
Research Article

EFL student teacher anxiety in online and in-person practicums: A Turkish perspective

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Abstract: This study, employing a mixed-methods approach, examines the anxiety experienced by student teachers (STs) of English in both online and face-to-face teaching practice in Türkiye. Data were collected through scales, interviews, and reflective journals, and analyzed using descriptive, inferential, and thematic methods. The results show that STs experience moderate levels of anxiety, with slightly lower anxiety in traditional classroom settings compared to online environments. Key contributing factors include low self-efficacy, student-related challenges, communication barriers, and mentor-related issues. The findings emphasize the need for context-specific support mechanisms to address the complex nature of anxiety and improve language teacher training.

Keywords: anxiety, language teacher education, EFL student teacher, teaching anxiety, teaching practicum

1 Introduction

Emotions significantly influence language learning, impacting an individual's educational journey (Reeve, 2015). Among these, anxiety is notably crucial as it affects psychological stress, health, and well-being (Spielberger & Reheiser, 2009). In a foreign language context, it is generally defined as “the worry and negative emotional reaction aroused when learning or using a second language” (MacIntyre, 1999, p. 27). The significance of anxiety lies in its status as the most studied emotion in second language learning (Dewaele & MacIntyre, 2014) and as one of the strongest indicators of success and failure (MacIntyre, 1999).

However, most earlier studies have predominantly focused on either learners' anxiety or teachers' anxiety, leaving a relative scarcity of studies addressing anxiety among STs (Kobul & Saracoğlu, 2020; Merç, 2010; Osacar & Lafuente-Millan, 2021). Student teacher anxiety (STA) differs from learner anxiety as it arises from issues such as teaching activities (Gardner & Leak, 1994). It also differs from teacher anxiety because they lack teaching experience and harbor feelings of inadequacy when faced with real issues (Li et al., 2023). Moreover, they are not considered practicing teachers (Sanjaya et al., 2024), as they have still not completed their

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undergraduate program. Within this complex research paradigm, teaching in an online setting also introduces additional difficulties to teaching and teaching anxiety (e.g., Atmojo & Nugroho, 2020; Gao & Zhang, 2020; Tao & Goa, 2022) such as technophobia or lack of confidence (Peng & Hu, 2024)

Following the outbreak of COVID-19, a considerable portion of educational practices transitioned to online modalities. However, the majority (95.7%) of pre-service teachers (PSTs) in contexts such as Thailand had no prior exposure to online education (Boonmoh & Kamsaard, 2023; see also Russell, 2020, for a comprehensive overview). Additionally, research on online foreign language learning environments has remained relatively scarce (Durmuş & Kızıltan, 2022), particularly concerning emergency remote teaching anxiety (Akbana & Dikilitaş, 2022). Moreover, there is still a lack of research on foreign language teaching anxiety (FLTA) among pre-service English teachers (PELTs) (Li et al., 2023), which constitutes an important part of anxiety in STs during their practicum, such as academic (in)competence or language proficiency. In this domain, this study aims to bridge this gap by scrutinizing the dynamics of foreign language student teacher anxiety (FLSTA) among PELTs, comparing diverse educational settings, and revealing mechanisms that trigger practicum-related anxiety.

1.1 Conceptualizing student teacher anxiety

STA is a prevalent phenomenon observed during teaching practicum in real classrooms. It can be defined as a unique form of anxiety associated with the tensions, doubts, and concerns of student teachers, particularly during their teaching practicum in real classroom settings (Gardner & Leak, 1994; Yetkin & Alagözlü, 2022). Teaching practicum is defined as the phase during which STs receive support to apply the educational theories and principles they have studied in classrooms while instructing students in collaborative schools (Ogonor & Badmus, 2006). This practice initiates STs into the real-world environment of schools and teaching (Danner, 2014). The practical experience gained during teaching practice offers valuable insights into the actual teaching process, but it also introduces stressors that lead to STA (Alpan et al., 2014; Kokkinos et al., 2016). The sources of anxiety originate from STs' interactions with students and supervisors, such as lesson planning, classroom management, communication with students, cooperation with school staff, and dealing with disruptive behaviors (Alpan et al., 2014; Danner, 2014), which can occur primarily in the school setting, often involving students. Research has shown that evaluation anxiety and concerns about classroom control are significant contributors to STA (Hart, 1987; Morton et al., 1997). In brief, these studies emphasize the importance of a supportive and preparatory environment in addressing STA, enabling STs to manage their concerns and anxieties during their teaching practice effectively.

FLSTA has emerged as a distinct area of research within the broader field of STA studies. Even though it has not been defined in the anxiety literature so far in detail (Merç, 2010), the current study focuses on the challenges faced by STs who teach in a foreign language, contributing to their anxiety levels. Research has shown that foreign language STs experience higher anxiety compared to other education disciplines (Merç, 2015a). The incorporation of a foreign language that is not the native language of the majority of STs (Yetkin, 2023) was an important factor worth mentioning (Merç, 2015b). Merç (2004, 2010) was one of the pioneer researchers in the study of FLSTA, who measured it under six factors: relationship with mentors, language proficiency, feelings about academic incompetence, fear of being criticized by peers, fear of what others think, and student effects (Merç, 2010). Recent research on PELTs' anxiety indicated that they experienced moderate to high levels of anxiety in their teaching

practice originating from factors such as fear of negative evaluation, inexperience in teaching, and a sense of inadequacy (Alrashidi, 2022; Li et al., 2023). Language proficiency was also identified as the primary factor contributing to anxiety among STs (Li et al., 2023; Osacar & Lafuente-Millan, 2021; Sanjaya et al., 2024). These studies conjointly indicated that PELTs suffer from both general anxiety-provoking factors and language-related factors.

1.2 Extant research on student teacher anxiety

The research on anxiety has indicated that even the teacher can experience anxiety during teaching (Horwitz, 1996), and STs are no exception (e.g., Merç, 2010; Yetkin & Alagözlü, 2022). STs are different from in-service qualified teachers because they must fulfill the requirements and are still undergoing training or education (Sanjaya et al., 2024). Therefore, their anxiety levels, sources, and solutions are likely to differ from those of learners and real teachers. Additionally, as non-native language teachers, aspects of their work related to the target language provoke anxiety, regardless of their career stage (Goetze, 2023).

In this sphere, research on STA has indicated that STs experience various levels of anxiety triggered by a diverse array of factors in their practicum (Hart, 1987; Morton et al., 1997; Merç, 2010; İpek, 2016). For instance, in an experimental study aiming to unveil the impact of practicum on participants' anxiety in the Chinese context, Li et al. (2023) investigated 72 PELTs (N = 72, experimental group = 38, control group = 34, aged = 19–22, 26 males, 46 females) to assess the impact of practicum on their FLTA levels. The study utilized both scales and semi-structured interviews. Results indicated that participants overall held relatively high levels of anxiety, with the practicum group surpassing the non-practicum group. Fear of negative evaluation, low self-perception of language proficiency, and teaching inexperience contributed to the FLTA during the process. In a recent study, Sanjaya et al. (2024) investigated FLTA among three PELTs using narrative techniques. Data were collected through semi-structured interviews and diaries to facilitate a detailed analysis of their feelings. Results indicated that participants experienced FLTA in their practicum, with major contributing factors including self-perception of language proficiency, teaching inexperience, lack of student interest, fear of negative evaluation, and lack of classroom management. In summary, these studies collectively suggest that STs experience a heightened level of anxiety during their professional practicum, and factors influencing their anxiety vary based on context.

Research on anxiety in online classrooms indicates that not only do students participating in online courses experience notable levels of language anxiety, but many teachers also lack adequate professional training in the design, development, and delivery of online language instruction (Russell, 2020). STs, who simultaneously occupy the roles of both student and teacher, appear to be affected by both identities during transitional periods. Despite the limited number of studies specifically addressing STA in online learning contexts (Akbana & Dikilitaş, 2022), there has been a significant increase in research on anxiety in online education, largely driven by the rapid shift to remote instruction necessitated by the COVID-19 pandemic and comparable situations, such as the transition to fully online classrooms following the 2023 earthquake in Türkiye. Many of these studies have examined not only anxiety levels but also sources and possible solutions to anxiety experienced in online classrooms (e.g., Peng & Hu, 2024). For example, through a survey, Boonmoh and Kamsa-ard (2023) investigated the online teaching practicum anxiety of 246 PELTs. The study indicated that more than 95% of the participants entered the online learning environment with no prior experience, and they faced additional and distinct types of teaching anxiety amid the pandemic. Regarding anxiety,

participants indicated a high level of anxiety for four online teaching-associated factors: the mode of instruction, the stability of the internet connection, their teaching skills in the online mode, and their ability to integrate technological applications into their teaching.

1.3. The present study

This study examines the anxiety experienced by PELTs during their practicum, with a specific focus on comparing online and in-person teaching contexts. While existing research has extensively explored anxiety in learners and in-service teachers (Horwitz, 1996; Dewaele & MacIntyre, 2014), there remains a significant gap in studies addressing anxiety among STs, particularly in foreign language teaching and online settings (Merç, 2010; Li et al., 2023). The COVID-19 pandemic has further highlighted the need to examine how online practicum experiences contribute to anxiety, especially given that many STs lacked prior experience with online teaching (Boonmoh & Kamsa-ard, 2023; Russell, 2020).

Adopting a convergent mixed-methods design (Dörnyei, 2007), this study aims to fill this gap by examining both quantitative and qualitative dimensions of STs' anxiety in online and in-person environments. The study is guided by the following research questions:

1. What is the level of anxiety experienced by STs during their practicum, and how does it differ between online and in-person contexts?
2. What are the factors contributing to STs' anxiety during their practicum in online versus in-person contexts?

2 Methods

Research design shapes how researchers collect and analyze data to address their questions. The current study employed a mixed methods research design, which combines the objectivity and generalizability of quantitative data (Dörnyei, 2007; Pekrun et al., 2002; Sale et al., 2002) with naturalistic, detailed aspects of qualitative data (Creswell, 2014; Dörnyei, 2007; Heigham & Croker, 2009). Mixed-methods research integrates qualitative and quantitative methodologies, merging the exploratory nature of qualitative data with the structured format of quantitative data, often collected through instruments such as questionnaires. This approach offers a comprehensive understanding of the research topic (Creswell, 2014; Dörnyei, 2007), recognizing the compatibility of these methods to enhance the overall research quality. Among the mixed methods strategies outlined by Creswell (2014), the present study employed a convergent parallel design, which combines quantitative and qualitative data collection methods simultaneously and then integrates the information to interpret the overall results.

2.1 Setting and participants

The study was conducted in the Turkish university setting, focusing on STs in English Language Teaching (ELT) departments. Data were collected from online and face-to-face practicum settings. Initially, due to the COVID-19 pandemic, all educational activities, including teaching practicum, were shifted to online classrooms. Consequently, participants

conducting their practicum engaged in scheduled online courses at predetermined K-12 schools to conduct their teaching practices and observations and receive feedback from their mentors.

In the subsequent phase, STs returned to physical schools for practicum following the easing of COVID-19 lockdowns on educational activities. Like the online phase, STs engaged in teaching practices, observation, and feedback during the practicum process. During the face-to-face practicum, student teachers maintained weekly meetings with university supervisors for discussion and feedback.

This study examines two distinct groups: an online practicum group and a face-to-face practicum group comprised of STs from various universities in Türkiye. These 156 participants are all enrolled in a four-year English language teacher education program designed to prepare them for future roles as English language teachers. Only the senior ELT students were included in the study because, according to the ELT curriculum in Türkiye, only seniors participated in practicum activities. This investigation focuses on fourth-year PELTs participating in practicum experiences within K-12 schools. Each student must visit their practicum school on a weekly basis, engaging in teaching sessions, activities, meetings, and feedback sessions. The participants' ages range from 20 to 24, with a minimum GPA of 3.0 out of 4.0. The participants generally exhibit proficient English, as it serves as the medium of instruction for their departmental courses. However, in terms of digital literacy, while they engage with technology-integrated courses such as instructional technology as part of their curriculum, there needs to be a specific course dedicated to addressing teaching in online modalities. Additionally, they need more experience in conducting online classes.

The sampling process encompassed two phases: qualitative and quantitative data collection. In the qualitative phase, 14 STs voluntarily participated, six engaging in a face-to-face practicum and eight in an online practicum; four were male and 10 were female. Participants were selected through convenience sampling, allowing access based on suitable time, location, and willingness to participate (Etikan et al., 2016; Marshall, 1996). Quantitative data collection involved 156 STs, 59 engaging in face-to-face practicum and 97 in online practicum; 10 were male, and 146 were female. These participants were included through snowball sampling, a well-known non-probability method for identifying hidden populations via referrals (Johnson, 2014).

2.2 Instruments

The personal information score (PIF) was designed to elicit crucial demographic details, including age, gender, grade, Grade Point Average (GPA), and practicum school type. These elements were important due to their potential impact on individual reactions, particularly in second language studies. Notably, including these individual differences in this study aimed to reveal distinctions and impacts on PELTs' teaching practice anxiety.

The Foreign Language Student Teacher Anxiety Scale (FLSTAS), initially developed by Merç (2010), served as the primary instrument for data collection in this study. The scale, initially a 5-point Likert-type scale (1 = strongly disagree, 5 = strongly agree) with 27 items across six factors, was designed to gauge anxieties during teaching practice. These factors encompassed relationships with mentors, language proficiency, feelings about academic incompetence, fear of being criticized by peers, fear of what others think, and student effects—identified as key anxiety sources. The scale demonstrated strong reliability ($\alpha = .94$).

In the present study, an adapted version of FLSTAS was employed for the online ST group to suit the modified context, where there was almost no interference from peers and others in

an online practicum due to lockdowns. To this end, expert opinions were initially gathered to identify items that are not valid in an online setting and are more suited to face-to-face classrooms. The identified items and constructs were then subjected to confirmatory factor analysis (CFA). This adaptation was used to ensure data robustness. Following CFA (CMIN/DF= 2.167; X^2 $p= 0.000$; GFI= 0.815; TLI= 0.857; CFI= 0.881; RMSEA= 0.098), in which “the researcher can specify in advance which factors are correlated and which are uncorrelated” (Comrey & Lee, 2013, p.325), the adapted scale contained 18 items within four factors: relationship with mentors, language proficiency, feelings about academic incompetence and student effects.

Reflective journals are used to capture in-depth insights from PELTs during their real classroom practice. Described as practical tools for teachers to reflect on their beliefs and experiences (Borg, 2015), researchers commonly use reflective journals to explore teachers' views on learning and education (Murray, 2009). Unlike structured questionnaires, these journals offer a free-form space for participants to express their feelings, experiences, and observations, providing an avenue for sharing. A template including personal information and guidance was provided to streamline the process. Each participant was encouraged to contribute at least four substantial entries touching on anxiety triggers and related emotions. This approach, informed by expertise in qualitative data collection, ensures the acquisition of rich and relevant data.

Semi-structured interviews served as a foundational component of the qualitative data, supplemented by reflective journals, to investigate STs' perceptions and experiences of anxiety within teaching practicum settings. This methodological approach aligns with Foss and Kleinsasser's (2001) advocacy for triangulation in studying the multifaceted challenges of teacher education. The interview questions—developed by the researcher and refined through consultation with field experts—were informed by an extensive review of existing literature on student-teacher anxiety (Capel, 1997; Hart, 1987; Merç, 2010; Morton et al., 1997). These questions were designed to elicit detailed insights into participants' experiences and perceptions regarding the practicum setting, including the emotional demands associated with fulfilling student requirements, navigating expectations from mentor teachers, and managing classroom responsibilities. Specifically, the questions aimed to explore how these contextual and interpersonal dynamics function as sources of anxiety and how such emotional experiences influence the overall practicum journey of STs.

2.3 Procedure

Quantitative data collection employed Google Forms due to its ease of questionnaire creation and the pandemic-induced shift to online activities by the Ministry of National Education (MoNE) and the Council of Higher Education (CoHE). Google Forms accommodated the surveys, which were introduced with an explanatory section outlining the study purpose, confidentiality, and consent. A consolidated online form containing all necessary materials was shared with participants across Türkiye's various ELT departments. A sizable participant pool was targeted to address low return rates. Specifically, STs in their fourth year, pursuing a teaching practicum, were included, while those in earlier years were excluded for data precision.

For the reflective journals, each ST was directed to reflect on their teaching experiences, emotions, and feelings after their teaching sessions. Four reflective journals were requested from each student to align with the course requirement of completing a minimum of four teaching practice sessions during their practicum. The minimum requirement for each journal

was a paragraph, facilitating a detailed analysis of classroom experiences. Before data collection, participants were briefed on the journaling process and its purpose. The researcher supplied a sample template containing personal details and journaling guidelines. Participants were free to express themselves without constraints, with the sole guideline being the inclusion of emotions and feelings during their teaching practice.

The researcher conducted one-on-one interviews using virtual conferencing tools, such as Zoom, which allowed for face-to-face interactions, observation of participant reactions, and recording of sessions. Semi-structured interviews, each lasting approximately 45 minutes, were planned to accommodate flexibility and provide richer insights. 14 STs participated during their teaching practice period, aiming for comprehensive experiences. Interviews were initiated midway through the semester, ensuring practical exposure. Miles and Huberman's (1994) reliability formula guided data assessment. Two experts cross-checked codes, demonstrating a higher level of agreement and ensuring robust consistency in coding and categorization.

2.4 Data analysis

Following data collection, both qualitative and quantitative analysis methods were employed. Survey and questionnaire data were input into SPSS 25 software, with reversed items adjusted and mean values computed. Subsequently, normality and inter-item reliability were evaluated. Given the data's normal distribution (aFLSTA; $M= 3.517$, $M(5\%)= 3.518$; $M= 3.522$, $\gamma l= 0.259$, $\kappa= -0.711$. FLSTAS; $M=2.796$, $M(5\%)= 2.408$, $M=2.400$, $\gamma l= 0.208$, $\kappa=-0.860$), statistical analyses, such as descriptive statistics and parametric inferential statistics, were conducted for analysis. Descriptive statistics were applied to determine the mean values and standard deviations for each scale and its underlying factors. Independent samples t-tests were employed to compare groups.

Qualitative data were analyzed using a hybrid thematic analysis (Fereday & Muir-Cochrane, 2006), following the six main steps of thematic analysis outlined by Braun & Clarke (2006). These steps included (1) data familiarization, (2) developing initial codes, (3) generating initial themes, (4) reviewing themes, (5) naming and defining themes, and (6) writing the analytic report. For the credibility of the data analyses, the researchers had regular meetings with a scholar expert in qualitative data analysis throughout the process (Forero et al., 2018). After the initial data analysis process was completed, themes and codes were refined and organized under common headings. An expert then verified these headings to ensure intercoder reliability and reach a consensus, as indicated by Miles and Huberman (1994). A comparative analysis of qualitative and quantitative results revealed distinctions and overlaps, thereby deepening data interpretation. This approach meets mixed-method criteria, broadens insights, and enriches understanding.

3 Results

The central objective of this study is to reveal not only the anxiety levels experienced by PELTs but also the sources of anxiety and prevalent challenges encountered by them throughout their practicum, encompassing both online and face-to-face settings. By comprehensively examining anxiety-inducing factors (see Yetkin & Alagözlü, 2025, for complementary results on anxiety alleviation), the research aims to facilitate the early implementation of necessary precautions within teacher education. To this end, the results section was divided into two sub-sections—

qualitative and quantitative results—for a clear presentation of findings. The findings for the first research question were presented in the quantitative part through descriptive results, while the second research question sought answers in both qualitative and quantitative results sections.

3.1 Descriptive and inferential results

The study examined participants' levels of agreement concerning factors contributing to FLSTA, encompassing both online and face-to-face practicum settings. The research employed descriptive and inferential analysis to elucidate these factors, revealing valuable insights into the participants' perceptions. In the present study, descriptive statistics, including means (M) and standard deviations (SD), were calculated to summarize anxiety levels across different factors. The mean was computed by averaging responses to related items, providing an overall measure of anxiety for each factor. The standard deviation indicated the variability of responses around the mean. To compare anxiety levels between the online and face-to-face practicum groups, an independent samples t-test was conducted. This test assessed whether there were significant differences in the means of the two groups, with the t-value quantifying the magnitude of the difference and the p-value determining its statistical significance. Additionally, effect size measures, such as Cohen's d , were used to evaluate the practical significance of any observed differences.

The study's descriptive statistics revealed that online practicum anxiety shows a mean value (M) of 2.68 with a standard deviation (SD) of 0.787. In contrast, face-to-face practicum anxiety has a mean value (M) of 2.40 with a standard deviation (SD) of 0.770. In the online practicum, senior STs assigned varying degrees of importance to factors influencing FLSTA. The highest-rated factor was student effects ($M = 2.85$, $SD = 0.99$), followed by relationships with mentors ($M = 2.53$, $SD = 0.90$) and language proficiency ($M = 2.48$, $SD = 0.93$). Conversely, feeling about academic incompetence received the lowest rating ($M = 2.18$, $SD = 0.89$). These results suggest that self-perceptions and interactions with mentors were more prominent influencers of FLSTA than language skills and academic competence feelings among the senior STs. In face-to-face practicum, STs generally experienced low to moderate levels of anxiety. Among anxiety sources, relationships with mentors ($M = 2.79$, $SD = 0.959$), student effect ($M = 2.52$, $SD = 0.910$), and fear of what others think ($M = 2.44$, $SD = 0.982$) induced higher anxiety. However, personal factors like language proficiency ($M = 2.33$, $SD = 0.868$) and academic incompetence ($M = 2.02$, $SD = 0.878$) triggered relatively low anxiety levels.

An independent samples t-test was utilized to compare STs in online and face-to-face practicums. This test was used to determine if there was a significant difference in their practicum experiences regarding anxiety.

Table 1

Comparison of Anxiety Levels between Online and Face-to-Face Practicums

	n	M	SD	MD	t	df	p
Online	97	2.68	.770		.29	2.16	.154
Face-to-face	59	2.40	.787				.032

The comparison of anxiety levels between the online and face-to-face practicum groups was analyzed using an independent samples t-test. Levene's test for equality of variances confirmed that the assumption of equal variances between the two groups was met, supporting the validity of the t-test results. The t-test revealed a statistically significant difference in the mean anxiety scores between the two groups ($t = 2.16$, $df = 154$, $p = 0.032$), with students in the online practicum reporting higher levels of anxiety ($M = 2.68$, $SD = 0.770$) compared to their face-to-face counterparts ($M = 2.40$, $SD = 0.787$). The observed mean difference between the two groups was 0.277, with a standard error of the mean difference of 0.129. To further evaluate the magnitude of the difference, Cohen's d was calculated, yielding an effect size of 0.777. This large effect size indicates that the difference in anxiety levels between online and face-to-face practicum students is not only statistically significant but also of substantial practical significance, suggesting a meaningful disparity in anxiety experienced by students in different practicum settings.

3.2 Sources of student teacher anxiety

As observed in the analysis of the quantitative data, STs appear to experience low to moderate levels of anxiety in their practicum regarding both modalities. Additionally, descriptive results indicated possible factors that could induce anxiety during this process. To consolidate the results presented in quantitative data and triangulate and deepen the understanding, qualitative data results from thematic analysis were included in this section. Therefore, the comprehensive findings in Table 2 provide a detailed breakdown of the qualitative analysis outcomes. Within these results, eight distinct themes with twenty-two codes emerged from the analysis.

Table 2

Sources of FLSTA in Online Practicum

Themes	f	Representative excerpts
Teacher self-efficacy	8	<i>I gave inadequate instructions. They were missing and complex. I was aware of these situations, but I couldn't handle them properly. (ST5)</i>
Communication problems	6	<i>Absolutely it affects my approach to online teaching. I feel nervous in online classes because it is almost impossible to observe reactions to activities. (ST2)</i>
Student effect	5	<i>Also, the students were unwilling to participate in the activities, and ... I was distracted because of it, and I felt disappointed while I was teaching. (ST2)</i>
Technical problems	4	<i>The possibility of facing technical problems is the most frightening problem for me. I must consider if there might be some possible problems, and it is quite stressful. (ST4)</i> <i>...public speaking problem. I am always anxious when I present something to the public. I have had a problem with public speaking for years, from my childhood. In our department, we made many presentations, but I still experience this phobia. (ST5)</i>
Self-confidence	3	<i>Although I get along with my peers who attend my online teaching, I can't help but feel nervous when they watch me. (ST4)</i>
Peer effect	2	<i>My biggest fear is rough comments from the students and my mentor. (ST2)</i>
Mentor effect	2	<i>I do not have a study room, so it is quite challenging for me to find a place where I will not be interrupted while online teaching. I can admit that I sometimes feel anxious as I do not have a space to teach and study freely. (ST4)</i>
Miscellaneous	1	

As seen in Table 2, student teacher anxiety in the online teaching practicum has yielded a diverse array of themes related to their experiences. A prominent theme was Teacher self-efficacy, encompassing aspects such as perceived academic incompetence, English proficiency, teaching quality, classroom management, promotion of student success, and lesson planning. Communication problems were also significant, involving issues such as communication barriers, participation and attention challenges, and concerns about the use of the L1. The student effect emerged primarily through students' unwillingness to participate and occasional negative feedback. Technical problems were evident, particularly in the form of software and hardware issues, unfamiliarity with online education tools, and concerns about their fees. Self-confidence issues included demotivation due to heavy workload, insecurity regarding tone of voice, concerns over public speaking, and the need to improvise in unexpected situations. Both Peer effect and Mentor effect were present, with the experience of being observed being a common challenge, alongside negative feedback from mentors. Lastly, Miscellaneous factors included teaching space problems. This analysis reveals the multifaceted with negative comments and feedback contributing to anxiety. This analysis highlights the various factors that influence student-teacher anxiety, with student proficiency, self-efficacy, and communication issues being significant contributors.

Table 3*Sources of FLSTA in Face-to-face Practicum*

Themes	f	Representative excerpts
Student effect	4	<i>Students' profiles of schools are tiring the teacher- The second one is L1 use. Mostly, the L1 is used in the class. The level of students doesn't let them to use L2 in the class. (ST9)</i>
Teacher self-efficacy	4	<i>Thus, my main concern during practicum was classroom management. I learned that students should feel safe enough to talk about the lesson but if they feel too comfortable, it would be hard to control the class. (ST12).</i>
Communication problems	2	<i>Another problem may be the inability to attract students' attention to the lesson. Some weeks the students might not be in a good mood. Sometimes they were tired or could be very energetic. (ST11)</i>
Mentor effect	1	<i>After the very first weeks, we started teaching. I prepared innovative activities and energizers with the approaches and methods I learned in the department. I was criticized every time and felt low because of it. He kept telling us that school life is not like academia, and we cannot use those activities. (ST13)</i>

As presented in Table 3, student teacher anxiety in the face-to-face teaching practicum has revealed a range of themes related to their experiences. The student effect emerged as a prominent theme, particularly in relation to the student profile and proficiency. Teacher self-efficacy was another key theme, involving challenges with classroom management and a lack of teaching experience. Communication problems were also identified, including the use of L1 and issues with student participation and attention. Lastly, the Mentor effect surfaced, with negative comments and feedback contributing to anxiety. This analysis highlights the various factors influencing student teacher anxiety, with student proficiency, self-efficacy, and communication issues being significant contributors in the face-to-face practicum setting.

The analysis of themes and codes presented in the tables above reveals a notable intersection in the sources of anxiety experienced by STs in both online and face-to-face classroom settings. While there are distinctions, such as the presence of technical problems being more salient in

online environments, there is a significant overlap in the sources of anxiety between these two modalities. Recognizing the value of identifying shared foundations that underlie practicum anxiety, the study endeavors to consolidate these common themes. By amalgamating the recurrent themes identified in online and face-to-face contexts, the aim is to present a comprehensive view of the general sources of anxiety encountered during the practicum experience.

4 Discussion

This study was organized to investigate a nuanced area of anxiety research: STA. The research on language anxiety indicated that teachers, including STs, also experience anxiety in foreign language classrooms. Studying their anxiety could provide essential insights for fostering a healthy teaching and learning process. Therefore, the study aimed to examine the anxiety levels experienced by PELTs and explore factors likely to impact teaching practice across both modalities of the practicum, employing a mixed-methods design.

4.1 Descriptive and inferential results in both modalities

Regarding the first research question, this study initially aimed to ascertain the levels of anxiety experienced by STs in both online and face-to-face modalities using descriptive statistics. The examination of quantitative data revealed that when STs engaged in online English instruction, their levels of FLSTA were found to be at a moderate level ($M= 2.68$). This result aligns with many previous studies found in online settings (e.g., Simsek & Ceylan-Capar, 2024) that found PELTs experience a moderate level of anxiety during their practicum experiences. The lower level of anxiety in the present study could be attributed to STs' self-efficacy in their academic abilities, as factors such as language proficiency and academic competence were not identified as primary contributors to anxiety in their quantitative results. Having confidence in academic and language-related competencies could help mitigate their anxiety to a certain extent. This finding is consistent with Djawamara and Listyani's (2021) discovery, which indicated that thorough preparation before teaching was an effective strategy for coping with their anxiety in practicum. However, other studies suggest that PELTs may also experience higher levels of anxiety due to online teaching. For instance, in the Thai context, Boonmoh & Kamsa-ard (2023) revealed that PELTs experienced extremely high anxiety levels for each factor associated with online teaching, such as mode of instruction, stability of internet connection, teaching skills, and technology integration in their teaching. Hence, there is a continued need for additional studies to delve deeper into this issue and provide a more comprehensive understanding.

Similarly, STs in face-to-face practicum indicated a low to moderate level of anxiety ($M=2.40$). This result is consistent with previous findings (Capel, 1997; Merç, 2015a; Ngidi & Sibaya, 2003), demonstrating moderate anxiety in teaching practice. Overall, anxiety did not emerge as a predominant concern among STs during their face-to-face practicum. As indicated by the descriptive results, neither language proficiency nor academic competence posed significant concerns for STs, suggesting a solid belief in their language skills and academic abilities. The participants appeared academically and psychologically well-equipped for the practicum, possibly due to factors such as effective mentorship, strong English language proficiency, robust academic knowledge, and engaging classroom environments.

The comparison between STs engaged in online and face-to-face practicum experiences revealed that they still experienced lower levels of anxiety within traditional classroom settings. The disparity in their anxiety levels and apprehension between teaching online and in-person contexts remained significantly pronounced. Several factors likely contributed to this discrepancy. Primarily, the abrupt shift to online practicum due to the COVID-19 pandemic-induced break seemed to heighten the apprehension of STs. The urgent and unplanned nature of this transition likely contributed to their hesitancy. Moreover, these teachers were inadequately prepared both theoretically and psychologically to navigate the challenges of online teaching effectively (cf. Russell, 2020). Furthermore, unique elements present in online classrooms, absent in traditional settings, such as technological devices and conferencing programs, could amplify anxiety. Technical issues, unfamiliarity with software and hardware, and the adjustment to teaching in front of a screen added to their discomfort. This concern is underscored by Baytiyeh's (2018) observations, emphasizing the importance of STs' proficiency and competence in new technologies to facilitate successful online learning experiences. However, the existing literature presents controversial findings. For instance, Yaniafari and Rihardini (2021) conducted a study examining the impact of face-to-face versus online speaking practices on students' FLCA, suggesting that online learning mitigated anxiety levels during speaking exercises, aligning with the conclusions of Bakar et al. (2013) and Rodrigues and Vethamani (2015), who indicated that online learning could alleviate anxiety. Similar results were presented by Pichette (2009), indicating that online language learners seem to experience lower levels of anxiety compared to students in traditional classroom settings. Resnik et al. (2023) also indicated that EFL learners in online classrooms were significantly less stressed when they outperformed others, had fewer physical anxiety symptoms when called on in class, and were more at ease when well-prepared. However, a subsequent study by Aguilera-Hermida (2020) demonstrated a student preference for face-to-face learning over online modalities, supported by Simsek and Ceylan-Capar's (2024) recent study comparing FLA in online and face-to-face classrooms. The results showed that students favored face-to-face classroom environments for interaction, as they allowed them to engage directly in lessons. Furthermore, technical problems in online classrooms, like internet disconnections and interruptions in speech, were found to cause anxiety. Hence, there is a continued need for additional studies to delve deeper into this issue and provide a more comprehensive understanding. However, online education has bridged the gap between the learner and the educational process, removing physical barriers that once separated them (Durmuş & Kızıltan, 2022; Simsek & Ceylan-Capar, 2024), even though it brings new complexities that could trigger anxiety among STs.

4.2 Sources of student teacher anxiety

In the online practicum, qualitative analysis revealed eight major themes as sources of anxiety: self-efficacy, communication problems, student effect, technical problems, self-confidence, peer and mentor effects, and miscellaneous factors. The findings resonate with existing literature, underscoring the significance of student behavior (Ekşi & Yakışık, 2016; Permatasari et al., 2019), communication barriers (Almonacid-Fierro et al., 2021; Estrella, 2022), classroom management (Alpan et al., 2014; Bhargava, 2009), and technical challenges (Estrella, 2022; Russell, 2020). Firstly, the interplay between self-efficacy and anxiety is evident, as academic competence, English proficiency, and teaching quality link to low self-efficacy. For example, Durmuş and Kızıltan (2022) indicated that concerns about the online learning environment,

experience interference, and feelings of inferiority were some of the factors that create anxiety related to self-efficacy. Secondly, the role of peer and mentor observations (Capel, 1997; Djawamara & Listyani, 2021) and the impact of feedback (Hart, 1987) also underscored anxiety as a part of the social and emotional dimension of the classroom environment, echoing the role of emotions in learning experiences (Reeve, 2015). Additionally, findings related to self-efficacy, communication, and technical issues align with the insights of Russell (2020) in their comprehensive review of language anxiety and online learners. Most teachers are unfamiliar with the competencies required to teach online, such as expertise in educational technologies for implementing online teaching and experience in teaching online. Therefore, teaching in an online practicum brings additional complexities to STs that should be addressed in their curriculum and by language educators.

In the face-to-face practicum, qualitative analysis revealed four key themes of anxiety: student effect, teacher self-efficacy, communication problems, and mentor effect. These findings aligned with established themes in the literature, such as student effect (Djawamara & Listyani, 2021; Merç, 2010), self-efficacy including proficiency (Osacar & Lafuente-Millan, 2021; Sanjaya et al., 2024), and classroom management (Albasin-Lacaba et al., 2022; Alpan et al., 2014; Ekşi & Yakışık, 2016; Han & Tulgar, 2019) and mentor impact (Agustiana, 2014; Safira, 2021). These studies collectively indicated that STs experienced a diverse array of anxiety during practicum due to real students in real schools (Djawamara & Listyani, 2021), not yet being fully-fledged teachers (Sanjaya et al., 2024), having less experience in teaching (Kobul & Saraçoğlu, 2020), incomplete mastery of language due to being a non-native language teacher (Alrashidi, 2022), and a sense of inadequacy in facing real problems (Li et al., 2023). In summary, numerous in-class and out-of-class factors directly impact STs' practicum anxiety, and these issues should be addressed in their educational curriculum to prepare them for real-life situations. This includes acquiring theoretical knowledge, gaining more experience, and developing effective classroom and time management strategies.

The common themes from both analyses indicated that teacher self-efficacy, student effect, communication problems, and mentor effect were significant sources of anxiety among STs regardless of the teaching modality. Teacher self-efficacy emerged as the main anxiety-provoking factor in both modalities, encompassing classroom management, language proficiency, academic competence, and teaching experience, highlighting the need for comprehensive practice-based education. Student-related factors, including proficiency and willingness to participate, emerged within the student effect category. To alleviate student-related anxiety, both STs and mentors can implement measures. STs can introduce more relevant, engaging, and attention-grabbing tools to their classrooms, such as authentic materials and activities, including real-life examples, multimedia presentations, gamification, or, more importantly, student-created content to provide practical examples and current information that engage students and make learning more relevant. Mentors, on the other hand, can portray STs as real teachers in their classrooms to garner respect from students. Regarding communication challenges, including communication barriers, student participation, and the use of L1, the results indicated a need for improved communication training for both students and teachers. Lastly, mentor influence and discouragement contributed to heightened anxiety, emphasizing the importance of supportive mentorship. The study's implications highlight the significance of facilitating and encouraging mentors during the practicum phase to mitigate demotivation and career uncertainty (Permatasari et al., 2019). Additionally, the limitations of practicum time and experience gaps underscore the need for extended practice opportunities to boost confidence and address anxiety arising from time management challenges.

5 Conclusion

The findings of the study elucidate that STs exhibited a moderate degree of anxiety across instructional modalities, encompassing both online and traditional classroom environments. A close examination of the results, however, indicates a discernible discrepancy in anxiety levels between these two settings, with those engaged in online instruction reporting markedly higher anxiety compared to their counterparts engaged in face-to-face instruction. While extant literature has yielded mixed results, this pronounced distinction in anxiety levels can plausibly be attributed to the exigent and unanticipated shift to online teaching necessitated by unforeseen circumstances (such as COVID-19). The abrupt nature of this transition has likely presented challenges for STs unfamiliar with the intricacies of online pedagogy and relatively less equipped with theoretical underpinnings for effective virtual instruction.

Regarding the qualitative facets of the study, a notable thematic consistency emerges, indicating a convergence of anxiety-inducing factors between the online and traditional instructional modalities. While technological issues emerge as a distinct concern unique to the online teaching environment, it becomes evident that fundamental contributors to anxiety, such as student effect, teacher self-efficacy, communication barriers, and mentor interactions, transcend the boundary between these two instructional modalities. This commonality underscores the imperative of systematically addressing these determinants to alleviate the anxiety experienced by STs, thereby fostering an environment conducive to enhanced pedagogical performance, irrespective of the chosen mode of instruction.

5.1 Limitations and future directions

This study contributes valuable insights into the anxiety experienced by STs in both online and face-to-face teaching contexts, shedding light on the key factors influencing anxiety during the teaching practicum. However, several limitations should be noted. The sample is limited to STs in Türkiye, which may constrain the generalizability of the findings to other cultural and educational contexts. Additionally, the reliance on self-report measures, including the FLSTAS, interviews, and reflective journals, introduces potential biases, such as social desirability or inaccurate self-perception. The study also fails to account for variations within online and face-to-face settings, such as differences in platform quality or classroom dynamics. Furthermore, the small qualitative sample may not fully capture the diversity of STs' experiences. Lastly, the cross-sectional design limits the ability to observe changes in anxiety over time.

Future research could address these limitations by broadening the sample to include STs from diverse cultural and educational backgrounds, thereby enhancing the generalizability of the results. Longitudinal studies are needed to explore how anxiety evolves throughout the practicum. Given the complexity of emotions experienced by STs, future studies should also examine how various emotional states interact and influence one another over time. Incorporating multiple data sources, such as classroom observations or peer evaluations, could provide a more comprehensive understanding of the emotional challenges STs face. Additionally, larger qualitative samples and an exploration of external factors, such as personal stressors and institutional support, would offer deeper insights into the multifaceted nature of anxiety and its impact on teaching effectiveness.

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