

## Virtual Foreign Language Classrooms in Tunisia: Mapping Teaching, Learning and Technology-driven Anxiety

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**ABSTRACT.** With the onset of COVID-19, the impact on education was unprecedented, leading to the rapid shift to online learning and subsequently an upsurge in research around the anxieties associated with it. This study examines the multiple faced anxieties during the pandemic of both Tunisian university English teachers and their learners, with a foreign language learning, teaching, and technological frames. Using the Foreign Language Classroom Anxiety Scale (FLCAS), the Teaching Anxiety Scale (TCHAS), and the Computer Anxiety Rating Scale (CART), data were collected from 19 teachers and 39 students. Results showed that overall, learners and teachers experienced an average level of anxiety in virtual classrooms, and findings also show that teachers and learners experienced lower technological anxiety than expected as a result of the early introduction and integration of technology into the daily lives of Tunisians. Yet students also highlighted the continuing challenges of foreign language anxiety. These findings indicate that early technological adoption have paved the way for distance education, lightening anxiety to some extent. However, persistent foreign language anxieties among Tunisians can be attributed to the late introduction of foreign language learning, with the average starting age being 14. This age falls within a critical period when acquiring a foreign language becomes somewhat more challenging.

**Keywords:** Foreign language anxiety, Technological anxiety, Computer anxiety, Online learning, Tunisian Foreign language teachers and learners

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**ZUSAMMENFASSUNG.** Mit dem Ausbruch von COVID-19 hatten die Auswirkungen auf das Bildungswesen beispiellose Ausmaße, was zu einer schnellen Umstellung auf Online-Lernen und anschließend zu einem Anstieg der Forschung über die damit verbundenen Ängste führte. Diese Studie untersucht die verschiedenen Ängste, denen sowohl tunesische Universitäts-Englischlehrer als auch ihre Lernenden während der Pandemie ausgesetzt waren, und zwar unter den Aspekten des Fremdsprachenlernens, des Lehrens und der Technologie. Mithilfe der „Foreign Language Classroom Anxiety Scale“ (FLCAS), der „Teaching Anxiety Scale“ (TCHAS) und der „Computer Anxiety Rating Scale“ (CART) wurden Daten von 19 Lehrern und 39 Studierenden gesammelt. Die Ergebnisse zeigten, dass sowohl Lernende als auch Lehrende insgesamt ein durchschnittliches Angstniveau in virtuellen Klassenzimmern erlebten. Weitere Ergebnisse zeigen, dass Lehrende und Lernende eine geringere technologische Angst als erwartet erfuhren, was auf die frühe Einführung und Integration von Technologie in das tägliche Leben der Tunesier zurückzuführen ist. Dennoch hoben die Studierenden weiterhin die Herausforderungen der Fremdsprachenangst hervor. Diese Ergebnisse deuten darauf hin, dass die frühe technologische Einführung den Weg für den Fernunterricht ebnete und die Angst in gewissem Maße milderte. Dennoch lässt sich die anhaltende Fremdsprachenangst unter den Tunesiern auf die späte Einführung des Fremdsprachenlernens zurückführen, wobei das durchschnittliche Einstiegsalter bei 14 Jahren liegt. Dieses Alter fällt in eine kritische Phase, in der das Erlernen einer Fremdsprache etwas schwieriger wird.

**Schlüsselwörter:** Fremdsprachenangst, Technologische Angst, Computerangst, Online- Lernen, Tunesische Fremdsprachenlehrer und -lerner

## 1. INTRODUCTION

### 1.1. Background of the study: Online foreign language teaching/ learning anxiety during the pandemic in Tunisia

The COVID-19 pandemic has sparked a long debate among researchers and academics across various fields of knowledge. Biologists and chemists have exerted a huge effort to explain the origin of this virus and how to prevent its spread and then provide the suitable vaccine to end it definitely. Psychologists emphasize managing generalized, social, and health- related anxiety, aiming to reduce their impact in order to prevent potential depression the quarter my cause. Meanwhile, foreign language teaching researchers are particularly concerned with the specific and state anxiety that online teaching and learning can cause, as the pandemic has significantly accelerated the shift from face-to-face instruction to distance learning (Rof, Bikfalvi, & Marques, 2022).

Before the pandemic, studies on language learning anxiety largely concentrated on learner-centered issues, especially within secondary and high school settings (Russell, 2020; Gok, Bozoglan, & Bozoglan, 2023; Yaniafari & Rihardini, 2021; Kaisar & Chowdhury, 2020). Few studies, however, addressed teacher-centered anxieties. According to Medgyes (1994) “whereas books and articles on anxiety in language learning are in abundance, there is hardly anything written about ‘the sickness to teach’ foreign languages. This is a regrettable fact, considering that anxiety-ridden teachers are likely to raise students’ anxiety levels too” (p.50).

### **1.2. Research purpose**

This research seeks to investigate the level of anxiety experienced by Tunisians teachers and learners of English in virtual classroom during the COVID-19 pandemic, considering both traditional sources of foreign language anxiety, as identified by Horwitz, Horwitz and Cope (1986) and the emerging technological and computer-related anxieties.

### **1.3. Research questions**

**Q1:** What forms and levels of anxiety did Tunisian Teachers and students of English experience when they shifted to virtual education during the COVID-19 pandemic?

**Q2:** Is there a correlation between the forms of anxiety (learning, teaching, technology, and computer anxiety) and their intensity among teachers and learners in online foreign language learning?

### **1.4. Hypotheses**

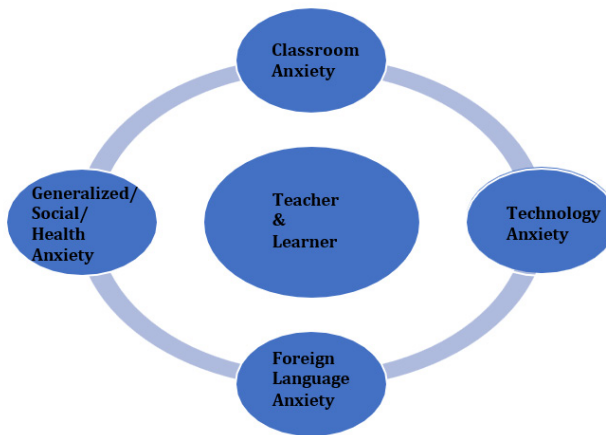
**Hypothesis for Q1:** In Tunisia, online English teachers and learners experienced different levels and forms of anxiety during the pandemic including foreign language learning and teaching anxiety, technological and computer anxiety, as well as social and generalized anxiety brought on by the pandemic.

**Hypothesis for Q2:** There is a significant correlation between the different forms of anxiety and their intensity among online English teachers and learners in Tunisia. This hypothesis is grounded in Bandura’s Social Learning Theory (1977), which emphasizes the impact of environmental, cognitive, and behavioral factors on learning, and the Transactional Distance Theory (Moore, 1993), which highlights the psychological and communicative gaps in online education. Together, these theories suggest that the forms and intensity of

anxiety - such as foreign language anxiety, technological anxiety, and social anxiety -interact in complex ways to shape the experiences of Tunisian online teachers and learners in foreign language learning.

## 2. THEORETICAL BACKGROUND: ANXIETY IN FOREIGN LANGUAGE LEARNING VIRTUAL CLASSROOM DURING THE PANDEMIC

During the pandemic period, in the realm of foreign teaching/learning, anxiety is deeper than ever due to the fact the teacher and learners have experienced four types of anxiety as shown in the following figure:



**Figure 1.** *Forms of Anxiety in Virtual Classrooms During the COVID-19 Pandemic*

### 1.5. Anxious foreign language learners

Horwitz et al (1986) were pioneers in addressing anxiety as a key research issue in foreign language classroom. They provided a commonly recognized definition of this psychological phenomenon, describing it as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (p. 128). Furthermore, they distinguished three key factors contributing to foreign language learners’ anxiety: communication apprehension, test anxiety, and fear of negative evaluation. More importantly, they developed the Foreign Language Classroom Anxiety Scale (FLCAS), which serves to measure this form of anxiety as a quantitative variable. Going further, Arnaiz and Guillén (2012), differentiated between three

levels of anxiety: Low, Moderate, High, determined the relationship between FLA and gender, age, grade and language level. In the same vein, MacIntyre and Gardner (1991) and Spielberger (2010), agreed that anxiety is not a fixed trait but can fluctuate depending on various factors, such as the learning environment, task type, and personal life circumstances. While some learners may consistently experience low, moderate, or high anxiety, others may move between these levels depending on the situation.

## **2.2 Anxious foreign language teachers**

Mercer (2018) defined foreign language teaching anxiety as the negative emotions experienced by non-native foreign language teachers, often resulting from their perceived low language proficiency or self-efficacy, rooted in their own language learning experiences, because before becoming teachers, foreign language instructors are fundamentally learners themselves. According to Mercer, this anxiety is a continuation of the anxiety felt during language learning. Similarly, Horwitz (1996) suggests that foreign language teachers experience classroom anxiety because they are also language learners. Aydın (2016) defines foreign language teaching anxiety (FLTA) as “an emotional and affective state where a teacher feels tension due to personal, perceptual, motivational, and technical concerns before, during, and after teaching activities” (p. 639). While Mercer, Horwitz, and Aydın share a general understanding of anxiety, Aydın (2016) challenges Horwitz’s (1996) view, arguing that teaching anxiety and learning anxiety are distinct. According to Aydın, anxiety in the teaching context arises from different factors than in the learning context (p. 629). While foreign language learning anxiety is commonly associated with communication apprehension, test anxiety, and fear of negative evaluation (Horwitz et al., 1986), foreign language teaching anxiety has other sources. These include a lack of confidence and knowledge (Kim & Kim, 2004; Kralova & Tirpakova, 2019), difficulties related to student profiles, teaching procedures, under-preparation, and classroom management (Liu & Wu, 2021), inadequate preparation (Sinclair & Nicoll, 1981), and fears of failure, making mistakes, or using the mother tongue in the classroom (İpek, 2016).

## **2.3. Technological anxiety & computer anxiety**

Technology anxiety stands for the negative feelings —like apprehension, fear, or aggression — that people often feel when using technology (Weil & Rosen, 1995). This term covers a range of anxieties, including those related to computers and the internet, and describes how much users may struggle with or fear using technological devices (Adenuga, Olusegun & Adebayo, 2019). Anxiety and a lack

of confidence in using e-learning systems classify teachers as having technology anxiety (Lee & Xiong, 2018). Such feelings can be further worsened by the constant and rapid changes taking place in technology today (Cascio & Montealegre, 2016). Hence, to alleviate technology anxiety, teachers must remain informed about ongoing changes in technology to prevent more stress.

Because the pandemic was sudden, the Tunisian teachers were obliged, in most cases, without adequate training and preparation on online teaching and with inadequate knowledge about this mode of education, to commence teaching while most of the learners have never experienced distant learning (Bel'kiry, 2022).

Apart from the anxiety related to online foreign language classes, both teachers and learners faced generalized, social, and health anxiety during the pandemic. Stein and Sareen (2015) define generalized anxiety as a persistent worry about personal and family safety, uncertainty about the future, and the impact of a global crisis. During the COVID-19 pandemic, fear of infection and the heightened unpredictability of events gave rise to this anxiety. Social anxiety also increased due to prolonged social isolation and the stress of refitting into in-person to person interactions. Research reflects that people developed anxiety due to social contact, either because of their fear of contamination or as a result of violating quarantine rules (Pakpour & Griffiths, 2020; Mamun & Ullah, 2020). Besides, COVID-19 amplified health anxiety due to excessive preoccupation with the risk of infection amongst many (Thombs, Ho, & Hwang, 2020).

### **3. METHODOLOGY**

#### **3.1. Participants**

In order to explore the atmosphere of a virtual foreign language classroom, learners and teachers engaged in learning behind the screen were targeted.

Nineteen Tunisian university teachers at faculties and high institutes showed an average teaching experience ranging between 1 and 10 years, and thirty-nine students of English language, aged between 20 and 30, participated in completing three questionnaires.

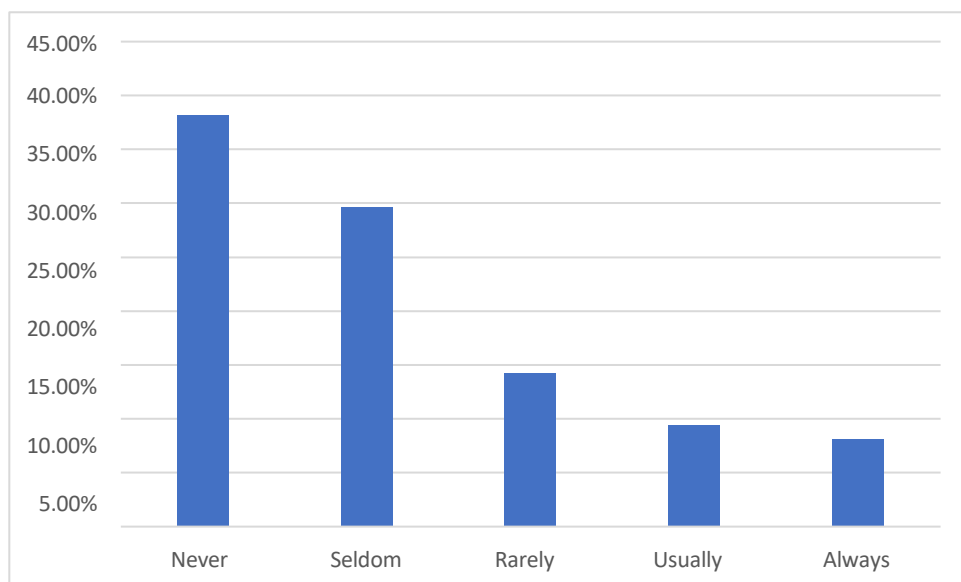
#### **3.2. Instrument**

To answer the research questions and test the hypotheses, three Likert scale questionnaires were directed to the participants, each corresponding to one of the three forms of anxiety presented in the theoretical section: foreign

language learning anxiety, foreign language teaching anxiety, and technology anxiety. The first questionnaire, the Foreign Language Classroom Anxiety Scale (FLCAS), targeted learners and consisted of 33 items adapted from Horwitz et al. (1986). The second questionnaire, the Teaching Anxiety Scale (TCHAS) developed by Parsons (1973), included 29 items directed at teachers. The third questionnaire, the Computer Anxiety Rating Scale (CART), comprised 19 items developed by Heinssen, Glass, and Knight (1987) was aimed at both learners and teachers. All items across the three questionnaires were designed to reflect negative attitudes and emotions, utilizing a common scale that ranged from “never” to “always”.

## 4. FINDINGS & COMMENTS

### 4.1. Descriptive analysis of anxiety level among teachers and students in virtual classroom



**Figure 2.** *General Level of Anxiety in Virtual Foreign Language Classrooms*

The figure above addresses the first research question regarding the types and the levels of anxiety experienced by online Tunisian teachers and students of English during the pandemic.

The majority of answers are negative, represented by the categories “Never” and “Seldom” (38.23% and 29.68%, respectively), show low levels of anxiety and generally maintain positive attitudes toward online learning.

This finding entails that both students and teachers experience moderate anxiety in virtual classroom. This preliminary result aligns with conclusions drawn from other studies.

**Study 1:** Ascribed to Bensalem (2017), investigated levels of Foreign Language Anxiety (FLA) among Tunisian trilingual students in traditional classrooms. Participants in Bensalem’s research, reported moderate levels of anxiety. A comparison between the findings of the two studies reveals a discrepancy and a surprise: students and teacher experience greater anxiety in real classroom than in virtual one. It follows that technology has transitioned from being a source of stress in foreign language learning to a facilitator, fostering a more positive and comfortable learning environment, which explains why Tunisian students of English not only feel comfortable with the integration of technology into their learning experiences but also benefit from it.

**Study 2:** Conducted within the Tunisian context and targeting the same population, explored anxiety levels among Tunisian students of English, revealing a low level of anxiety (Bel’kiry, 2022). Considering the gap between the two studies (2022 & 2024), the consistent finding of low anxiety levels among Tunisian students implies a degree of stability and constancy in their comfort with online learning. The longitudinal perspective provided by these two studies indicates that Tunisian English language learners’ comfort levels in online environments remain relatively stable over time, reinforcing the notion that their positive attitudes and low anxiety persist across time. As a result, it is plausible to conclude that Tunisian English students consistently experience low levels of anxiety when learning online.

**Study 3:** Conducted by Russell (2020), found that despite the widespread fear and anxiety the pandemic caused, surprisingly, anxiety levels among online learners significantly decreased, while anxiety levels tended to remain high among face-to-face learners. This may be attributed to the lack of direct contact between students and teachers, as this direct interaction often intensifies anxiety. Comparing the current study’s findings, which show low levels of anxiety among Tunisian English students in online learning, to those of Russell (2020) from other developed countries, suggests that Tunisian students can compete with their counterparts in developed nations in terms of technology use and online learning.



## 4.2. Sources of Anxiety in Virtual Foreign Language Classroom

**Table 1.** *Frequency and Intensity of Foreign Language and Technology-Related Anxiety Among Teachers and Learners*

|  |                 | Never  | Seldom | Rarely | Usually | Always | Mean  | St.D  |
|--|-----------------|--------|--------|--------|---------|--------|-------|-------|
| <b>Foreign language anxiety</b>        | <b>Teachers</b> | 27.17% | 26.37% | 18.55% | 15.68%  | 12.23% | 20.60 | 5.03  |
|  | <b>Learners</b> | 26.10% | 22.64% | 19.50% | 16.67%  | 15.09% | 20.00 | 3.39  |
| <b>Technology and Computer anxiety</b> | <b>Teachers</b> | 48.70% | 36.80% | 8.92%  | 2.97%   | 2.60%  | 19.80 | 17.21 |
|  | <b>Learners</b> | 51.28% | 33.33% | 10.26% | 2.56%   | 2.56   | 20.00 | 16.43 |

The table above exhibits the findings pertaining to the second research question, which explores the relation between anxiety levels and various types of anxiety experienced by online teachers and learners, and confirms the hypothesis that there are variations in anxiety levels related to learning, teaching, and technology among Tunisian English teachers and learners.

The findings show that foreign language anxiety remains more prevalent than technology anxiety for both Tunisian English teachers and learners. Teachers exhibit a range of foreign language anxiety responses, with approximately 27.17% indicating they “Never” experience this anxiety, followed by smaller groups in the “Seldom” (26.37%) and “Rarely” (18.55%) categories. A mean score of 20.60 and a relatively low standard deviation of 5.03 suggest moderate and fairly consistent anxiety levels. Learners display similar responses, with 26.10% reporting they “Never” experience foreign language anxiety. The distribution slightly decreases across categories but shows less variability than teachers, with a mean of 20.00 and a lower standard deviation (3.39), indicating that learners’ foreign language anxiety is relatively stable across individuals. One possible explanation for the higher levels of language anxiety, as compared to technology anxiety is that the participants in this study generally began learning English around the age of 14, which falls beyond the critical period often associated with language acquisition ease. According to Lenneberg (1967) and Krashen (1982) learning a foreign language after this critical age can increase the likelihood of anxiety and challenges in the same direction Dewaele (2007) and Thompson and Lee (2013) assume that individuals who begin learning a foreign language at an earlier age tend to experience lower levels of anxiety. Secondly, the limited perception of English as a language for

everyday use in Tunisia (Melliti, 2008) contributes to higher levels of language anxiety among students. MacIntyre and Gardner (1994) believe that limited exposure outside the classroom can restrict students' confidence and spontaneous use of the language, which increases anxiety in formal settings where they are expected to perform well.

Teachers exhibit a moderate average level of technology anxiety (mean of 19.80%), yet with a high standard deviation of 17.21, reflecting significant variability. This suggests that while some teachers experience acute technology anxiety, others feel it minimally or not at all. Similarly, learners display moderate technology-related anxiety (mean of 20.00%) with considerable variation ( $SD = 16.43$ ), indicating differing levels of comfort with technology in educational settings. The low and moderate levels of technology anxiety among teachers and learners as well, can be attributed to two main factors. First, Tunisians' extensive use of technology in daily activities - such as online shopping, booking services, and digital communication (Toumi, 2016) - has reduced their anxiety in educational technology use. Previous researches (Hennessy, Ruthven & Brindley, 2005; Liu & Szabo, 2009), have affirmed that consistent exposure to technology boosts user comfort and proficiency and thus attenuating the level of anxiety. Second, the learners who participated in this study, aged between 20 and 30, benefited from early and consistent exposure to digital tools, given that Tunisia has had internet access since 1998 and that the mean age for initial exposure to technology among children is approximately five years (Ministère des Technologies de la Communication, 2020). Thus, early use of technology fosters comfort and proficiency among young Tunisian learners, reinforcing existing ideas that familiarization with digital tools at an early age can reduce anxiety when these tools are used in the educational process. Psychological research also supports the notion that early exposure to a new phenomenon helps reduce the anxiety it may cause (Caplan, 2007; Chua, Chen, & Wong, 1999).

## 5. CONCLUSION

The present research sought to investigate what levels and types of anxiety, including both traditional sources of foreign language anxiety and the emerging technological and computer- related anxieties among Tunisian teachers and learners of English during the COVID-19 pandemic. The results indicate that the impact of all three types of anxiety was relatively mild in both groups; the level of technological anxiety was to a certain extent kept down as a consequence of the omnipresence of computers and other devices which helped the students to adjust to studying online. But students' anxiety about learning foreign languages, especially, is still a bigger concern.

The mild degree of anxiety experienced by both teachers and learners is a striking difference from earlier studies that identified higher anxiety levels in conventional face-to-face teaching classes. This indicates that the virtual classroom even with its shortcomings provides learners a less demanding environment where learners who are relatively shy when it comes to social interaction would benefit from the reduced pressure that comes with online learning. In addition, the results emphasize the significance of having utilized technology at a young age as a factor to lessen technology-related anxiety, and corroborates studies that associate earlier use of technology with higher comfort and skill. However, Tunisian English language students attest, language learning anxiety continues to be a hurdle in foreign language learning due to the fact that in Tunisia students start learning English later in life and do not use it in everyday situations.

It follows that even if technological anxiety did not become the main source of stress during the pandemic, the results underline the relevance of foreign language anxiety in the Tunisian context. The study calls for further exploration of the interplay between different types of anxiety and suggests that addressing language-specific anxiety through targeted pedagogical strategies could significantly enhance the effectiveness of online foreign language teaching and learning in Tunisia. Moreover, the long-term integration of technology in education should be accompanied by strategies to alleviate both technological and language-related anxieties, ultimately fostering a more supportive and effective learning environment for both students and teachers.

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