiences with technology, and teaching experiences. Having grown up surrounded by technology as well as having early experiences with technology, they are more familiar and comfortable with using digital devices, applications, and online platforms from an early age. The statement aligns with Aslan (2021), who highlighted the expectation for teachers to possess strong digital literacy and high self-efficacy, especially as 21st-century Generation Z students are deeply immersed in the digital era. Teachers with robust digital literacy recognize the critical importance of technological tools in blended learning, enabling them to navigate and overcome associated challenges, which in turn enhances their self-efficacy. Moreover, a recent study by Garzon and Garzon (2023) explored the interplay between technological profiles, digital literacy, and self-efficacy among teachers in the context of blended learning. Their result found that teachers' digital literacy is positively correlated with teachers' self-efficacy in blended learning where teachers with high digital literacy skills are more confident in integrating technology in their blended learning classroom.

In contrast with the above, Körkkö et al. (2024) found that teachers have reported feeling inadequacies in their abilities to teach via emerging technologies, especially pre-service and novice teachers. This situation may have changed as teacher education programs as well as professional development courses now emphasize 21st-century learning and technology-savvy K-12 teachers. Therefore, all these programs and courses expose teachers to various educational tools which further translates into a natural aptitude for incorporating various interactive educational tools into their teaching practices. Moreover, the COVID-19 pandemic has also provided all teachers with the necessary basic skills and

'forced' training to use various educational tools, thus indirectly increasing their digital literacy. Hence, it is expected that teachers who demonstrate greater proficiency in digital literacy, encompassing skills such as the skill to navigate digital tools, create multimedia content, and effectively utilize online resources, are more likely to report higher levels of self-efficacy in implementing blended learning practices.

Similarly, Han and Wang (2021) and Escultor et al. (2022) posited that educators with a strong sense of self-efficacy can proficiently design effective blended learning tasks, employ diverse teaching techniques, and adeptly manage the classroom environment. These characteristics were evident across all the participants, underscoring the significance of self-efficacy in driving successful blended learning practices. Furthermore, Loughland and Alonzo (2018) mentioned that teachers who are confident in their instructional capacities can use alternative methods when anticipated outcomes are not achieved and navigate challenging situations by changing the conditions' cognitive and emotional processes. To contextualize these findings, consider Teachers 7 and 14, whose self-efficacy beliefs exemplified the resilience and determination characteristic of educators with high levels of self-efficacy. Despite encountering obstacles in the implementation of blended learning, they persistently strived for improvement and continuous use of technology in their blended learning classroom. Their unwavering commitment to enhancing their teaching practices underscored the profound impact of self-efficacy on their professional growth and instructional effectiveness. The situation above agrees with Wilson (2018) who maintained that professional development has contributed positively to increase teachers' self-efficacy and creativity through shared ideas and permissible risk-taking.

CONCLUSION

In a nutshell, the findings accentuated the profound influence of self-efficacy on educators' ability to navigate the complexities of blended learning. Firstly, the findings have shown that teachers possessed high self-efficacy beliefs towards blended learning implementation. Next, the data from the semi-structured interviews and classroom observations found that teachers' self-efficacy beliefs were congruent with their observed blended learning practices. Therefore, the findings depicted the reciprocal relationship between teachers' self-efficacy beliefs and their observed blended learning practice, wherein incremental technological knowledge and learning experiences contribute to the reinforcement and expansion of one's confidence in their capabilities to integrate the blended learning approach. At the same time, it highlighted the importance of ongoing professional development initiatives aimed at enhancing teachers' self-efficacy in utilizing blended learning tools effectively. Moreover, the findings that belief–practice congruence exists even among novice teachers suggests that professional development can build on existing confidence to refine technology integration skills, rather than focusing solely on building initial motivation. These initiatives can empower teachers to adapt to the evolving landscape of educational technology and confidently implement blended learning in their classrooms.

This study also acknowledges several limitations. Firstly, the qualitative component was limited to five participants, which restricts the generalisability of the findings. Furthermore, while self-efficacy is a necessary precondition for effective blended learning, it does not guarantee successful implementation; other factors such as infrastructure, student readiness, and institutional support also

play critical roles. As such, future researchers can further explore other dimensions of teachers' beliefs towards blended learning which will certainly provide a comprehensive understanding of how different kinds of beliefs affect teachers' blended learning practices. At the same time, it will contribute towards the literature in the fields of teacher cognition and blended learning.

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