Tech-Confident Teachers: Unpacking the Factors Behind EFL Teachers' Technology Self-efficacy

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SUMMARY

Technology plays a paramount role in English as a Foreign Language (EFL) education; therefore, it has become essential for EFL teachers to integrate it into their instruction. A growing body of research has also revealed that teachers' Technology Self-efficacy (TSE) is a strong predictor of technology integration. Thus, identifying the factors associated with this construct could help EFL teachers to integrate technology into their classrooms. This study sought to explore the factors associated with EFL New Generation School (NGS) teachers' TSE and investigate the differences concerning the identified factors based on the groups of teachers with different levels of TSE. The survey questionnaires and interviews were used to collect data from all EFL teachers (N = 15). The results yielded three main factors: school-related factors, teacher-related factors, and student-related factors. School-related factors include technological resources, internet access, time support, and feedback from school principals. Teacher-related factors comprise their knowledge and experience in using technology, perceptions of technology, and knowledge and skills in technology-integrated classroom management. Student-related factors include students' technological knowledge, possession of devices, feedback, and engagement/interest. The study also identified various factors reported by groups of EFL teachers with different levels of TSE. The study will provide a comprehensive overview of the factors associated with EFL teachers' TSE, ultimately contributing to the enhancement of technology integration in their English classes.

Keywords: Technology, new generation school (NGS), self-efficacy

INTRODUCTION

Technology holds a pivotal role in the realm of English as a Foreign Language (EFL) education. Technologies such as tape recorders, language laboratories, and video have been employed in language classrooms since the 1960s (Dudeney & Hockly, 2007). Now, many other types of technological resources, such as digital storytelling, digital games, TED Talks, e-books, podcasts, YouTube, websites, and so forth, are available and accessible for EFL teachers to integrate into their classrooms. A wealth of research revealed that these types of technology are of significance in improving EFL student learning (see Christiansen et al., 2016; Hsieh & Huang, 2020; Huang, 2021; Kazu & Kuvvetli, 2023; Sesma et al., 2022; Stockwell & Liu, 2015; Yang & Yeh, 2021). Thus, EFL teachers have been strongly encouraged to integrate them into their classroom instruction. In the interim, there have been heated discussions on how best to encourage teachers to incorporate these types of technology into their teaching. In other words, many hurdles remain for teachers to use technology effectively and efficiently (Afari et al., 2023). It could also be particularly true in the Kingdom of Cambodia.

In 2015, the Royal Government of Cambodia, through the Ministry of Education, Youth, and Sports (MoEYS) and with technical support from KAPE (Kampuchea Action to Promote Education), a local non-governmental organization (NGO), launched the New Generation School (NGS). This school program initiative is intended to promote innovation in teaching and learning, and technology such as m-Learning, software-driven assessment and learning, and so on, is one form of innovative instruction (MoEYS, 2019). At NGS, English is one of the significant foreign language subjects (Bon & Chuaychoowong,2023). To encourage NGS teachers to integrate technology into their teaching, MoEYS has improved school facilities and infrastructure. Each NGS has computer labs and 21st-century libraries with mobile learning facilities such as e-library, tablet access, teaching and learning software programs, and other school mobile apps (MoEYS, 2019). However, these available and accessible technological resources may not guarantee technology integration. The study with 687 teachers from 43 secondary schools in Cambodia revealed that teachers at resource schools in Cambodia were less inclined to use technology in the classroom, and thus, providing technological resources would not yield the desired results (Chea et al., 2022).

When it comes to technology integration in the classroom, a body of literature appears to argue that teachers' Technology Self-Efficacy (TSE) is a major factor (Afari et al., 2023; Anderson et al., 2011; Barton & Dexter, 2020; Gomez et al., 2022; Hershkovitz et al., 2023; Kwon et al., 2019; Zhang & Fang, 2022; Wang et al., 2004). Previous research has also revealed that TSE predicted technology integration (Anderson et al., 2011; Kwon et al., 2019; Li et al., 2019; Menabò et al., 2021). Therefore, exploring factors associated with this construct could help teachers to integrate technology into their classroom instruction. Self-efficacy is rooted in Albert Bandura's 1970s

social learning theory and has become a buzzing concept among educational researchers. Self-efficacy in general refers to an individual's personal belief in their ability to effectively plan and carry out the necessary actions to achieve specific performance goals (Bandura, 1995). It focuses on people's self-perceptions rather than their actual competence (Bjerke & Xenofontos, 2023). According to Artino (2012), self-efficacy is not the same as a general sense of confidence in one's competence, but it depends on the task and the setting. It is often referred to as "task-specific self-confidence" (Artino, 2012, p.76). That is, high self-efficacy in one area does not guarantee it in another (Artino, 2012; Kwon et al., 2019). In the realm of education, most literature describes individuals' self-efficacy as their confidence in their abilities to successfully perform a given task (e.g., Bandura, 1997; Elias, 2008; Maschi et al., 2013; Tschannen-Moran & Hoy, 2001). In the same vein, most studies measuring TSE referred to this concept as the individuals' confidence with technology use (Christensen & Knezek, 2017; Gao et al., 2022; Gomez et al., 2022; Hershkovitz et al., 2023; Kwon et al., 2019; Pfitzner-Eden, 2016). In this study, we also referred to the EFL teachers' TSE as their confidence in their abilities to integrate educational technologies such as teaching and learning software programs, school mobile apps, and other supporting materials (see MoEYS, 2019) into their pedagogical classroom. One's self-efficacy would indicate their confidence and ability to perform a task (Lemon & Garvis, 2016). On the other hand, teachers could be hesitant to integrate technology into the classroom if they lack the confidence to use it (Kwon et al., 2019). Therefore, for teachers to successfully incorporate technology into their classroom lessons, it is crucial to boost their TSE, and exploring the factors associated with it could be the most effective approach.

Concerning the factors associated with an individual's self-efficacy, Bandura (1977) proposed four main sources: mastery experience, vicarious experience, social or verbal persuasion, and physiological and emotional states. The most effective way of creating a strong sense of efficacy is through mastery experiences (Artino, 2012; Bandura, 1995, 1997). Mastery experiences are the experiences of participants in given situations and influence self-efficacy by allowing participants to be exposed and desensitized to the performance of a task (Bandura, 1977). Successful experiences can boost their self-efficacy, while failures can lower it (Phan & Locke, 2015). The second source is vicarious experiences, which afford individuals a chance to observe the triumphs and setbacks of others, potentially influencing their self-efficacy (Morris & Usher, 2011). For instance, teachers' self-efficacy could be affected by the indirect experience gained by observing their colleagues, depending on whether those they used as a model have experienced success or failure in a specific situation (Kasalak & Dagyar, 2020). Modeling success could increase teachers' self-efficacy, whereas modeling failure could decrease it. The third is verbal persuasion; it is a common attempt at promoting self-efficacy, like vicarious experience. It included feedback or encouragement from other people (Bjerke & Xenofontos, 2023). In the school setting, the feedback from principals, colleagues, and students could serve as a positive endorsement of teachers' self-efficacy. Meanwhile, there is an ongoing debate apropos of the categorization of social persuasion among the existing studies. That is, some scholars categorized the perceived student enthusiasm as a mastery experience, whereas others included it in the category of social persuasion (see Morris & Usher, 2011). The final source is the physiological and emotional state, which is another influence on self-efficacy. It involves the agitation and stress that can overtake a participant before a given task.

Nonetheless, since self-efficacy is contextually situated, the factors related to this construct may vary depending on the specific settings to which individuals are exposed or the particular work domains in which they operate. Therefore, existing studies focusing on various disciplines revealed various factors influencing teachers' TSE. The factors encompassed internet connection (Aljohani, 2022), teachers' experience in using technology (Hershkovitz et al., 2023), their technological knowledge (Bakar et al., 2020; Joo et al., 2018; Xu & Zhu, 2020), innovative climate within their organization (Andyani et al., 2020), student performance, and supportive leadership, collaboration among colleagues (Zhang & Fang, 2022). The evidence from these existing studies indicated that variation existed concerning the factors influencing teachers' TSE according to settings, and thus, there is, without a doubt, a need for further research into the novel context. In addition, most studies that investigated factors associated with TSE were merely quantitative research. Since self-efficacy is a context-dependent phenomenon (Alibakhshi et al., 2020; Britner & Pajares, 2006; Henson, 2002) and thus Henson (2002) suggested that investigating the factors associated with it in a certain context is undoubtedly justified. In addition, the study conducted to investigate the factors associated with teachers' TSE in a specific subject, like English per se remains scant. To date, the prior study has yet to explore the factors associated with EFL teachers' TSE in the context of NGS in Cambodia.

The current study intended to explore the factors associated with EFL teachers' TSE in the context of NGS in Cambodia. The study also sought to investigate the differences regarding the identified factors based on the groups of EFL teachers with different levels of TSE.

To attain the mentioned objectives, the study addressed two key research questions:

1. What factors are associated with EFL teachers' technology self-efficacy?

2. How do these factors differ among EFL teachers with varying levels of technology self-efficacy?

METHOD

Research Design

This study employed an explanatory sequential mixed methods design. Creswell and Creswell (2018) noted that this design involves a two-phase data collection project where the researcher gathers quantitative data in the initial phase, analyzes the findings, and subsequently utilizes those results to inform the planning or development of the second qualitative phase. The current study aligns with this research design, as it aimed to explore the factors associated with EFL teachers' TSE by initially utilizing a survey to identify the group of participants based on the levels of their TSE, followed by interviews to delve into the factors related to EFL teachers' TSE.

Participants

The participants were comprised of all EFL teachers (N=16) teaching the English subject at two secondary schools implementing the NGS program. All participants were invited to complete the survey and be interviewed concerning their level of TSE. However, one participant refused to participate in the interviews, so the final sample for the interviews was 15 EFL teachers.

Instruments

The survey questionnaire and interviews were used to collect the data. The survey regarding teachers' TSE was developed by Wang et al. (2004). This survey consists of 21 items with a 5-point Likert scale (strongly disagree to strongly agree). However, this study adopted the new version of the survey employed in the study by Hershkovitz et al. (2023). Hershkovitz et al. (2023) slightly adapted some terms to fit contemporary terminologies and technological applications. For instance, the original item "*I feel confident that I understand computer capabilities well enough to maximize them in my classroom*" to the new version "*I feel confident that I understand capabilities of technology well enough to maximize them in my classroom*" (see Hershkovitz et al., 2023, p.7). The data from the survey were utilized to group the participants. Then, the interviews, including personal and focus group interviews, were employed to collect data regarding the factors affecting EFL teachers' TSE. Creswell and Creswell (2018) noted that, in the interviews, the researcher could record information by using several ways, such as handwritten notes, audio, or video recording. In this study, both handwritten notes and audio recordings were utilized.

Validity and Reliability

The validity and reliability of the survey questionnaire were tested by the previous studies (Wang et al., 2004; Hershkovitz et al., 2023). With Alpha values of.94 in the pre-survey and.96 in the post-survey, the results showed outstanding reliability, indicating that this survey has a great potential for future research (Wang et al., 2004, as cited in Farah, 2012). İn addition, as aforementioned, the current study adopted the new version one used in the study by Hershkovitz et al. (2023). The results of a reliability test were quite excellent (Hershkovitz et al., 2023).

Regarding qualitative data, Guest et al. (2012) confirmed that when doing qualitative studies, validity is more important than reliability since qualitative studies rarely seek to replicate their results. To ensure the validity of the qualitative data, we employed feedback and member checking. Concerning the content validity, we invited four different experts experienced in qualitative research to review the semi-structured interview items to determine if they perfectly address the research questions. Creswell and Creswell (2018) noted that the researcher can determine the accuracy of the qualitative findings by sending the data back to participants to check whether the data are accurate. In the current study, after being reviewed, the data from the interviews were sent back to each participant to check and approve.

Data Analysis

Concerning data from the survey questionnaire, the Interquartile Range (IQR) was adopted to group participants into three groups: the Lower, Middle, and Upper groups. Table 1 presents participants' demographic information and the scores earned by each participant from each group. Then, coding was employed to analyze the data from the interview. Creswell and Creswell (2018) noted that the researcher might use computer software to assist in coding because manual coding is time-consuming, even for the data from a few respondents. Therefore, open coding in MAQDA software (version 20) was adopted. The identified themes were subsequently presented with some excerpts of teachers' responses.

Table 1. Participants' Demographic Information, Scores, and Groups

No	Teachers' Pseudonyms	Genders	Education Levels	Year(s) of Teaching Experience with NGS	Rating Score	Groups
1	Teacher F	Female	Bachelor's Degree	2 years	100	Upper
2	Teacher K	Female	Bachelor's Degree	3 years	91	Upper

3	Teacher A	Male	Master's Degree	1 year	89	Upper
4	Teacher I	Female	Bachelor's Degree	3 years	87	Upper
5	Teacher B	Female	Master's Degree	2 years	85	Middle
6	Teacher O	Male	Master's Degree	3 years	85	Middle
7	Teacher D	Female	Master's Degree	4 years	76	Middle
8	Teacher P	Male	Bachelor's Degree	4 years	73	Middle
9	Teacher E	Male	Master's Degree	4 years	72	Middle
10	Teacher M	Female	Master's Degree	1 year	70	Middle
11	Teacher L	Male	Master's Degree	4 years	69	Middle
12	Teacher H	Female	Master's Degree	4 years	64	Middle
13	Teacher N	Female	Bachelor's Degree	2 years	57	Lower
14	Teacher C	Female	Master's Degree	5 years	56	Lower
15	Teacher G	Female	Master's Degree	5 years	54	Lower
16	Teacher J	Male	Bachelor's Degree	2 years	53	Lower

Ethical Regulation

The researchers obtained a letter of permission from the Ministry of Education, Youth, and Sports of the Kingdom of Cambodia, which they presented to the school principals to request permission for data collection. They then met with the participants to explain the purpose of the study. Participation in the study is voluntary, so all participants were asked to sign a consent form, and they were informed that they could opt out at any time they wanted. In addition, to ensure participants' confidentiality, their pseudonyms (Teacher A, Teacher B, etc.) were utilized to report the findings.

FINDINGS

Factors Associated with EFL Teachers' Technology Self-Efficacy

The core purpose of the study was to identify the factors associated with EFL teachers' TSE. As aforementioned, teachers' TSE in this study refers to the teachers' confidence in their ability to integrate technology into their classroom instruction. Through open coding of both personal and focus group interview transcripts, the study revealed three main associated factors, namely school-related factors, teacher-related factors, and student-related factors affecting EFL teachers' TSE.

School-Related Factors: School-related factors encompass supporting technological resources, internet access, time support, and feedback from school principals. To begin with**,** all EFL teachers cited an insufficient supporting technological device as a negative factor affecting their TSE. That is, the lack of supporting materials made them feel less confident in integrating technology into their English classes. For instance, when asked what made her feel less confident in their ability to integrate technology into her classroom instruction, Teacher N said, *"Supporting materials [technological devices] are important. The lack of materials [technological resources] will make me feel less confident in using technology in my English classes.* Internet connection was another overarching topic discussed by all teachers. When asked what factors made them feel more or less confident in incorporating technology into their English classrooms, all fifteen teachers mentioned the internet connection. For example, Teacher A expressed his opinion, *"In [our] school, there is also an Internet network, but the speed is too slow to use some technologies such as Kahoot! and Quizizz that need a strong Internet connection."* Time support could also affect EFL teachers' TSE. Nine teachers said they had sufficient time, which makes them feel more confident in integrating technology into their English classes, as seen in what Teacher A added: *"Time availability is also important for integrating technology. If I have enough time to integrate technology in a particular lesson, I will integrate it. I also feel more confident in using technology in my teaching."* Lastly, three teachers accepted that feedback from their school principal could make them feel more confident in integrating technology into their teaching. For instance, Teacher E commended, *"Encouragement from the school principal is an important motivating factor. I think I feel motivated and confident in using technology in my teaching when my school principal encourages and motivates me to use it."* Feedback was found as the other factor affecting EFL teachers' TSE. That is, when asked about the feedback from their principal regarding technology use in class, most teachers stated that they rarely receive such feedback. For example, Teacher H responded: *"I never receive any feedback from my school principal regarding technology integration. He has provided feedback about other things, such as teachers' administrative work, including timesheets and work plans."*

Teacher-Related Factors: The themes that arose concerning the aspects associated with teachers included their technological knowledge and experiences in using technology, their perceptions of technology, and their knowledge and skills in technology-integrated classroom management. Eleven teachers said that with sufficient technological knowledge and experience, they would feel more confident in integrating technology into their classroom instruction, whereas a lack of it diminished their self-efficacy. However, the unsuccessful experience negatively affects their TSE. For example, Teacher F said this: *"I used to use Padlet in grade 7 once, but it completely failed, so I switched. I don't feel confident in using it in that class again."* Moreover, six teachers positively perceived technology as a useful tool in teaching and learning, resulting in feeling confident in integrating it into their classrooms. For instance, Teacher O commended, *"I feel more confident in using Telegram as a platform to drop documents and provide other important information. I also use Google Classroom because it has some good functions that support the education field."* However, when they negatively perceived the particular types of technology in their English, they demonstrated low confidence, as seen in Teacher I's response: *"I don't feel confident in using slide shows. It will make students more passive. Students don't have time to write down."* Finally, at least two teachers (Teacher F and Teacher I) mentioned their knowledge and skills in technology-integrated classroom management as a factor. However, they could overcome such a challenge by setting strict classroom rules. For instance, when asked to think of the factors that could affect her confidence in using technology, Teacher F said: *"Yes, knowledge of classroom management can also affect my confidence. It is also difficult to keep some students on track as they sometimes use their smartphones to check for something else. That's why I have to set very strict rules."*

Student-Related Factors: Student-related factors, comprising students' technological knowledge, possessing devices, feedback, and interest/engagement, were found to be factors affecting EFL teachers' TSE. Twelve teachers mentioned their students' technological knowledge as a factor affecting their TSE. For example, in a focus group discussion, Teacher L responded: *"Students' knowledge of using technology is very important. If most of my students have good knowledge of using technology, I can say I feel more confident in integrating technology into my class because I will not face many problems to deal with."* Nine teachers reported that students' possessing devices could affect their confidence in cooperating with technology in their teaching, as seen in Teacher A's response: *"Yes, good supporting materials, such as students' devices, are important when we use technology. I will feel more confident in integrating technology into my English classes if all of my students have devices such as smartphones."* Fourteen teachers acknowledged that their students' feedback played a significant part in determining their TSE. In addition, negative feedback served as a negative factor affecting teachers' TSE, as seen in Teacher B's response:" I *mostly receive feedback from my students after some technology has been applied. When my students are satisfied with a particular technology, I feel more confident, and I also consider applying it next time.*" Finally, eight teachers reported that their students' engagement and interest were also crucial factors in determining their confidence in integrating technology, as seen in what Teacher D shared her opinion as follows: *"For me, when my students enjoy the technology I use, I feel more confident in using it."*

Differences regarding the Identified Factors

The second purpose of this study was to investigate the differences (if any) concerning the identified factors associated with EFL teachers' TSE. All factors, namely school-related factors, teacher-related factors, and student-related factors, were reexamined to see the differences. The differences were found in two identified factors, including school-related factors and teacher-related factors.

School-Related Factors: Differences were found in different groups concerning the internet connection factor. Teachers from the upper group, although admitting that poor internet connection could affect their level of TSE, reported that it was not the key challenge. For instance, Teacher K said, *"I feel a bit worried that there may be a problem with the internet connection when using technology in my English classes. However, most of the time, I feel comfortable and confident."*

Teacher-Related Factors: Technological knowledge and experiences with technology integration were found to be different across the three groups. That is, when discussing technological knowledge and experience affecting their TSE, most teachers from the Middle and Lower Groups accepted it as the key factor that negatively affects their TSE. Nonetheless, teachers from the Upper Group, although accepting the lack of knowledge and experience with technology integration could negatively affect their level of confidence, thought they could overcome it. For instance, Teacher A from the Upper Group shared the following idea: *"I don't think it is the main challenge that makes me feel less confident, because before using any technology in my class, I usually try it first to make sure that I can use it."*

CONCLUSION AND DISCUSSION

Factors Associated with EFL Technology-Self-Efficacy

School-Related Factors: The study found that supporting technological resources held great importance in teachers' TSE and incentivized teachers to incorporate technology into their pedagogical practices. According to

MoEYS (2019), at NGSs, educational technologies are accessible and available for teachers to incorporate into their instructional practices. Yet, most EFL teachers with different levels of TSE reported the insufficiency of technological resources for their English classes, which resulted in a decrease in their level of confidence in using technology. The study suggested that supporting technological resources specifically for English classrooms could be the solution to increasing EFL teachers' TSE, leading to better technology integration. A strong sense of TSE could help teachers overcome external integration challenges like resource shortages (Heath, 2017). In this sense, if such resources cannot be enhanced, school administrators may investigate alternative variables that might raise teachers' TSE to help them overcome the challenges they have faced. In addition, the study revealed that sufficient time support was a positive factor affecting EFL teachers' TSE. The lack of time to acquire technological knowledge will result in a diminished TSE (Tilton and Hartnett, 2016). The study hereof suggested that providing teachers with more opportunities to learn about technology could help develop their TSE. The study also found that a poor internet connection has a detrimental impact on EFL teachers' TSE. The finding accords with a prior study indicating that an unreliable internet connection has the potential to diminish teachers' self-efficacy (Aljohani, 2022). Teachers admitted that the poor internet connection was the key challenge. The study by Kwon et al. (2019) revealed that teachers' TSE was associated with the challenges they had faced in using technology. In this regard, eliminating the challenge through the improvement of internet access within schools could develop EFL teachers' TSE. EFL teachers acknowledged that encouragement from their school principal could make them feel more confident in integrating technology into their teaching. School leaders play a vital role in promoting and supporting teachers in the effective integration of technology (Raman & Thannimalai, 2019). Verbal persuasion is one of the four sources of self-efficacy (Bandura, 1977), and it involves comments or encouragement from other people (Bjerke & Xenofontos, 2023). Individuals' self-efficacy views have been observed to improve when they get positive verbal encouragement and displays of praise from teachers in their social milieu (Kasalak & Dağyar, 2020). Likewise, the study indicated that supportive leadership was one of the factors affecting teachers' TSE (Zhang & Fang, 2022). However, EFL teachers in the current study confirmed that they rarely received feedback from their school principal concerning technology integration in their teaching. Therefore, the study suggested that since school leaders' feedback or encouragement was also imperative to elevate ELF teachers' TSE, feedback or encouragement from school principals is needed for EFL teachers to help increase their TSE and enhance technology integration.

Teacher-Related Factors: The study showed that EFL teachers' sufficient knowledge and experience in utilizing technology would boost EFL teachers' TSE, while a lack of them would decrease it. The finding accords with what Kwon et al. (2019) noted, that teachers' TSE appeared to be developed by sufficient technological knowledge. In addition, previous studies revealed the significance of teachers' technological knowledge in TSE (Bakar et al., 2020; Joo et al., 2018; Xu & Zhu, 2020). Most teachers reported that their TSE was positively affected by their prior experience with successful integration, while expressing lower levels of TSE in integrating unfamiliar technology into their instructional practices. This is also related to mastery experiences, one of the four sources of self-efficacy proposed by Bandura (1977). Mastery experiences are best for building self-efficacy (Artino, 2012; Bandura, 1995). The experiences of failures decrease self-efficacy, and ones of successes boost it (Phan & Locke, 2015). That is, successful technology integration could boost TSE, whereas failure could diminish it (Hershkovitz et al., 2023; Wang et al., 2004). The current study also showed that EFL teachers' perceptions of technology affect their TSE. Teachers' perceptions could determine their teaching practice (Bon, 2022; Bon & Charubusp, 2024). Likewise, teachers' perceptions of technology could determine technology incorporation (Incantalupo et al., 2014; Silviyanti and Yusuf, 2015). The previous study also found that perceived significance predicted levels of technology use (Chaaban & Ellili-Cherif, 2017). Thus, teachers' perceptions could affect their TSE in that when they positively perceive a certain type of technology as useful for teaching and learning, they feel confident using it in class. Thus, developing positive perceptions about technology among EFL teachers may increase TSE.

Student-Related Factors: The study found that students' technological knowledge could be associated with ELF teachers' TSE. The extant literature emphasizes the significance of students' technological knowledge in a technology-infused classroom (Incantalupo et al., 2014; Wardoyo et al., 2021). Simply put, teachers would fail to integrate technology into their lessons if most students were technologically illiterate, and this could decrease teachers' TSE. To this end, students need to learn the common technologies frequently used in their EFL classroom to make EFL teachers feel more confident in integrating technology into their classroom instruction. The study also revealed that the lack of devices among students was a negative and common factor affecting EFL teachers' TSE. Teachers from three groups reported that the lack of devices among their students made them less confident in integrating technology. Learner-centered activities are a common feature in technology-integrated classrooms. Chaaban and Ellili-Cherif (2017) noted that teachers might find it challenging to design student-centered activities when some students lacked access to necessary resources. As previously mentioned, the existing study revealed that teachers' TSE was affiliated with the challenges they encountered when integrating technology (Kwon et al., 2019). Thus, making technological tools available for this group of students could indirectly develop EFL teachers' TSE. The current study also found that feedback from students could affect teachers' TSE. When teachers received positive verbal persuasion and appreciation from the social environment, their self-efficacy

would increase (Kasalak & Dagyar, 2020). The result of this study suggested that encouraging more positive verbal persuasion from people around, especially students, could boost EFL teachers' TSE. Moreover, students' engagement and interest in technology-integrated classrooms were another determinant of teachers' TSE. The finding corresponds to the prior study, revealing that positive student performance could increase teachers' TSE (Zhang & Fang, 2022). In addition, Barton and Dexter (2020) noted that teachers evaluate students' learning and behavior to determine their accomplishment of mastery experience. This source of information served as a powerful influence on self-efficacy (Artino, 2012; Bandura, 1997, 1995, 1977). Therefore, teachers must learn various types of technology so that they can choose the ones that can engage the majority of their students. This could be the way to increase their TSE.

Differences regarding the Identified Factors

School-Related Factors: EFL teachers with a low level of TSE reported that the poor internet connection and their insufficient technological knowledge, and the lack of experience in using technology were the key barriers. A strong sense of TSE could help teachers overcome external integration challenges like resource shortages (Heath, 2017). In addition, teachers from lower levels of TSE admitted the lack of technological knowledge and experience as a main barrier, while those from higher levels of TSE confirmed that they could develop such knowledge and experience. Artino (2012) and Bandura (1977, 1995) noted that individuals with a strong sense of self-efficacy tend to exert significant effort toward achieving a particular objective and demonstrate a proclivity to persist even when faced with difficult and arduous circumstances. Thus, the current finding suggests that improving teachers' TSE could also help teachers overcome the challenges.

Teacher-Related Factors: EFL teachers with a high level of TSE reported that the knowledge and skills of technology-integrated classroom management could affect their TSE. The insufficient knowledge and skills of technology-based classroom management represent a challenge to the successful integration of technology (Hew & Brush, 2007). Hence, providing teachers with training in technology-integrated classroom management might help them overcome the challenge, resulting in the development of their TSE. The teachers with a higher level of TSE reported that they could overcome such challenges. This also reflects what Bandura (1977, 1995) noted, that those with a strong sense of self-efficacy are inclined to persevere in the face of challenging and demanding circumstances.

The findings would offer a bird's-eye view of what could elevate the levels of EFL teachers' TSE, leading to better technology integration in their classroom instruction. That is to say, considering the common factors affecting EFL teachers' TSE found in this study, school leaders or administrators could encourage EFL teachers to integrate technology into their pedagogical classrooms by eliminating or at least minimizing the negative factors and maximizing the positive ones. EFL teachers with lower levels of TSE encountered more challenges when integrating technology, which negatively affected their confidence. Teachers 'self-efficacy determines their confidence and competency to interact with a task (Lemon & Garvis, 2016). Those with a high level of self-efficacy tend to put in a lot of effort to achieve a goal and keep going even when things become tough (Bandura, 1977, 1995). Therefore, fostering robust TSE within these cohorts of EFL teachers may prove to be a viable strategy because strong TSE could potentially enable them to surmount such hindrances.

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