

Investigating Chinese University-Level L2 Learners' Foreign Language Anxiety in Online English Classes

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Abstract

The growing importance of online classes due to the outbreak of COVID-19 raises concerns about foreign language anxiety in online English classes. However, few studies have focused their attention on this issue. Accordingly, the current study will investigate Chinese university students' foreign language anxiety in online English classes. In addition, it has examined the extent to which age and gender may impact their foreign language anxiety. Ninety-nine Chinese university non-English majors participated in the study. The results demonstrate that 1) among the three aspects of language anxiety proposed by Horwitz et al. (1986), the participants got the highest score in fear of negative evaluation and the lowest in test anxiety. 2) There is a negative relationship between gender and fear of negative evaluation. Possible reasons for the results and some suggestions for online teaching are provided.

Keywords

Foreign Language Anxiety, Chinese University-Level Students, Online English Classes, Possible Factors

1. Introduction

The important role of affective variables in language learning has been acknowledged. Anxiety is one of the key affective factors that have been shown to have an impact on L2 learning (Ellis, 2015). In the field of psychology, anxiety is defined as a "subjective feeling of tension, apprehension, nervousness, and worry associated with an arousal of the autonomic nervous system" (Spielberger, 1972). In area of language learning, foreign language anxiety is a complex and multi-dimensional phenomenon (Young, 1991). It can be characterized by the feeling

of apprehension and tension associated with situations in which a second language is spoken, heard, or learned (MacIntyre & Gardner, 1994).

A number of foreign languages researchers have been studying the effects of foreign language anxiety on students' foreign language learning (e.g., (Aida, 1994; Brown, 1973; Bailey, 1983; Chastain, 1975; Horwitz et al., 1986; Li & Liu, 2010; Gardner & MacIntyre, 1993; Phillips, 1992; Trylong, 1987; Wu & Gu, 2011; Young, 1986)). Most studies have shown a weak to strong negative relationship ranging from -0.28 to -0.54 between foreign language anxiety and a variety of language achievement measures (e.g., (Gardner & MacIntyre, 1993; Gardner, Smythe, & Lalonde, 1984; Horwitz et al., 1986; Philips, 1992; Trylong, 1987; Young, 1986)). However, several studies found no correlation between foreign language anxiety and language performance, or even to the contrary (Backman, 1976; Chastain, 1975; Kleinmann, 1977; Scovel, 1978).

No matter whether a negative or a positive relationship has been found between foreign language anxiety and language achievement, all these studies have been conducted in the context of offline, face-to-face classes. There are few empirical studies focusing their attention on the online context. The Covid-19 pandemic has triggered unprecedented challenges in schooling, which has made online the main way of teaching university students for a period of time in Chinese mainland and in other countries, leaving students alienated from teachers, peers, and their social environment (Alhazmi, 2022). So, do students in online English classes feel anxious? If yes, to what extent do they feel anxious? Are there any factors such as age or gender influencing the level of their foreign language anxiety? These questions are worthy of investigation.

Therefore, the main aims of this study are to investigate the extent to which Chinese learners have anxiety when they have online English classes and to examine whether age and gender influence the extent of their foreign language anxiety. The following two research questions will guide the current study:

- 1) To what extent do Chinese university students have foreign language anxiety in online English classes?
- 2) To what extent do age and gender influence the students' foreign language anxiety in online English classes?

2. Literature Review

2.1. Definitions of Foreign Language Anxiety

Anxiety in foreign language learning is one of the heated topics which has attracted researchers' attention (Kim, 2000). MacIntyre and Gardner (1991) indicated that "anxiety is one of the best predictors of success in the second language" (p. 96). It poses a number of possible issues for a foreign language learner since it can obstruct the learning, retention, and output of the new language (MacIntyre & Gardner, 1991). MacIntyre and Gardner (1989) defined language anxiety as concern and unpleasant emotional reaction elicited by learning or utilizing a second language.

Horwitz, Horwitz and Cope (1986) conceptualized foreign language anxiety (thereafter as FLA) as a unique complex of self-perceptions, beliefs, feelings, and actions associated with classroom language acquisition originating from the distinctiveness of the language learning process. According to them, foreign language anxiety consists of three aspects, namely communication apprehension, test anxiety, and fear of negative evaluation. As demonstrated by Horwitz (1991), characteristics such as “difficulty in speaking in groups or in public” or difficulty “in listening to or learning a spoken message” are “manifestations of communication apprehension” (p. 30). Test anxiety, as its name implies, refers to the “apprehension over academic evaluation” (MacIntyre & Gardner in Horwitz (1991: p. 42)).

2.2. Studies on Foreign Language Anxiety in Offline L2 Classes

As mentioned in the Introduction, previous studies on foreign language anxiety had obtained mixed results, with some indicating a negative correlation between foreign language anxiety and language achievement (Clément, Gardner, & Smythe, 1977, 1980), and several others finding no or even a positive relationship (Backman, 1976; Chastain, 1975; Kleinmann, 1977; Scovel, 1978).

For example, Chastain (1975) evaluated the relationships between foreign language anxiety and course grades in French (audiolingual and regular), German, and Spanish classes. A negative correlation between the participants’ FLA and their course grades was found in the French class, but positive correlations between the students’ FLA and their course grades were reported in the German and Spanish classes. One of the possible reasons for such mixed results is mainly due to the fact that different FLA measures have been employed.

The establishment of Foreign Language Classroom Anxiety Scale (FLCAS) designed by Horwitz et al. (1986) has led to the consistent finding of a moderate negative relationship between foreign language anxiety and a variety of measures of language achievement (e.g., (Gardner & MacIntyre, 1993; Gardner, Smythe, & Lalonde, 1984; Horwitz et al., 1986; MacIntyre & Gardner, 1991; Phillips, 1992; Trylong, 1987; Young, 1986)). Horwitz et al. (1986) employing the FLCAS found a moderate negative connection between foreign language anxiety and the participants’ final foreign language course grades ($r = -0.54$, $p < 0.001$), indicating that students with higher levels of foreign language anxiety received lower grades than their less anxious peers. Significant negative relationship between French class anxiety and French vocabulary test performance was also discovered by MacIntyre and Gardner (1989) ($r = -0.42$, $p < 0.001$), which supported the finding of Horwitz et al. (1986). Phillips (1992) looked at how foreign language anxiety affected students’ performance on an oral French test and found a moderate negative correlation between FLCAS scores and oral exam grades ($r = -0.40$, $p = 0.01$). Aida (1994) also found a significant negative relation between the FLCAS scores and final grades of the students who were enrolled in second-year Japanese I at an American university ($r = -0.38$, $p < 0.01$).

In contrast to the substantial research on foreign language anxiety that has been undertaken overseas, studies at home have been a little late. Liu (1989) was credited with conducting the first research on foreign language anxiety. She investigated Chinese junior and senior high school students' foreign language anxiety and found that FLA is adversely connected with their course grades in terms of three language skills, namely listening, speaking, and reading. Zou (2006) conducted a study on foreign language anxiety among non-English majors at the university using the adapted FLCAS as the instrument and discovered a significant difference between high proficiency and low proficiency students in foreign language anxiety. Additionally, she observed that foreign language anxiety had a negative link with language learning performance. Li and Liu (2010) used the FLCAS to explore the state of anxiety among English majors at a Chinese university and the link between FLA and their TEM-4¹ scores. The study found a significant negative link between the participants' FLA and their TEM 4 scores, which indicated that the majority of English majors with higher FLA obtained lower scores in the TEM 4.

2.3. Studies on Foreign Language Anxiety in Online L2 Classes

Compared with the number of empirical studies on FLA in offline classes, only several studies have been conducted in online contexts abroad and at home. For instance, Monica Báez-Holley (2013) carried out a study to compare students' foreign language anxiety in offline and online classes. He recruited 107 American undergraduate students participating in Indiana State University's SPAN 101 course and requested them to complete the L120 Questionnaires. The questionnaires were originally designed for students of French in an online setting and developed by Hurd (2003) to measure foreign language anxiety among online students. No difference was found in the levels of foreign language anxiety experienced between students in the face-to-face classroom and those taking the course at a distance. Pichette (2009) and Russell (2018) compared "anxiety profiles of classroom and distance language learners and compared anxiety levels between first-semester and more experienced students in both learning environments" (p. 77) and found no difference between the two groups. All the above studies have native French and English speakers as their participants.

There are also several empirical studies on foreign language anxiety in online L2 classrooms in China. Wu (2021) examined 61 first-year English majors' FLA in online flipped classes. The data were collected using an adapted version of FLCAS, learning journals, and semi-structured interviews. This research studied the changes of English majors' FLA in the online flipped classrooms and explored the factors influencing their online FLA. The findings are as follows: 1) students' FLA decreased significantly after a semester of online Flipped Classroom and there existed a significant correlation between pre-class FLA and

¹TEM4 is a national test for second-year English majors in Chinese mainland. Its full name is Test for English Majors-Band 4.

in-class FLA; 2) the overall trend of students' FLA was declining; 3) the “flipped” nature, production-oriented activities, individual factors, and environmental factors all influenced English majors' FLA in the online classrooms. Zhang (2021) conducted a study that evaluated foreign language anxiety of non-English major college students during the COVID-19 pandemic. Participants were 419 Chinese non-English major second-year students. The participants' foreign language anxiety was investigated by a questionnaire “College Students' English Learning Anxiety in Online Live Class” which was a combination of the FLCAS and Cognitive Test Anxiety Scale (CTAS) proposed by Cassady and Johnson (2002). The FLCAS and CTAS measured four types of FLA, namely “online classroom anxiety”, “offline English test confidence anxiety”, “offline English test emotive anxiety”, and “offline English test results anxiety”. The results revealed that foreign language anxiety among these four aspects is mostly manifested in “offline English test results anxiety” and “online English test emotive anxiety”. The results also demonstrated a negative correlation between all subtypes of FLA and English learning performances. “Offline English test anxiety” and “offline English test result anxiety”, for example, have a predictive effect on English test results, particularly CET-4² scores, although “online live class anxiety” and “offline English test confidence anxiety” have no such effect. It can be seen that these previous studies both focused on English majors with the former one on first-year English majors and the latter one on second-year non-English majors. More empirical studies on university-level non-English majors' online foreign language anxiety are needed because they will provide a more comprehensive view of online foreign language anxiety.

3. Research Methodology

3.1. Participants and Research Site

Due to convenience sampling and familiarity with the university cluster to which the first author belongs, the study was carried out at a key university in Beijing, China. A hundred and thirteen university-level non-English students majoring in economics, finance, and management participated in the study. Seventy-five were females and twenty-six were males. The ages varied from 17 to 28 years, with only four students beyond the age of 25, thus covering all grade levels. Nobody was forced to participate in the study. All participants were informed that their privacy would be fully ensured. The data was collected in the school library during the end of the final test weeks to ensure that students have sufficient time to complete the questionnaire.

3.2. Instrument

Horwitz, Horwitz and Cope's (1986) FLCAS was used to elicit participants' for-

²CET-4 is a national test for non-English majors in Chinese mainland. Its full name is College English Test Band 4.

foreign language anxiety in online classes. Participants were requested to fill in the blanks with their basic information, including their names, ages, gender, majors, and phone numbers or WeChat numbers. The FLCAS was adapted because it was used to survey students' online foreign language anxiety. Terms like "in online English lessons" were added to the items of the scale to emphasize online English classes rather than offline English classes. For example, item 1 "I never feel quite sure of myself when I am speaking in foreign language classes" was changed to "I never feel quite sure of myself when I am speaking in online English classes".

This scale has been administered in a number of separate studies and its validity of it as a measure of foreign language anxiety was established. It consisted of 33 items aiming to investigate students' foreign language anxiety from three aspects: 1) communication apprehension, 2) test anxiety, and 3) fear of negative evaluation (Horwitz in Horwitz (1991: p. 30)). Fifteen items were devised relating to communication apprehension because "the construct of communication apprehension is quite relevant to the conceptualization of foreign language anxiety" (McCroskey in Horwitz (1991: p. 30)). Items 4, 5, 6, 11, 14, 15, 17, 18, 24, 25, 27, 29, 30, 31 and 32 fall under this category. Items 8, 10, and 21 relate to the test anxiety. Items 1, 2, 3, 7, 9, 12, 13, 16, 19, 20, 22, 23, 28 and 33 are devised to examine the fear of negative evaluation.

The participants were required to choose responses 1 to 5 to indicate the extent to which they agreed or disagreed with the statement. The total score of the entire paper was 165.

3.3. Data Collection Procedures

The FLCAS was translated into Chinese just in case the participants' English level would cause any unnecessary misunderstanding of the statements. The questionnaires were randomly distributed, filled out, and collected on the spot without time limit.

Participants were asked to circle the response that best matched their feelings about the item: 1 (strongly disagree), 2 (disagree), 3 (neutral, i.e., neither agree nor disagree), 4 (agree), or 5 (strongly agree) to indicate their level of agreement or disagreement with the item. And the participants needed to provide information about their gender, age, and majors for additional studies to be conducted. Then the data collected was analyzed by SPSS Statistics 28.0.

The total number of scales distributed was 113, of which 14 were invalid because 12 people neglected to fill in the questions on the back of the scales, and 2 scales in which the filler missed one question, resulting in a total of 99 valid responses from the participants.

4. Results and Discussion

A series of statistical analyses using SPSS 23.0 were performed to investigate the reliability of the FLCAS and answer the two research questions. The analysis

showed that the FLCAS is highly reliable for the population in the current study ($\alpha = 0.81$). According to DeVellis (1991), Cronbach's alpha values ranging from 0.65 to 0.70 imply acceptable reliability; values ranging from 0.70 to 0.80 indicate relatively good reliability and values ranging from 0.80 to 0.90 indicate high reliability.

4.1. Chinese Students' FLA in Online English Classes

The first research question asks to what extent Chinese university students have foreign language anxiety in online English classes. Descriptive statistics were computed in order to demonstrate the means and standard deviations of the measures and to answer this research question. Table 1 presents the descriptive statistics of the FLCAS and the subtypes of students' FLA.

Table 1. Descriptive statistics of total FLCAS scores and the scores of subtypes (n = 99).

Anxiety Total	Mean	SD
Anxiety	0.58	0.08
Sub-types Scores		
Communication apprehension	0.58	0.08
Test anxiety	0.51	0.10
Fear of negative evaluation	0.60	0.09

The scores of the FLA range from 33 to 165, with higher scores representing higher levels of anxiety. In other words, 165 represents the most anxious when taking online English classes and 33 indicates the least anxious. A percentage score was calculated. The mean overall score for the 99 participants was 0.58 with a standard deviation of 0.08. Specifically, the mean percentage score for the 15 items on the communication apprehension scale was 0.58. The mean percentage score for the three items of test anxiety was 0.51. The mean percentage score for the 14 items of fear of negative evaluation was 0.60. Thus, it can be concluded that participants showed medium to high levels of FLA, with the highest scores for fear of negative evaluation and the lowest scores for test anxiety.

The results demonstrated that among communication apprehension, test anxiety, and fear of negative evaluation, the students' FLA in online English classes mainly came from negative evaluation. Such finding is in line with the findings of the previous research (e.g., (Pichette, 2009; Hurd, 2007; Hauk & Hurd, 2005; Báez-Holley, 2013)). Pichette (2009) found that negative evaluation plays an important role in foreign language anxiety in students. Hurd (2007) concluded that fear of not being understood was one of the main causes of anxiety among foreign language learners. Hauck and Hurd (2005) also stated that students connected anxiety to memorization of vocabulary, understanding of grammar, wor-

ries about being understood, and fears of making mistakes. The above studies were mainly conducted in online foreign language classes. [Báez-Holley \(2013\)](#) found that students feel fearful of negative evaluation in both offline and online classes.

This study has found that the respondents' FLA also came from communication apprehension, to a lesser extent than anxiety caused by negative evaluations, which is different from the findings of many previous studies which found communication causes the most anxiety among students ([Daly, 1991](#); [Gregersen & Horwitz, 2002](#); [Hauck & Hurd, 2005](#); [Horwitz et al., 1986](#); [Young, 1986](#)). According to [Horwitz et al. \(1986\)](#), difficulty in speaking in class was probably the most frequently cited concern of the anxious students. Such findings may be due to the advances in technology, students in online classes can communicate with teachers and classmates in a foreign language through varied channels such as online forums, chat rooms, and other interactive programs. And they have more resources and opportunities to practice and improve their speaking skills. More importantly, students speaking English in online classes is not so demanding as in offline classes due to the distance. The online classroom is considered a safe place where students do not have to interact with each other and engage in oral communication ([Báez-Holley, 2013](#)). All of these changes in online classes are helping the students in online classes ease their foreign language anxiety in terms of communication, which may be the reason why communication apprehension is not the most important source which causes students' foreign language anxiety in online English classes.

This study also identified the test anxiety as the lowest level of source of anxiety for students. With respect to the test anxiety, [Daly \(1991\)](#) discovered that in highly evaluative contexts, learners experienced more FLA. Also, the less familiar and more ambiguous students were with the test tasks and formats, the higher their levels of foreign language anxiety ([Young, 1991](#)). However, students in online classes have more readily available materials such as translation applications, search engines, and e-books, and because of the distance, teachers are unable to monitor them. As a result, they are less likely to feel nervous when taking the online exams. In addition, unlike offline exams, online exams require teachers to consider students' conditions of their network, competence with the examination platform, and other aspects, which may make teachers create easier examination papers for online courses than those for offline courses. These possible reasons may explain why the scores of test anxiety were the lowest of the three measures of foreign language anxiety in online English classes.

4.2. Influences of Age and Gender on Chinese Students' FLA in Online English Classes

In order to answer the second research question asking to what extent age and gender influence the level of Chinese students' FLA in online English classes, a series of correlation analyses were conducted. [Table 2](#) presents the results.

Table 2. Correlations between two factors (age & gender) and students' FLA (n = 99).

Anxiety/Sub-types (Scores)		Age	Gender
Anxiety	Pearson Correlation	-0.027	-0.191
	Sig. (2-tailed)	0.794	0.059
Communication apprehension	Pearson Correlation	-0.147	-0.177
	Sig. (2-tailed)	0.147	0.079
Test anxiety	Pearson Correlation	-0.025	-0.002
	Sig. (2-tailed)	0.806	0.982
Fear of negative evaluation	Pearson Correlation	0.067	-0.211*
	Sig. (2-tailed)	0.512	0.036

*Correlation is significant at the 0.05 level (2-tailed).

In terms of the relation between age and online foreign language anxiety, **Table 2** shows that the total FLCAS scores and age was 0.794 ($p > 0.05$), which means that there existed no significant correlation between the FLCAS total scores and age. Similarly, the score of communication apprehension and age, test anxiety and age, and fear of negative evaluation and age were 0.147 ($p > 0.05$), 0.806 ($p > 0.05$), and 0.512 ($p > 0.05$), respectively, indicating that age did not influence the scores of communication apprehension, test anxiety, and fear of negative evaluation.

The results are a little different from the findings of the earlier studies. Earlier research indicated that older students reported higher levels of foreign language anxiety in offline classrooms (Crook, 1979; Hunt, 1989; Yesavage, Lapp, & Sheikh, 1989). They analyzed that this result may be because the ability to master linguistic subtleties such as phonology and morphology and to speak a second language without an accent severely deteriorated with age (Lieberman, 1984; Newport, 1986). Additionally, experimental studies suggested that older students made significantly more omission errors in verbal learning tasks than younger subjects (Okun, Siegler, & George, 1978).

However, as the environment in which students learn a foreign language has changed, students experience less stress associated with “acquiring a good pronunciation” than the students in offline classrooms, and “becoming fluent” and “writing continuous text in the target language” are not considered to be the major challenges for online students (Báez-Holley, 2013). Moreover, they can complete their courses without having to speak in front of their classmates. According to Judy Kristan, dean of Academic Affairs for DeVry University, “many students are shy about interacting within a live situation. With online courses they are somewhat anonymous. They may feel freer to communicate” (as cited in Feintuch (2010: p. 20)). This may be true because students in online classes

learn their foreign language in a way they are comfortable with from anywhere they have access to the Internet (Gallagher & Newman, 2002). As a result, it is reasonable to assume that age is not an important factor for foreign language anxiety in online English classes. Online classes are open to students of all ages, and the age factor is not relatively significant in online classes currently.

In terms of the relation between gender and online foreign language anxiety, **Table 2** shows that the correlation coefficient between the total FLCAS scores and gender was 0.059 ($p > 0.05$), which means that there was no significant correlation between FLCAS total scores and gender. At the same time, the correlation coefficients between gender and communication apprehension and test anxiety were presented as 0.079 ($p > 0.05$) and 0.982 ($p > 0.05$) respectively, indicating that gender does not impact the level of communication apprehension and test anxiety scores. However, a significant negative correlation was found between gender and fear of negative evaluations ($r = -0.211$, $p < 0.05$). The present study is consistent with previous research that indicated that gender did not have a significant effect on students' overall foreign language anxiety (Onwuegbuzie, Bailey, & Daley, 1999), but interestingly, a link between gender and the fear of negative evaluation in online English classes was identified, which has rarely been found in previous research. This study discovered that in online English classes, females were more concerned about negative feedback than males. This may be explained by the fact that females compared to males are more sincere in class and aroused higher motivation for and interest in course grades, which will lead to a higher level of anxiety than males (Park & French, 2013). However, as females in this research account for almost 75% and males are 25%, more studies should be conducted to confirm this result.

5. Conclusion and Implications

Situated in online English classes, this study aims to investigate Chinese university students' foreign language anxiety in online English classes and identify whether gender and age influence the students' foreign language anxiety in online English classes. According to the results of the data analysis, there are two major findings. The first finding was that among the three aspects of foreign language anxiety defined by Horwitz et al. (1986), students in the current study experienced the highest anxiety in terms of fear of negative evaluation and the lowest in test anxiety. The second finding was that gender and age as a whole did not influence the extent of FLA in online classes while there was a weak correlation between gender and fear of negative evaluation, which was a little different from prior findings.

There are some implications for both teachers and students to alleviate students' foreign language anxiety in online English classes. For teachers, online English courses should be organized in a way that allows online students to have a similar learning experience to offline classroom students, which means students can still get teachers' feedback immediately in online classes. To facilitate

this, teachers should be familiar with the programs and resources available through technology for interactive communication, such as chat rooms, discussion boards, and podcasts. And rather than a monitor, a teacher in the online classes should be a guide and facilitator who can provide students with high-quality learning resources and motivate them to study and feel more confident about learning a foreign language. Additionally, teachers can learn about and adopt new teaching strategies and techniques while working with online students (Jones & Young, 2006), which will help create a more engaging atmosphere for students in the online classes and therefore enhance their motivation. Particularly, teachers should also pay extra attention to female students' foreign language anxiety since the current study has found that female students were more likely to be affected by negative evaluation in the online classes. More frequent positive feedback should be provided in order to reduce the impact of the negative evaluation on their language learning.

For students who study in online classes, they are supposed to recognize that a large portion of the responsibility for learning rests with themselves (Hauck & Hurd, 2005). It is up to the students to apply effective learning strategies. Effective communication between teachers and students is essential to the students' success in foreign language classes. Moreover, students should accurately comprehend and evaluate themselves, honestly and fairly assess their level of professional competence, and establish some appropriate little goals along the learning process to build their confidence in English learning and personal self-assurance. Additionally, it is critical to realize that anxiety is a natural reaction to the new type of online instruction. It is important to adjust one's own thinking and develop good habits to adapt to such a big change to the way of teaching.

Despite the findings and implications drawn from the study, there exist limitations of the current study in three aspects. Firstly, the sampling of the participants is limited to university-level Chinese non-English majors and only 99 students are engaged. The findings of this paper cannot be extended to all Chinese L2 learners. Secondly, the study lacks a comprehensive description of the factors that may influence FLA in online English classes. There should be a number of factors that may influence students' FLA including psychological and social factors. Thirdly, due to the time limit, the current research only focused on the online context. It would be more meaningful to make a comparison by taking offline context into consideration.

Therefore, further studies are suggested comparing online and offline FLA in order to provide a more comprehensive view of students' FLA. Future research also needs to examine whether the relationship between gender and FLA in online English classes is in line with this study. Due to the relatively unbalanced gender ratio in the site where the data were collected, the findings need further investigation. The inclusion of more male students might have a different result. Finally, qualitative research methods such as interviews are needed to provide a more in-depth view of what factors may affect Chinese students' FLA in online

English classes.

Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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