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Digital literacy and EFL teachers' anxiety with teaching online via virtual classroom software

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This study employed qualitative analysis to investigate the technology anxiety experienced by Iranian EFL teachers conducting online classes, taking into account their digital literacy levels. A digital literacy questionnaire was administered to a group of EFL teachers teaching English online at two branches of a language institute in Iran using the virtual classroom software BigBlueButton. Based on the questionnaire responses, 12 teachers were categorized as high (N=6) and low (N=6) digital literates. Through semi-structured interviews and reflective journals, the study delved into teachers' anxiety regarding online teaching, identifying three primary types of anxiety: pedagogical anxiety, technological anxiety, and social anxiety. The findings revealed that pedagogical anxiety stemmed from disruptions in teaching and learning processes, technological anxiety arose from challenges such as internet disconnections, and social anxiety related to judgments based on technological proficiency. While effective language instruction was a shared concern among high and low digital literate teachers, their approaches to managing anxiety varied significantly. High digital literate teachers demonstrated greater resilience in addressing online teaching challenges, whereas low digital literate teachers experienced reduced confidence and struggled with virtual classroom management. The study emphasizes the importance of addressing technology-related anxiety among language teachers in online education to enhance teaching efficacy and student outcomes.

It suggests integrating digital literacy courses and providing expert support to alleviate teaching and technology-related anxiety and stress among EFL teachers, leading to more effective teaching practices.

Keywords: Digital literacy, Technology anxiety, Online education, EFL teachers, Virtual classroom

1. Introduction

As technology becomes ubiquitous in all aspects of people's lives in the 21st-century, its role in education is inevitable. The new generation is constantly growing with the advance of technology. The burgeoning complexity of innovations in information and communication compels people to improve their literacy and competence in perceiving the newly generated world of technology. Teachers encounter rapid movements in educational practices as technological innovations continue over time (Henderson & Corry, 2021; Thomas & Graham, 2019). Therefore, they run into a plethora of new responsibilities and expectations. This new situation burdens both emotional and conceptual difficulties and, in some cases, leads to teachers' resistance to change (Howard, 2013).

Consistent with such progress in education, language teaching has also moved towards these innovations in technologies to be in line with the changing teaching and educational environments (Tosun & Bakaya, 2022). The transformations in our communication arena have made it essential for language teaching to go beyond the ability to read and write printed texts and take the concept of digital literacies into account (Pegrum et al., 2022). Although the effectiveness of computer-assisted language learning (CALL) has been evidenced both in theoretical and empirical studies (e.g., Chen et al., 2021; Vorobel, 2022), its successful implementation depends greatly on teachers' affective factors such as interests, positive attitude, willingness, and sufficient confidence to use technology (Johnson, 2021; Toffoli & Sockett, 2015). According to Henderson and Corry (2021), one possible way to build more confident and resilient teachers, in facing the constant changes of technology, is to recognize and reduce their anxiety sources. As stated by Aksoy et al. (2020), the technologies' perceived complexity invokes a sense of anxiety for teachers.

Spielberger (1983) defines anxiety as the sense of uncertainty of the present and forthcoming phenomenon which causes feelings of nervousness, fear, and worry. The sense of anxiety experienced while teaching implies teaching anxiety (Gardner & Leak, 1994), which is a common psychological and affective factor in the education and teaching profession (Desouky & Allam, 2017). Recent review studies have shown the effects of anxiety on teachers in numerous areas (Fernández-Batanero et al., 2021; Henderson & Corry, 2021; Ozamiz-Etxebarria et al., 2021). Research identified various reasons for the existence of teaching anxiety, such as conflicts of values, workload, students' behavior, relations between faculty members, academic demands, and lack of educational resources (Ahmed & Julius, 2015; Benesch, 2017; Desouky & Allam, 2017).

More importantly, teachers' technology anxiety generally refers to the

teachers' discomfort with computer-related technologies (Rosen & Weil, 1995). Encountering a new technology can raise anxiety and fear, and consequently, prevent users from utilizing it (Baysal, 2020). As Nimrod (2018) clarified, individuals prefer to keep on their behavioral patterns, and show different levels of hesitation to accept, when a new technology emerges. In the context of foreign language teaching, investigating the roots of anxiety can be traced back to the 1980s and 1990s (Horwitz, 1996; Horwitz et al., 1986). So far, several studies have been conducted on EFL teachers' technology anxiety (Fathi & Ebadi, 2020; Sayeh & Razkane, 2021; Trotsenko et al., 2020). Bervell and Umar (2018) identified the scarcity of technology experience and literacy as one of the main reasons for technology anxiety. Digital literacy is referred to as a mediating factor to decrease computer anxiety (Fernández-Batanero et al., 2021; Samuel & Krishnakumar, 2015). In other words, by equipping themselves with the necessary competence in implementing educational technologies, teachers can resolve parts of their anxiety (Reinhold et al., 2021). Thus, the sufficient level of teachers' digital literacy and confidence should be accompanied by their ability to transfer knowledge, in order to guarantee the use of technology in the actual realm of language classrooms (Fathi & Ebadi, 2020).

Online education has been welcomed with the constant progressions of technologies, due to the affordances it provides for students and teachers, and how it facilitates learning and teaching (Chen et al., 2021; Vorobel, 2022). Therefore, there are iterations throughout the related literature on teachers' technology acceptance and adoption, specifically on its association with terms such as perception, satisfaction, and motivation in online teaching (Jiang et al., 2023). Meanwhile, teachers' technology reluctance demands more investigations, especially regarding the advanced and complex technological changes with regard to the teachers' emotional responses. Despite the significant relationship between teachers' attitudes and their proficiency in implementing online platforms for their teaching (Alkamel & Chouthaiwale, 2020; Al-Saggaf et al., 2021; Sayeh & Razkane, 2021), EFL teachers' technology anxiety, in accordance with their level of digital literacy, has not been clarified enough. Accordingly, the present study tried to investigate online EFL teachers' technology anxiety with regard to their level of digital literacy (i.e., high and low). *The Digital Literacy Questionnaire – Language Teachers* (Son, 2015) was assigned to a group of 20 EFL teachers teaching the English language through a virtual classroom software program named BigBlueButton. Twelve teachers completed the questionnaire and agreed to participate in the interview sessions. They were assigned as high (N=6) and low (N=6) digital literates according to their questionnaire, and they were qualitatively examined to interpret their technology anxiety and how they overcome their anxiety.

2. Literature Review

In response to the growth in complexity of technological innovations and their integration into online education, teachers face rapid movements in educational practices, and they need to update their literacy and competence to

tackle emerging challenges. Research has been conducted to address the acceptance or reluctance to utilize technologies in one's teaching practice (Bulfin et al., 2015; Pareja Roblin et al., 2018). Teachers' negative attitudes and high levels of technology anxiety, which lead to technology reluctance, can be due to digital familiarity deficiency. In the following, the studies on teachers' technology anxiety and their digital competence are reviewed.

Teachers' technology anxiety

There is substantial academic literature discussing teachers' technology anxiety considering teachers' variables such as age (Esteve-Mon et al., 2020; Pamuk & Peker, 2009), teaching experience (Al-Awidi & Alghazo, 2012; Pozo-Sánchez et al., 2020; Ursavaş & Karal, 2009), and self-efficacy (Corry & Stella, 2018). For instance, Pamuk and Peker (2009) found the determining factor of age in technology use by teachers; they concluded that there is a higher level of anxiety among older teachers. Furthermore, aiming to determine the level of pre-service teachers' computer anxiety, Ursavas and Karal (2009) found that teaching experience enhanced the teachers' positive attitudes toward technology. Additionally, Nazari et al., (2023) found that having teaching experience of face-to-face classes positively influenced teachers' teaching in online classes.

Employing a sociological approach, Johannessen et al. (2023) conducted a study to understand school workers' skepticism, reluctance, and even outright resistance towards new technologies and reflect their concerns about how technologies tend to function or be inoperative within educational contexts. The problematic relationship and teachers' reluctance are framed in psychological terms such as techno-anxiety, technostress, and technophobia (Efe & Efe, 2016; Joo et al., 2016; Revilla Muñoz et al., 2017). There are studies on emotional labor in online language education focusing on EFL teachers' internal sense-making process and external institutional discourse (Nazari et al., 2023; Nazari & Seyri, 2021; Song, 2021).

Fernández-Batanero et al. (2021) found that higher levels of technology experience could decrease anxiety and increase the usage of technology. A study by Rahimi and Yadollahi (2011) concluded that high levels of technology anxiety among EFL teachers impeded them from using technology in their teaching practices. Therefore, the present study attempts to explore Iranian EFL teachers' attitudes towards technology anxiety by focusing on their digital literacy level.

Teachers' digital literacy

Based on a general concept, the capability to use technology for a confluence of elements such as creation, communication, and collaboration can define digital literacy (Son, 2004). As Ng (2012) explicates, a digitally literate individual initially should be competent enough to perform fundamental computer tasks and gain access to resources for daily use. They also should know how to effectively search and assess information for doing their research and being successful

in content learning. Considering language teachers, digital literacy involves the ability to design, implement, modify, and adapt the teaching resources and practice to different technology-mediated contexts in accordance with the linguistic and learning needs of students (Huertas-Abril, 2020, as cited in Palacios-Hidalgo & Huertas-Abril, 2022).

As mentioned before, it is apparent that the actual use of technology by teachers and their level of digital literacy is correlated to their confidence level, which can involve their attitudes toward technology integration (Fathi & Ebadi, 2020; Johnson, 2021). Johnson (2021) found that those teachers who constantly use digital technologies or invest their time in improving their digital competence benefited from a greater sense of autonomy. On the other side, some teachers may be frustrated due to the wasted time trying to connect to the network or the probable technological problems while using technologies (Johnson, 2019). The successful use and integration of technology into class contexts require teachers who enhance their competence and capabilities in online environments (Rilling et al., 2013); besides, they should be technically competent enough to devise various and appropriate digital applications for their educational purposes (Son, 2002). The close connection between language teachers' confidence and comfort with their competency in CALL is also a concern of several studies (Hong, 2010; Kessler & Plankans, 2008; Park & Son, 2009). The present study aims to add to the literature on feelings of discomfort, i.e. technology anxiety, with Iranian EFL teachers' level of digital literacy in a situation where the teachers are obliged to use a specific technology.

Online teaching platforms

Recently, online platforms have been used globally in the education environment due to the facilities they provide to present resources, manage and administer the class context, and support communication, interaction, and learning practices (Costello, 2013). One of the technology integration policy decisions, especially after the pandemic, imposed on teachers is implementing online teaching platforms for education (Henderson & Corry, 2021). Consequently, the level of anxiety can be higher than integrating other technologies. Al-Busaidi and Al-Shihi (2012) investigated the degree to which computer anxiety affected higher education instructors' satisfaction with using online platforms in blended learning and online education formats. They concluded on the statistically significant negative effect of using learning management systems (LMSs) on user satisfaction. There are also studies in which educational technology coaches (Webster, 2017) and LMS administrators (Sinclair & Aho, 2018) participated in investigating in-service teacher anxiety. Sinclair and Aho (2018) considered fear and anxiety toward technology as the main barriers to using online platforms, such as LMS. De Smet et al. (2012) raised varied factors like perceived usefulness, ease of use, and actual usage that determine teachers' attitudes toward computer use and LMS adoption. Additionally, Al-Busaidi and Al-Shihi (2012) attempted to examine LMS adoption through the technology acceptance model (TAM). The findings revealed that personal, organizational,

and technological factors played important roles in acceptance or resistance to the use of online platforms. Furthermore, Rienties et al. (2016) raised the factor of technology challenges and issues (perceived ease of use) as the main reason for the lack of progression in online education platforms. In general, the present study aims to investigate Iranian EFL teachers' online teaching anxiety with regard to their digital literacy level, who are obliged to use a virtual classroom software program for teaching online classes named BigBlueButton.

3. Methodology

Research design

As the previous related studies were designed with a quantitative approach, we approached the phenomenon from a qualitative lens to investigate the experiences and understanding of participants. As stated by Ary et al. (2010), one of the most primary and simple ways of investigating a phenomenon through a qualitative study is a basic qualitative/interpretive approach in which the data is collected through different methods such as interviews, observations, and so forth. Accordingly, the basic qualitative research design was implemented, and the data was gathered using in-depth semi-structured interviews and reflective journals. The collected data went through qualitative content analysis.

Participants

The participants of this study were English as a Foreign Language (EFL) teachers who taught English at two branches of a language institute in Tehran, Iran. These institutes were selected because the researchers had access to them. The teachers at both institutes taught adult English language classes ranging from Elementary to Advanced levels using a virtual classroom software called BigBlueButton. They followed a graded book series provided by the institute and were expected to teach all four language skills (reading, writing, speaking, listening) according to the teachers' guidebook. Each term in these institutes lasted approximately two months, with classes held twice a week. A total of 20 teachers who taught elementary to pre-intermediate levels were given the Digital Literacy Questionnaire - Language Teachers (Son, 2015). Fourteen teachers completed the questionnaire on time. After analyzing the results, eight teachers were classified as high digitally literate and six as low digitally literate. One teacher from the high digitally literate group who struggled with journal entries was excluded from the study. To balance the two groups, another high digital literate teacher's data was excluded from the analysis. It should be noted that after interviewing almost five teachers in each group, the researchers witnessed repeated themes and patterns, indicating data saturation. Therefore, a total of twelve Iranian EFL teachers, comprising six highly digitally literate and six low digitally literate teachers, participated in the study. All participants were female and aged between 20 to 45 years old.

It should also be noted that BigBlueButton is an open-source web conferencing

platform tailored for online learning environments. It facilitates real-time communication through audio, video, and chat functionalities, fostering interactive engagement between participants. With features like presentation sharing, interactive whiteboard, and polling, it offers versatile tools for dynamic and engaging virtual sessions. Breakout rooms enable group discussions and collaboration, while session recording ensures content accessibility for asynchronous learning. As an open-source solution, BigBlueButton provides flexibility for customization to meet diverse educational and organizational needs, making it a preferred choice for virtual collaboration across various sectors.

Data collection instruments

Digital Literacy Questionnaire – Language Teachers. All teachers were invited to complete the online questionnaire through email. Digital Literacy Questionnaire – Language Teachers was designed by Son (2015), to check teachers' access to computers, assess their ability to complete computer-related tasks, question their personal and professional use of computers, and enquire about their interests in CALL. The questionnaire reflects five elements of information search and evaluation, creation, communication, collaboration, and online safety. It consists of five sections as background, self-ratings of computing and digital skills, digital technology use, test of digital literacy, and affecting factors to use digital technologies for language learning and individual opinions regarding the use of digital devices. The reliability of the questionnaire was measured through Cronbach's alpha reliability analysis (α=.80).

Reflective journals. The researchers asked the teachers to write reflective journals on three occasions: at the beginning, middle, and end of the term. The participants could either write or voice record their opinions about teaching through the online platform. They explained their challenges, complaints, feelings, anxiety, suggestions, and so forth through the reflective journals. A total of 36 reflective journals were collected at the end of the term by the 12 participants written on three occasions.

Semi-structured interviews. The interviews were conducted either online or face-to-face upon the participants' request. The interviews were held for an average of 30 minutes. The researchers tried to make the sessions friendly to help the respondents to express their feelings or experiences easily. The interview questions were open-ended questions on the challenges teachers faced teaching through the online platform, the situations where they preferred face-to-face classes to online ones, their strengths and weaknesses throughout online teaching, and so forth (Appendix).

Data analysis

The results of the *Digital Literacy Questionnaire – Language Teachers* (Son, 2015) were analyzed quantitatively through SPSS and descriptive statistics. Based on

the gained score of the participants, twelve teachers whose scores fell within one standard deviation above and below the mean were assigned into two groups of high and low digital literates. Afterward, the interview sessions and voice messages of reflective journals were recorded and transcribed for qualitative content analysis. Then the inter-rater reliability analysis was conducted to ensure the reliability of the two sets of coding by the researchers (α=.79).

Coding is a process of labeling pieces of textual data in order to identify what each piece is about (Charmaz, 2006). Groups of codes that were repetitively found in the data helped the formation of themes. In coding and categorizing the data, the authors were interested in how teachers made sense of the shift from face-to-face classes to online platforms and how they actually used it. The interviewees expressed their feelings toward online teaching: more particularly, their anxiety with online teaching. Particular attention was paid to comparing the concerns mentioned by the teachers in both groups to find out whether the level of digital literacy could be related to the depth and source of teachers' technology anxiety while using the online platform.

4. Findings and Discussion

The growth and diversity of technology and its incorporation into the educational environment generate new work conditions for teachers. The language in the medium of technology is largely English. Accordingly, alongside being proficient enough in the language and a professional in teaching methodologies, language teachers should be literate in technology. Limitations in each of these aspects of language proficiency, teaching professionals, and digital literacy can affect teaching and be the source of anxiety. Accordingly, the focus of the present study was on the level of digital literacy and the depth of teachers' anxiety and to find out how language teachers overcome the emerging challenges due to the advancements of technology and attempt to hold classes in online platforms instead of face-to-face.

The coding and thematic analysis based on the interviews and reflective journals led to the emergence of three major themes for both groups of low (L) and high (H) digital literates, including 1) pedagogical anxiety, 2) technological anxiety, and 3) social anxiety. Table 1 presents the results of the qualitative analysis indicating examples for the three themes. The two groups expressed similar anxiety, but they found different solutions to overcome and mitigate their sense of anxiety. The strategies they used to overcome their anxiety are also being reported in the Table. The findings have been explained and discussed below.

Table 1. Themes of teachers' technology anxiety in using online platforms

Teachers' anxiety	Examples	How do the teachers overcome their anxiety	
		High digital literate (H)	Low digital literate (L)
Pedagogical anxiety	– Online Classroom management – Time-management (waste of time) – Concentratio – Course content coverage – Learners' attention – Non-attendance issues – Ensuring learners' learning – Plethora of responsibilities/ workload – Assessment – Learner and teacher interactions – Presenting and adapting teaching materials to the online platform	– Manage their anxiety – Find solutions – Ask others – Continue teaching online	– Lose their confidence – Lose their concentration – Prefer to stop teaching online
Technological anxiety	– Lack of technology infrastructures – Poor internet connection – Poor voice quality – Poor media quality – Limited access to digital tools	– Find solutions	– Ask others for help – Lose their confidence
Social anxiety	– Fear of making mistakes in using technology – Fear of being judged by technology literacy rather than language teaching skills	– Face their fears – Find solutions – Express their lack of knowledge	– Avoid answering questions by changing the topic – Refer the students to the experts

Pedagogical anxiety

As depicted in Table 1, our analysis of reflective journals and interviews with educators yielded insights into the issue of pedagogical anxiety among teachers, with a specific focus on its association with online teaching. The apprehensions expressed by teachers were not solely attributed to technological stress or digital competence; instead, they revolved around the perceived disruption of the teaching and learning process. These concerns extended to classroom management, which was affected by various unforeseen disruptions, such as students' delayed logins or other unpredictable problems that hindered teachers' concentration. L2, a member of the low digital literate group, highlighted her stress in managing the class and teaching, emphasizing that managing these issues while teaching posed significant challenges. Similarly, H1, from the high digital literate group, echoed this anxiety, emphasizing the need to manage the class, ensure effective teaching, and address disruptions caused by potential internet disconnections.

I have stress for managing the class and teaching rather than using

technology. Because handling some issues while teaching is demanding for me (L2).

I have to manage the class, teach well, and control any disruption even at the time of the internet disconnection (H1).

Drawing upon Johannessen et al. (2023), who discussed problematic relationships with technology, it becomes evident that teachers' concerns went beyond mere anxiety, stress, or a phobia of technology. They viewed technology as a potential threat to their teaching and learning processes. Teachers found themselves grappling with the task of engaging students when they were uncertain about their attendance. They also lamented numerous factors disrupting the teaching process. Similar to the findings of Wang et al. (2022), some teachers expressed frustration regarding their inability to estimate the extent of student learning and engagement.

I can't see the students and I can't understand how much learning has happened. It is a bit demanding for me and stressful (L1).

Other teachers cited difficulties stemming from the absence of in-person interactions, body language, and eye contact, which made it challenging for teachers to assess students' comprehension. H2, a high digital literate group teacher, criticized online education for its inability to provide such essential cues and for the lack of insight into students' learning progress. These challenges were not confined to the low digital literate group, as noted by L3, who struggled to distinguish students' voices in the online environment, leading to classroom disruptions. Furthermore, in accordance with the previous literature in online teaching (Celik et al., 2022), teachers perceived online teaching through digital platforms as demanding, as it required them to create various multimodal teaching materials, videos, PowerPoint presentations, and enhance their technical literacy to ensure effective instruction. The added responsibilities associated with these tasks detracted from their ability to focus on actual teaching, aligning with the observations made by Fernández-Batanero et al. (2021) regarding the pressure on teachers when adapting to online education and technology integration.

It is a lack in the online environment because you can't see learners and you can't read their minds and even you can't understand if they learn or not (H2).

I could not see learners and just heard their voices. I lost my concentration because I could not distinguish learners' voices. Therefore, the class was disrupted (L3).

Moreover, online teaching often resulted in challenges related to course material coverage, as teachers frequently had to reiterate lessons for students who faced connectivity issues or disconnections, as described by L4 in the second group. This issue has been addressed in prior research studies, which have highlighted the challenges posed by online classes and the stress experienced

by teachers (Naylor & Nyanjom, 2021; Nazari & Seyri, 2021; Nazari et al., 2023; Song, 2021).

> I lost my concentration whenever learners lost their internet connection, or the platform had problems and kicked out all the members of the class, so learners wanted me to repeat the materials and it was very challenging (L4).

In summary, both high and low digital literacy teachers shared similar anxieties when teaching online. However, their approaches to coping with these challenges and associated anxiety varied significantly. High digital literacy teachers sought solutions, sought assistance from others, and remained committed to online teaching, viewing it as an opportunity to enhance their technological proficiency. In contrast, low digital literacy teachers experienced reduced confidence and concentration, often preferring to discontinue online teaching in favor of face-to-face instruction or even seeking employment at institutions without online classes. These individuals exhibited resistance to technology adoption and showed no intention of improving their digital literacy. Consequently, when selecting teachers for online environments, prioritizing those with high digital literacy becomes imperative.

Technological anxiety

The analysis of data collected revealed a second source of anxiety among teachers, closely tied to technological challenges. These challenges encompassed issues such as internet disconnections, weak connections, poor media quality, as well as the quality of audio from teachers and learners, and restricted access to appropriate technological tools. These technological impediments resulted in waste of time and distractions that adversely affected both teachers and students. L5 from the low digital literate group noted:

> My biggest stress was the internet connection, most of the time by losing the net I was thinking how to present the content of the book in the limited remaining time (L5).

H3 further elucidated the impact of these challenges. Furthermore, teachers were distressed by learners who, despite experiencing poor internet connections, would complain to the managers and attribute their learning difficulties to the teacher.

> Whenever I lose my connection, I feel stressed, and it is annoying because I have to repeat and restart the class (H3).
> Sometimes students don't have good quality internet connection and they can't learn well but they complain to the managers and say I can't teach well. It is a nightmare unfortunately and thinking about these problems leads to losing my concentration for some seconds in the class (L4).

As reported by Rienties et al. (2016), technological issues and challenges have long been recognized as significant impediments to progress in online

education. A comparison of high and low digital literate language teachers indicated that the latter group was more affected by these issues. This divergence could be attributed to the fact that individuals with sufficient technical knowledge find it easier to resolve technical problems, requiring less time and effort. For instance, H3, a member of the high digital literate group, detailed her approach to managing the class despite common disruptions in online sessions.

> I don't have any problem in managing the class and working with technology. Whenever I lose my internet connection, I know how to solve this problem, for instance, I use my cellphone data and hotspot (H3).

High digital literate teachers exhibit greater confidence in their teaching, as they can readily resolve technical challenges. Conversely, low digital literacy individuals need more time to seek solutions, often relying on experts or those with greater knowledge, which can be disheartening and potentially discourage them from continuing their teaching. H4, from the high digital literate group, noted the occurrence of technological problems in her online classes but emphasized her proactive approach.

> It had happened a lot. Sometimes I myself repair the difficulty even in hardware. My preference is learning and removing any problems by myself not avoiding them (H4).

Moreover, it was observed that teachers' awareness of their digital literacy level mitigated teaching stress and technology-related anxiety, leading to greater confidence and efficacy in the teaching process. These findings align with existing literature highlighting the positive effects of high digital literacy on teaching confidence (e.g., Atkins & Vasu, 2000; Egbert et al., 2002; Fathi & Ebadi, 2020; Hong, 2010).

Social anxiety

The third salient theme arising from the data pertains to social anxiety, which serves as a pivotal distinguishing factor between the two groups of teachers. Notably, apprehensions related to making errors and being assessed based on technological proficiency rather than pedagogical expertise emerged as central sources of anxiety in online teaching, particularly among teachers with low digital literacy. These teachers perceived that their teaching competencies were heavily influenced by technology and that their performance was primarily judged through the lens of technological proficiency. While high digital literate teachers also dealt with this fear, they demonstrated better coping strategies. They confronted this fear, sought solutions to enhance their skills, and openly acknowledged their limitations when necessary. However, for low digital literate teachers, the persistent fear of being evaluated by students or administrators cast a shadow over their teaching endeavors. L3 and L2 stated their anxiety as below:

> I feel stressed about what they are telling to themselves, maybe they think I am a careless teacher since I cannot use technology easily (L3)
> I feel shamed when managers, the supporting team, and learners understand my mistakes; therefore, I try not to explain and make mistakes (L2).

Online teachers frequently encounter student inquiries concerning technical issues. As presented in Table 1, low digital literate teachers found it difficult to address such queries from students. They often attempted to turn away these questions by changing the subject of conversation. They expressed that even if they knew the answers, they lacked the confidence to explain them to students. Instead, they either avoided the questions or directed students to seek assistance from experts. L1 underscored her unease, stating:

> I feel ashamed if making mistakes because of my lack of technological knowledge so I avoid the questions (L1).

Conversely, high digital literate teachers proactively dealt with students' technical queries by actively seeking solutions. Additionally, they felt at ease admitting their lack of expertise when confronted with a technological question beyond their proficiency. The primary concern for low digital literate teachers continued to revolve around the judgment of learners and, in certain instances, institute managers, thereby exacerbating their anxiety. This anxiety predominantly originates from their low self-confidence or their anxiety about the effective transfer of knowledge. As discussed by Fathi and Ebadi (2020), the issue of unsuccessful knowledge transfer in teaching practice represents a significant obstacle to the seamless integration of technology into the classroom context.

Overall, in the realm of 21st-century education, the acquisition of skills transcends mere language proficiency, as articulated by Djumanova and Makhmudov (2020). This paradigm shift necessitates the development of a diverse set of skills and competencies encompassing critical thinking, interpersonal skills, information literacy, and technological expertise. Additionally, life skills must accompany these proficiencies, serving as essential tools for teachers in their various tasks and activities. Therefore, as stated by Murray and Christison (2014), beyond attaining a high level of expertise in teaching language, teachers must boost their digital competencies to effectively transmit knowledge to students and prepare them for the contemporary and future educational landscape. Achieving a confident command of technology, however, involves managing stress and anxiety alongside a mastery of digital tools, as highlighted by Henderson and Corry (2021).

5. Conclusion and implications

Technology involves risks (Walder, 2015), whether for teachers or learners. It can reduce students' ratings or teachers' performance, at least temporarily. The issue of controlling anxiety, more specifically, technology anxiety needs to be unraveled more deeply since in the future more new technologies will emerge.

Therefore, finding out the strategies to overcome unpredictable situations in online teaching will be helpful.

In this context, the present study undertook a qualitative analysis of teachers' technology-related anxiety in the context of online education, differentiating between high and low digital literate groups. Drawing upon qualitative interviews, this research uncovered that teachers experience stress and anxiety at multiple levels during their online teaching activities. The study identified three principal themes—pedagogical anxiety, technological anxiety, and social anxiety—as major sources of anxiety among language teachers. While the concern for effective language instruction emerges as a common thread among both high and low digital literate teachers, their approaches to managing and regulating their anxiety differed significantly. High digital literate teachers showed greater resilience in addressing teaching challenges in online classes, while their low digital literacy counterparts experienced reduced confidence and struggled to manage their virtual classrooms effectively. Technological issues, such as connectivity disruptions and poor audio and video quality disrupt the teaching process and consequently teacher anxiety. Although both high and low digital literate teachers share these concerns, the former group demonstrated the capacity to overcome such challenges, strengthening their confidence by leveraging their technological skills to engage students effectively. Conversely, the latter group tried to hide their technology knowledge due to fear of errors and uncertainty about student judgments, resulting in lack of teaching confidence and extreme anxiety.

One proactive approach to mitigate teaching and technology-related anxiety and stress symptoms involves the integration of digital literacy courses to enhance teachers' digital competence. Building upon the findings of this study and supporting evidence from existing literature (Fernández-Batanero et al., 2021; Rovai & Childress, 2003; Samuel & Krishnakumar, 2015), a high level of digital proficiency leads to enhanced individual performance and transforms teachers into more effective professionals. Consequently, language instructors must prioritize the development of their digital literacy and the integration of technology into their teaching methodologies. As emphasized by Palacios-Hidalgo and Huertas-Abril (2022), these findings hold significance for teacher education programs aiming to raise the digital literacy of language teachers and prevent potential negative outcomes. Moreover, this study offers valuable insights for policymakers seeking to implement strategies aimed at enhancing the psychological well-being of language teachers (Ajlouni & Rawadieh, 2022). Furthermore, a correlational study exploring the relationships among variables such as age, teaching experience, academic degree, digital literacy level, and proficiency level could provide a comprehensive understanding of their influence on teachers' anxiety levels. Although the collected data for the present study reached saturation with the 12 teachers, higher number of the participants could lead to more generalizable findings.

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Appendix

Semi-structured interview questions

- Can you please provide your name, teaching experience, educational background (including any degrees obtained), and the institution where you currently work?
- How would you describe your level of comfort with technology?
- Can you elaborate on how frequently you use technology and for what purposes in your teaching practice?
- In your experience, do you find that computers have made your work as a teacher easier or more challenging? Please explain.
- Have you integrated technology into your language teaching practices? If yes, could you describe the ways in which you have done so and for how long?
- Have you ever avoided using computers due to feelings of unfamiliarity or intimidation? If yes, what steps have you taken to overcome this feeling?
- Could you please explain about your English language teaching through the institutes' online platform? (Could you give examples)?

- Have you encountered any challenges or difficulties when using this platform in language teaching? If so, how has this impacted your approach to incorporating technology into your teaching methods?
- Do you experience any apprehension or fear of making mistakes when utilizing technology in your teaching? If so, what factors contribute to this feeling? How do you typically react if others notice or understand your mistakes while using technology in teaching?
- Can you recall any instances where fear of technology has influenced your decision-making process or hindered your willingness to integrate technology into your teaching practice?
- When faced with difficulties in using technology for teaching, what strategies do you employ to address these challenges? Do you seek assistance from support teams, attempt to troubleshoot independently, or search for solutions online?
- Have you actively sought out opportunities for professional development or training to enhance your digital literacy skills and confidence in using technology for teaching?
- What opportunities do you find teaching through the online platform?
- Do you find yourself excited about learning and implementing new technologies and updates, or do you prefer to stick with familiar tools? How do you maintain enthusiasm for integrating technology into your teaching practice?
- As an educator, do you perceive advancements in educational technology as a threat or an opportunity? Please elaborate on your perspective.