Does Flipped Classroom Approach Impact on Foreign Language Classroom Anxiety of First-year Chinese Urban-rural Pre-service Teachers?

Wei Chen[1,2], Sadiah Binti Baharom[1] & Sopia Binti Md Yassin[1]

[1] School of Education, Taylor's University, Subang Jaya, Selangor, Malaysia

[2] School of Foreign Languages, Hainan Normal University, Haikou, China

Correspondence: Wei Chen, School of Education, Taylor's University, Subang Jaya, Selangor, Malaysia. E-mail: bluerwei@163.com

Abstract

The present study mainly investigated the impact of the flipped classroom approach (FC) on foreign language classroom anxiety (FLCA) among first-year pre-service teachers at a Chinese university. Additionally, it examined whether the effect of (flipped or traditional) teaching approach on the language anxiety differed based on the participants' (urban or rural) educational background. To achieve these objectives, a quasi-experimental design was employed. Two classes, consisting of 60 pre-service teachers (30 from urban and 30 from rural schools) in each class, were randomly assigned to an experimental group exposed to the FC and a control group using the traditional teaching approach (TT). Both approaches were implemented in an English course over a 12-week semester. Data were collected using a Foreign Language Classroom Anxiety Scale (FLCAS) and analyzed with two-way ANOVA. The results revealed that the FC had a positive impact on the FLCA among the pre-service teachers. Furthermore, the relation between teaching approach and language anxiety of the pre-service teachers was not significantly influenced by their educational backgrounds. Consequently, the study recommended that the FC be utilized to ameliorate the language anxiety of the first-year Chinese urban and rural pre-service English teachers. Accordingly, the study provided suggestions for teacher educators, pre-service teachers, and educational institutions and authorities for potentially more effective use of the FC in the specific context. Lastly, it discussed research limitations and avenues for future studies.

Keywords: flipped classroom, Chinese pre-service English teachers, learner autonomy, educational background

1. Introduction

Learning English as a foreign language (EFL) can be a quite challenging experience for students in a dominant first language environment (Abdullah, Hussin, & Ismail, 2019). EFL learners from diverse cultural and linguistic backgrounds encounter unique difficulties that may hinder their language development. For East Asian learners, FLCA is a significant factor highlighted by quite a few researchers. As contended by Karjanto and Simon (2019), East Asian students raised in traditional Confucian cultures may exhibit reticence and avoid participation in class activities due to their passive learning style and cultural values of humility and modesty, which emphasize avoiding "losing face" and "showing off." As a result, these learners often experience apprehension and worry during their EFL learning. Although not all the Asian students share identical learning styles (Tran, 2013), this passivity, reticence, and anxiety seem to be commonly observed among Chinese tertiary EFL learners, adversely affecting their acquisition of the foreign language (Chang & Lin, 2019).

In the Chinese EFL learning context, literature has also discussed the traditional teacher-centered instructional approach and students' backgrounds of education as context-specific factors that may influence the language anxiety experienced by Chinese EFL learners. Prior studies have indicated that the teacher-centered approach, which emphasizes content regurgitation, may lead to increased anxiety among Chinese students in EFL classrooms, thus impeding their acquisition of English knowledge and skills. Studies have also revealed that educational backgrounds can lead to unequal levels of anxiety and language achievements between rural and urban EFL learners in China (Lv & Wang, 2016). Consequently, some researchers suggest that it might be helpful to adopt innovative teaching approaches to reduce the language anxiety of Chinese students and to bridge the rural-urban gap in EFL learning (Li, Jee, & Sun, 2018), especially in the present digital era.

Over the last decade, technology and its application have led to significant changes in EFL education (Haghi, 2021). Language educators worldwide have gradually integrated technology into their teaching approaches (Basal, 2015). One pedagogical approach that has gained growing popularity, particularly at the tertiary level, is flipped classroom. This is a flexible pedagogical approach that incorporates digital technology (Kurt, 2017). Researchers have reported the positive impact of the FC on reducing FLCA in EFL learners in various contexts (Abdullah et al., 2019; Gok, Bozoglan, & Bozoglan, 2021). However, critics argue that this approach may not be contextually applicable and effective in decreasing learners' language anxiety in some educational settings (Lakarnchua, Balme, & Matthews, 2020; Rajabi, Mahmoodi, & Hosseini, 2021). Therefore, it is necessary to further explore whether and how the FC impacts on the anxiety of EFL learners in more contexts.

Currently, in response to the Chinese higher education informatization reform, an increasing number of front-line teachers and researchers

have adopted the FC in EFL tertiary education (Wang, Mansor, Wang, Hoon, & Darmi, 2021; Wang, 2020). However, no consensus has been reached in literature about the effectiveness of this approach in reducing FLCA among Chinese students (Chang & Lin, 2019; Chen & Hwang, 2020; Chen, 2019). Moreover, limited research has explored the use and impact of the FC in the field of EFL teacher education in China. The present study thereof aimed to investigate whether this approach influenced the language anxiety of Chinese EFL pre-service teachers while considering their backgrounds of education. This study answered the following research questions.

(1) Is there a significant difference in FLCA between first-year Chinese pre-service teachers exposed to the FC and those engaged in the TT?

(2) Does (urban or rural) educational background significantly interact with (flipped or traditional) teaching approach in affecting the language anxiety among the pre-service teachers?

Accordingly, two null hypotheses were tested:

$H_0 1$: There is no significant difference in FLCA between first-year Chinese pre-service teachers exposed to the FC and those engaged in the TT?

$H_0 2$: There is no significant interaction between educational background and teaching approach in terms of FLCA of the pre-service teachers.

2. Literature Review

2.1 Foreign Language Classroom Anxiety

Foreign language classroom anxiety (FLCA) refers to the feeling of nervousness, fear, and apprehension experienced when learning or using a foreign language in the classroom (Horwitz, Horwitz, & Cope, 1986). Different from trait anxiety and state anxiety (Spielberger, 1989), FLCA is a situation-specific anxiety occurring systematically over time in foreign language classes (MacIntyre & Gardner, 1991). In the last three decades, FLCA has become a significant concern in EFL education research (Oteir & Al-Otaibi, 2019; Ozer & Akçayoğlu, 2021). A growing body of literature suggests that FLCA is one of the most pervasive obstacles undermining the process of EFL learning (Dörnyei, 2005; Piniel & Albert, 2018). Strong evidence on the detrimental effects of FLCA on EFL learners have been provided by various researchers (Ömer & Akçayoğlu, 2021; Oteir & Al-Otaibi, 2019; Salehi & Marefat, 2014; Tran, 2013; Zheng & Cheng, 2018). Despite this, more in-depth research needs to be conducted to gain a thorough understanding of FLCA, especially for Asian EFL learners, who are believed to have the highest anxiety levels compared to their international peers (Dewaele & MacIntyre, 2014).

In China, which has the largest group of EFL learners worldwide (You & Dörnyei, 2016), a number of students at different educational levels have shown high levels of FLCA and many of them have exhibited reticence and nervousness during their participation in learning activities and interactions with their peers and teachers (Chang & Lin, 2019; Chen, 2020). The language anxiety of the learners might be attributed to the cultural context in China, where students are often portrayed as passive learners and expected to show their humility and modesty towards their teachers, regarded as authority figures deserving respect, honor, and obedience (He, 2007; Sellman, 2002; Yusofi, Zarghami-Hamrah, Ghaedy, & Mahmudnia, 2018). Additionally, the integration of technology into modern EFL education appears to increase the apprehension of Chinese learners, especially those from less developed rural areas (Chen, 2019). However, some researchers suggest that incorporating modern technology into language classrooms could help alleviate students' FLCA. For instance, Zhong, Song, and Jiao (2013) proposed a Tai Chi Ring Flipped Classroom Model. They argued that this technology-embedded teaching approach, which is in alignment with traditional Chinese educational philosophies in terms of the two-way interactions and dynamic balance between teachers and students, may help create a supportive and harmonious learning environment. This, in turn, could lead to reduced FLCA of Chinese learners. The high levels of language anxiety among Chinese EFL learners and controversial views concerning technology use in language classrooms highlight the need for more empirical studies to further understand the FLCA of these learners and seek ways to nurture positive emotions and behaviors for more effective delivery of English education in the digital era (Jin, Zhang, & MacIntyre, 2020).

2.2 Educational Background and Urban-rural Disparities in EFL Education

Educational background includes both formal and informal education as well as any ongoing learning pursuits (Glassdoor Team, 2021). It not only reflects geographic features but also embodies historical, cultural, and educational characteristics of a local area, which affect individual subjects (Evans & Savage, 2015). In this study, this term specifically refers to an urban or rural area where a student was raised and attended his/her secondary school, categorized according to China's national statistics on urban and rural districts (National Bureau of Statistics, 2020).

According to previous research, rural EFL learners typically exhibit lower linguistic proficiency, insufficient motivation to learn, and higher levels of language anxiety in comparison to urban students (Bang, 2016; Cuong, 2021; Deepa, 2021). This inequality in language achievements between urban and rural EFL learners has been noted in the context of China as well (Rural Education Action Program, 2018; Wu, Xu, Han, & Jiang, 2021), probably caused by the structural duality in social and economic systems (Feng, Liu, & Qu, 2019; Yang, 2008).

In recent years, the Chinese government has made significant strides in addressing regional inequality in education by increasing educational opportunities in rural areas (Yue et al., 2018). Despite these efforts, disparities continue to exist, particularly in the field of

EFL education (Liu & Wang, 2021). Previous research has consistently indicated a notable disparity in English proficiency between rural and urban students (Fan & Cheng, 2015; Ke, 2016). Moreover, rural students are found to encounter more challenges in various aspects of their educational journey, including communication difficulties (Liu, 2021), limited classroom participation (Ou, 2017), barriers to embracing and adapting to digital technologies (Chen, 2019), as well as utilizing cognitive, meta-cognitive, and emotional regulation strategies (Zhang, 2022). In order to achieve balanced urban-rural development and bridge the gap in EFL education, targeted measures seem to be needed. Further explorations are warranted to implement potentially effective teaching approaches tailored to the specific needs of Chinese EFL learners of different educational backgrounds.

2.3 Flipped Classroom

Flipped classroom, according to Lage, Platt, and Treglia (2000), is an instructional approach in which "events that have traditionally taken place inside the classroom now take place outside the classroom and vice versa" (pp. 30-43). This teaching approach requires students to go through lecture videos and relevant study materials before class and then practise key concepts through traditional schoolwork and receive personalized feedback during and after class (Diana, 2019). Although pre-class asynchronous learning and assessment are essential, the core of the FC is in-class synchronous learning where students are given sufficient opportunities to have one-to-one interaction with their peers and the teacher in a collaborative learning environment, leading to cognitive, interpersonal, and affective development (Bergmann & Sams, 2012a; Brown, 2016). According to the Flipped Learning Network (2014), the FC rests on four pillars. These pillars include a *F*lexible environment that offers students the freedom to learn at their own pace and in various locations (Ansori & Nurun Nafi', 2022), and a *L*earning culture that cultivates a student-centered learning environment (Hsiao, Hung, & Huang, 2021). Moreover, they encompass *I*ntentional content that meets the specific learning needs of students and maximizes class time, as well as *P*rofessional educators who facilitate active learning and boost student confidence (Suranakkharin, 2017). Additionally, researchers have proposed and illustrated additional components in the *FLIPPED* model, including *P*rogressive learning activities, *E*ngaging experiences, and *D*iversified learning platforms (Chen, Wang, Kinshuk, & Chen, 2014; Hsiao et al., 2021).

The FC mainly draws upon the theoretical foundations of cognitivism and constructivism. Cognitivism supports the FC with a process to guide students towards higher levels of learning by utilizing Bloom's (1984) taxonomy, which presents different stages of learning goals in a pyramid structure. In the flipped classroom, students engage in lower-level cognitive work before class, such as recalling and understanding concepts, and then participate in higher-level cognitive activities, including analysis, synthesis, and evaluation, during in-class time. Mastery Learning, a cognitive theory introduced by Bloom (1984), also aligns with the FC due to its provision of student-centered, asynchronous and differentiated instruction, prompt feedback, and remediation (Bergmann & Sams, 2012b). This theory is well-suited to the flexible learning environment of the flipped classroom, where students can study at their own pace and manage their time efficiently. Furthermore, constructivism is another bedrock of the FC, where learners take responsibility for their own learning, build subjective representations of knowledge based on prior experiences, and achieve potential development through collaboration and problem-solving. In the constructivist flipped classroom, the teacher plays a crucial role in organizing interactive discussions, creating an active learning environment, providing immediate feedback, and offering differentiated support to scaffold students' flipped learning.

2.4 Impact of Flipped Classroom on Foreign Language Classroom Anxiety

In the recent decade, FC, as a popular instructional approach, has injected fresh vitality to modern EFL teaching (Chen & Zhao, 2014). With the use of enhanced technology, this approach has been demonstrated to yield many positive EFL learning outcomes, including improved English performance (Kırmızı & Kömeç, 2019; Sukerti, Rudiastari, & Susana, 2020), boosted learner autonomy (Ghufron & Nurdianingsih, 2019; Tsai, 2021), higher critical thinking skills (Pang, 2022), and enhanced motivation, engagement and satisfaction (Wu & Zhang, 2021). Moreover, FC has been proved effective in alleviating language anxiety among EFL learners, as evidenced by several studies (Abdullah et al., 2019; Alhamami & Khan, 2019; Chang & Lin, 2019; Chen & Hwang, 2020; Gasmi & Thomas, 2016; Gok et al., 2021). For instance, Abdullah et al. (2019) conducted a quasi-experiment and found that the implementation of the FC led to a statistically significant decrease in Omani EFL learners' anxiety over time. Likewise, Chen and Hwang (2020) examined the effectiveness of a FC combined with a concept-mapping strategy on speaking anxiety of EFL learners in a Chinese university, and indicated that the concept-mapping-based FC significantly reduced English speaking anxiety among Chinese students compared to the conventional instruction.

Although numerous studies have revealed the advantages of the FC, there is still an ongoing debate regarding its effectiveness in alleviating foreign language anxiety. Some researchers, such as Gao and Li (2016), found that Chinese EFL learners in the flipped classroom experienced significantly higher levels of foreign language anxiety than their peers in the traditional classroom. Chen (2020) and Yuan and Moran (2017) also reported that EFL learners in China seemed to feel frustrated, exhausted, and anxious while engaging in flipped learning, despite enjoying collaborative activities. It is important to note that critical views on the effectiveness of the FC in China are sometimes associated with urban-rural educational backgrounds of learners, which may moderate the relationship between instructional approaches and learning outcomes (Li et al., 2018; Liu & Wang, 2021). For instance, Lv and Wang (2016) discovered that rural Chinese EFL learners with inadequate digital literacy experienced higher levels of language anxiety in the flipped classroom and obtained lower test scores compared to their urban peers. This finding highlighted the importance of considering students' educational backgrounds as a context-specific factor when investigating the effects of the FC on Chinese EFL learners, especially at the tertiary level.

Despite the growing attention given to the implementation of the flipped EFL classroom, its application and effectiveness in teacher

education remain uncertain due to inconsistent findings in prior studies (Altas & Mede, 2021; Cabi, 2018; Choi & Lee, 2018; García-Sánchez & Santos-Espino, 2017; Karaaslan & Çelebi, 2017). To date, there is a lack of research exploring the impact of FC on Chinese pre-service EFL teachers, and it is necessary to investigate this further. Therefore, this study aimed to fill this gap in the literature by examining whether the FC impacted on FLCA among Chinese pre-service EFL teachers, while also considering the potential influence of their educational backgrounds.

3. Methodology

3.1 Course Context

This study examined the use of the FC in Integrated English Course (IEC), which is a compulsory course for undergraduate English majors in China. The IEC is designed with the aim of not only imparting fundamental English language knowledge and skills to students but also nurturing their lifelong learning competencies (Jiang, 2019; Qu, 2017). These competencies include learner autonomy, problem-solving, communication, and collaboration, as outlined in the Teaching Guide for Undergraduate English Majors issued by the Chinese Ministry of Education (2020). This language course is offered to undergraduate English majors in the first two years of their university study, covering semesters 1-4, with two classes per week, each lasting two hours.

3.2 Participants

Participants of this study were 120 first-year pre-service EFL teachers attending IEC at a provincial normal university in China during the 2022 academic year. These pre-service teachers were randomly selected from nine classes and assigned to two groups: an experimental group which employed the FC, and a control group which used the TT. Each group was comprised of 60 pre-service EFL teachers, with an equal distribution of 30 students enrolled from urban and 30 from rural secondary schools. The participants were aged between 18 and 20 and had studied English for a minimum of nine years. None of them had prior exposure to the FC.

Two instructors were carefully selected to teach the experimental and control groups. They were both female, close in age and work experience, and possessed comparable educational backgrounds. The instructor who taught the FC had already accumulated four-year experience in it. Nonetheless, she still underwent a training session to acquaint herself with specific procedures that were necessary for the flipped course instruction.

3.3 Instructional Design

Two instructional approaches were implemented in the two groups respectively. The control group received the TT, which is a conventional style in EFL classrooms. This approach prioritized the teacher and involved spending most of the class time helping students memorize and comprehend key concepts. In contrast, the experimental group was taught using the FC, which emphasized the importance of students taking an active role in their technology-assisted learning with guidance from the teacher.

In the traditional classroom, the teaching process followed conventional practices. Before class, students previewed textbook materials, while the instructor prepared PowerPoint presentations. During class, new topics were introduced through detailed lecture slides, supplemented with exercises to enhance comprehension. Occasionally, students were invited to share their work and opinions. The instructor concluded the class by summarizing the topic and assigning homework. Supplementary materials were provided online for self-study after class. Furthermore, students had the opportunity to seek assistance from the instructor outside of class if needed.

In the flipped classroom, a cycle model (Figure 1) was originally developed by the authors and utilized to facilitate the implementation of this teaching approach.
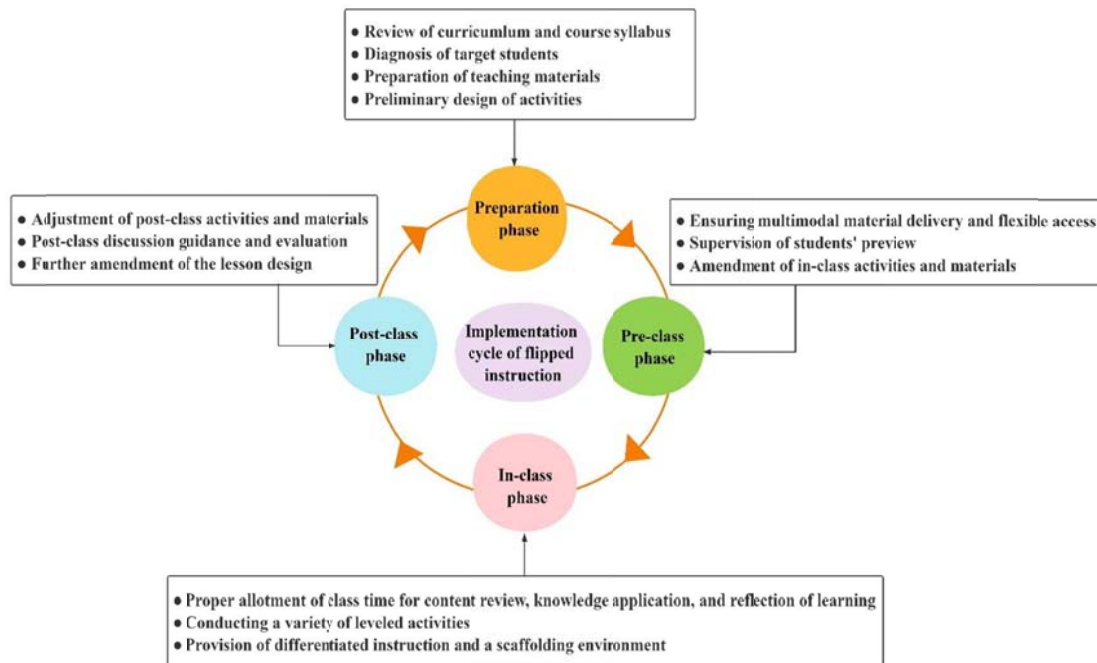
Figure 1. A cycle model for flipped instruction implementation

As can be seen in the cycle model, there are four phases to apply the flipped instruction, including preparation, pre-class, in-class, and post-class phases. The work carried out in each phase may serve as a foundation for the next stage of flipped teaching and learning.

At the initial stage, the instructor made extensive preparations for the pre-class flipped instruction. This included reviewing the curriculum and course syllabus, assessing student needs, planning teaching materials, and designing class activities.

In the pre-class phase, efforts were made to ensure multi-modal material delivery and flexible content access. The instructor closely monitored and guided students' self-study, and in-class tasks and materials were adjusted based on students' pre-class learning feedback.

During in-class periods, the instructor carefully organized class time for content review, knowledge application, and reflection on learning. A range of individual and group activities were thoughtfully designed and carried out to offer moderate challenges and gradually increase in difficulty, facilitating incremental growth in language learning for the pre-service teachers. Timely differentiated guidance was provided, and a supportive class environment was created to assist students' learning.

After class, supplementary learning materials were assigned, and post-class activities and online discussions were conducted. Feedback and suggestions from students were collected to amend instructional designs for subsequent flipped lessons.

By following the implementation phases for the FC, the instructor was empowered to consistently refine and enhance lesson plans, addressing the unique needs of the pre-service EFL teachers and supporting their ongoing growth.

3.4 Research Design, Instruments, and Procedures

In this quasi-experiment, a quasi-experimental 2×2 non-equivalent control group design was utilized to examine the impact of the FC and the TT on the FLCA of the first-year pre-service teachers with urban and rural educational backgrounds.

To assess the anxiety of the participants in this study, a FLCAS (Chinese version) was adopted. This scale consisted of two sections: the first section collected demographic information about students' classes and educational backgrounds, while the second section was a five-point Likert scale developed by Zhang and Guo (2018). This scale measured students' anxiety about communication and evaluations, as well as their degree of confidence and potential sources of low self-esteem in English classes.

The Likert scale included 19 positively worded items and 6 negatively worded items, with all negatively worded items reverse-scored. Total scores ranged from 25 to 125, with higher scores indicating greater levels of FLCA. This localized scale was selected because it was culturally and educationally relevant to the study's intended respondents and had undergone psychometric validation, demonstrating high reliability and validity (Zhang & Guo, 2018).

To ensure the instrument's validity and reliability, a pilot study was conducted with a panel of experts (n = 5) and another class of first-year pre-service teachers (n = 38). The results showed that the FLCAS had high content validity (96.4% agreement) and excellent internal consistency (Cronbach's α = .943).

Both the experimental and control groups completed the FLCAS prior to the intervention. Subsequently, the experimental group underwent

one week of flipped classroom training, followed by two weeks of practice. Following this, both groups participated in an eight-week English course. At the end of the course, the anxiety scale was once again administered to all the participants to assess potential changes in their levels of FLCA.

4. Results

All the data were analyzed quantitatively using the Statistical Packages for the Social Science (version 26).

First, a test of homogeneity of variances was conducted to examine whether the two groups were homogeneous in terms of their FLCA at the beginning of the intervention. The assumption of homogeneity was met, indicated by the Levene's test of equality of error variances, $F(3, 116) = 1.61$, $p = .190$ for the FLCAS pretest score. Thus, an analysis of two-way ANOVA was adopted.

Table 1 reports the descriptive statistics of the FLCAS posttest scores of the flipped classroom and traditional teacher-centered teaching classroom, including the mean, standard deviation of values for each combination of the groups of the independent variables, as well as the number of participants for each cell.

Before running the two-way ANOVA, all the assumptions associated with it were tested. An inspection of the assumption of univariate normality demonstrated that the dependent variable was normally distributed for all the sub-groups (Table 2).

Boxplots were generated to test for univariate outliers. Figure 1 shows there were four mild univariate outliers above 1.5 box-lengths from the edge of their box with the absence of univariate extreme outliers for the dependent variable. These true mild outliers represented natural variations in the participants, and they were left in the datasets.

A homoscedasticity test concerning the posttest scores was performed. As shown in Table 3, the assumption of homogeneity of variances was tenable, indicated by the Levene's test of equality of error variances, $F(3, 116) = 0.58$, $p = .630$ for the scores.

Table 1. Descriptive statistics

Teaching Approach	Educational Background	Mean	Std. Deviation	N
TT	Rural	87.60	15.84	30
	urban	79.03	15.69	30
	Total	83.32	16.22	60
FC	rural	79.10	13.15	30
	urban	68.77	15.23	30
	Total	73.93	15.04	60
Total	rural	83.35	15.06	60
	urban	73.90	16.18	60
	Total	78.63	16.27	120

Table 2. Results of normality test for posttest scores

Dependent variable	Groups		Kolmogorov-Smirnov[a]			Shapiro-Wilk		
			Statistic	df	Sig.	Statistic	df	Sig.
FLCAS Posttest	Teaching approach	TT	.092	60	.200*	.980	60	.432
		FC	.075	60	.200*	.967	60	.109
	Educational background	rural	.079	60	.200*	.982	60	.520
		urban	.074	60	.200*	.971	60	.167

*. This is a lower bound of the true significance.
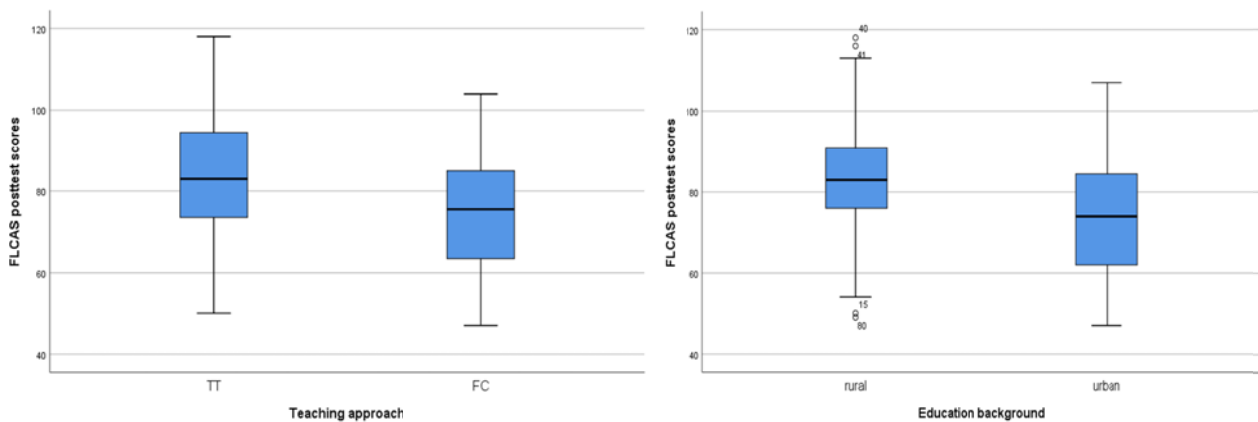a. Lilliefors Significance Correction

Figure 2. Boxplots for FLCAS posttest scores

Table 3. Levene's test of equality of error variances[a,b]

		Levene Statistic	df1	df2	Sig.
FLCAS posttest	Based on Mean	0.58	3	116	.630

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.
a. Dependent variable: IELTS score
b. Design: Intercept + Teaching approach + Educational background + Teaching approach * Educational background

As all the assumptions were met, an analysis of the two-way ANOVA was conducted.

Table 4. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Teaching approach	2641.41	1	2641.41	11.72	.001	.092
Educational background	2679.08	1	2679.08	11.89	.001	.093
Teaching approach * Educational background	23.41	1	23.41	0.10	.748	.001
Error	26148.23	116	225.42			
Total	773319.00	120				

Dependent Variable: FLCAS posttest scores.

The results of the ANOVA (see Table 4) showed a significant main effect of teaching approach on FLCA, $F(1,116) = 11.72$, $p = .001$, $\eta p2 = .092$. Based on Cohen's (1988) benchmarks, the effect size was medium. It indicated that teaching approach explained 9.2% of the variance in the dependent variable. The pre-service teachers in the flipped classroom ($M = 73.93$, $SD = 15.04$) scored significantly lower than those in the traditional classroom ($M = 83.32$, $SD = 16.22$). Besides, there was a significant main effect of educational background on the language anxiety, $F(1,116) = 11.89$, $p = .001$, $\eta p2 = .093$. Educational background accounted for 9.3% of the variable in the anxiety. The urban pre-service teachers ($M = 73.90$, $SD = 16.18$) scored higher than the rural ones ($M = 83.35$, $SD = 15.06$). Additionally, no significant interaction effect was found between teaching approach and educational approach on the language anxiety (See Figure 3), $F(1,116) = 0.10$, $p = .748$, $\eta p2 < .01$. The effect size was very small. It indicated that the combination of levels of teaching approach and educational background had a very weak association with FLCA of the pre-service teachers.
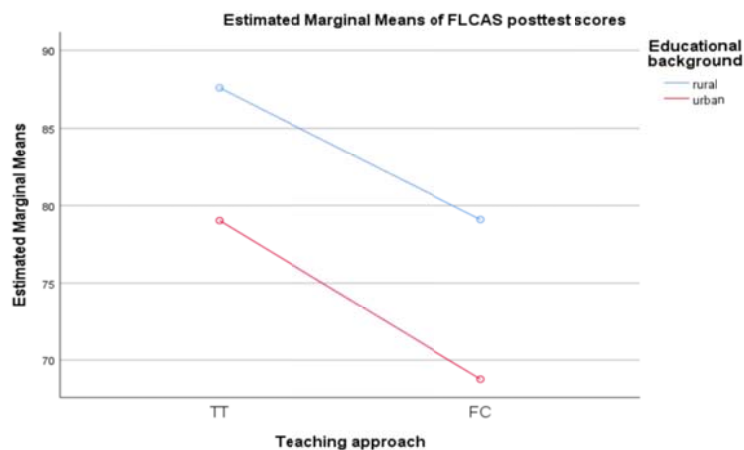

Figure 3. Interaction plot for FLCAS posttest scores

The results of pairwise comparisons suggested that the urban pre-service teachers in the flipped classroom achieved a significantly lower level of FLCA than their urban peers in the traditional classroom ($MD = -10.27$, $p = .009$). For the rural pre-service teachers, those engaged in the flipped learning also achieved significantly lower language anxiety than their rural peers taught by the TT ($MD = -8.50$, $p = .030$). Overall, the urban pre-service teachers exposed to the FC presented significantly lower FLCA than those under other conditions.

5. Discussion

This study aimed to investigate the impact of the FC on the FLCA of first-year pre-service teachers in China. It also examined whether the effects of flipped and traditional teaching approaches on anxiety levels differed among participants with urban and rural educational backgrounds. To achieve these research objectives, quantitative data were collected using an anxiety scale administered at the beginning and end of the intervention. The results indicated that the flipped classroom group performed significantly better than the traditional group, with significantly lower FLCA. Therefore, the first null hypothesis was rejected. However, no significant interaction was found between

educational background and teaching approach in terms of their effect on the anxiety levels. Thus, the second null hypothesis was accepted.

Contrary to the first null hypothesis, the study findings supported the positive impact of the FC on reducing FLCA. The results were consistent with some previous studies, revealing significantly lower English speaking, listening, reading, and writing anxiety of learners in flipped classes (Abdullah et al., 2019; Chen & Hwang, 2020; Gok et al., 2021) and enhanced willingness to communicate in English (Chang & Lin, 2019). Nevertheless, the results were not following those by Chen (2020) and Yang and Moran (2018), which indicated a negative impact of FC on the anxiety. In addition, the findings of the present study were partially incongruent with those by Lakarnchua et al. (2020) which revealed that there was a decreasing trend in first-year students' anxiety in a flipped EFL course, however, the difference in the anxiety was not statistically significant between flipped and traditional classrooms.

This study suggested that the *FLIPPED* features present in the flipped classroom and teacher-centered learning environment evident in the traditional classroom appeared to have contributed to the significant difference in anxiety levels observed between the two groups. In the flipped classroom, the flexible and communicative online learning environment allowed pre-service teachers to access digital materials at their own pace, probably reducing anxiety and frustration in their learning process. Besides, collaborative and meaningful interactions with peers and instructor may help cultivate a supportive and student-oriented learning culture, contributing to reduction of the pre-service teachers' anxiety during their communication in English. In addition, tailored learning materials and intentional content delivery may increase self-identity and motivation in the pre-service teachers, while guidance, feedback, and emotional support from the experienced instructor may boost self-esteem and reduce communication apprehension and fear of negative evaluations.

In contrast, the teacher-centered learning environment prevalent in the traditional classroom, where the instructor assumed a dominant role, could potentially exacerbate the passive learning style of pre-service teachers and amplify their sense of intimidation towards the teacher as the authoritative figure. Within such a learning environment, these pre-service teachers, who had been shaped by the Chinese Confucian culture, may exhibit hesitancy to communicate in English, driven by a fear of "losing face." Furthermore, they may also experience heightened apprehension when presented with opportunities to participate in class activities. Consequently, the pre-service teachers within the traditional teacher-centered classroom context possessed higher levels of language anxiety than their counterparts in the flipped classroom.

Upon further analysis of the impact of teaching approach on language anxiety among the urban and rural pre-service teachers, it was discovered that the urban learners in the flipped classroom experienced significantly lower levels of anxiety than their urban peers in the traditional classroom. Surprisingly, this was also true for the rural pre-service teachers in the flipped classroom with significantly less anxiety compared to their rural peers in the traditional classroom. These results shed new light on the potential benefits of the flipped classroom in reducing language anxiety among both urban and rural pre-service teachers in China.

The study suggested that the lower anxiety observed in the urban and rural learners could be attributed to the harmonious and interdependent interaction between teaching and learning in the flipped classroom. This interaction aligned with the Chinese educational philosophy inspired by "Tai Chi" that emphasizes the harmony of complementary opposites, or "yin" and "yang". Specifically, the Chinese Tai Chi philosophy applied in educational contexts views teachers as "yang" and students as "yin" (Ming, 2009; Robinet, 2008). Despite appearing to be opposing forces, they actually depend on each other and complement each other during teaching and learning, resulting in a harmonious and dynamic balance (Yang & Lin, 2016). In this study, the two-way interactions between the instructor and the pre-service teachers seemed to play a crucial role in reducing the language anxiety experienced by both the urban and rural learners in the flipped classroom. Specifically, prior to class, the pre-service teachers were encouraged to interact with their peers and instructor through online forums, share their progress, and discuss any questions they had. The instructor also designed and carried out in-class activities to facilitate collaborative and cooperative interactions between students, providing them with ample time and opportunities to communicate. The interactions extended beyond the classroom with further online discussions and feedback. These collaborative and harmonious interactions in the flipped classroom probably strengthened friendships among the pre-service teachers, fostered mutually beneficial relationships between the learners and the instructor, and created a democratic, peaceful, and inspiring learning environment that boosted the pre-service teachers' confidence and positivity in communication in English and lowered their language anxiety, regardless of their educational backgrounds. Indeed, as convincingly argued by Yuan and Moran (2017), social interactions and rapport in the flipped classroom can increase students' willingness to collaborate, accept feedback, and actively communicate in English with less fear and anxiety. Such interactions can also encourage introverted and technologically anxious students from rural areas to participate more actively in flipped class activities. Interestingly, positive outcomes were observed in the rural pre-service teachers in the flipped classroom as well, who might suffer from certain technology anxiety but who still achieved significantly lower language anxiety in comparison to their rural peers in the traditional classroom. This study provided significant empirical evidence on the empowerment of Chinese pre-service teachers (urban and rural alike) concerning their language anxiety in the flipped classroom.

In congruent with the second null hypothesis, the study revealed that the interaction between educational background and teaching approach was insignificant in terms of the learners' FLCA. The lack of significance may be attributed to the fact that both the urban and rural pre-service teachers were similarly affected by the (flipped or traditional) teaching approach in terms of their anxiety.

As previously discussed, the collaborative and scaffolding learning environment, along with harmonious social interactions both in and out of the flipped classroom could effectively reduce the language anxiety of the pre-service teachers with different educational backgrounds. However, the teacher-centered learning environment where the instructor took on a dominant role, could potentially exacerbate the passivity

of the pre-service teachers and amplify their sense of intimidation towards the instructor as the central authoritative figure, leading to comparatively high anxiety of the learners, regardless of their backgrounds of education. Therefore, the relationship between teaching approach and FLCA among the pre-service teachers was not effectively influenced by their educational backgrounds in this context.

6. Conclusions and Recommendations

The study revealed that the FC had a positive impact on FLCA among the first-year Chinese pre-service teachers. Interestingly, the effects of flipped and traditional teaching approaches on the language anxiety did not differ significantly based on the participants' urban and rural educational backgrounds. These findings suggested that the FC may be more effective than the TT in reducing the language anxiety for the pre-service teachers, regardless of their backgrounds of education. Accordingly, the study recommended that the FC be utilized to alleviate FLCA of the pre-service teachers in the specific context. To better implement the FC, suggestions are provided as follows.

For the teacher educators, it is imperative for them to create a scaffolding and harmonious learning environment and facilitate collaborative and meaningful social interactions in the flipped learning process to ameliorate the language anxiety of the pre-service teachers. They can also provide the pre-service teachers with flipped classroom training. This will allow for an extended period of time for practice and adaptation of the novel approach. Additionally, they are strongly suggested to adopt a supportive and guiding role in the classroom, and continuously update their teaching designs to cater to particular needs of the learners.

For the pre-service teachers, they should recognize the positive impact of the FC on the reduction of their language anxiety and develop technical capacities to better leverage potential benefits offered by this instructional approach.

For educational institutions and authorities in the context, it is highly recommended that they offer administrative, financial, and technical support to promote the adoption of the FC among instructors and pre-service EFL teachers. This support could encompass training programs focused on the FC and technology utilization, incorporation of the flipped classroom design of the present study into teacher training handbooks, as well as initiatives aimed at boosting buy-in from both teachers and students.

These collective efforts may contribute to contextually appropriate and potentially effective use of the flipped instructional approach, leading to reduced FLCA of the learners.

7. Limitations and Future Research

The study had several limitations, including a short experiment duration, a small sample size from a single university, and limited research instruments and data. To address these limitations, future studies could conduct longitudinal research with larger samples and broader English courses to yield more generalizable results. Collecting both quantitative and qualitative data through multiple instruments would also enhance the comprehensiveness of the study. Moreover, investigating other influencing factors, such as gender, motivation, and technical capacity would provide a deeper understanding of the impact of the FC on FLCA. Additionally, future studies can explore construction of a framework for the FC that incorporates language and cultural dimensions. And interdisciplinary studies involving fields, such as computer science, linguistics, statistics, psychology, neurology, and mathematics present promising trends in flipped EFL classroom research as well.

Despite the research limitations, this study provided valuable empirical evidence and practical insights into the feasibility and effectiveness of the FC on the reduction of FLCA of first-year pre-service EFL teachers in the particular Chinese context. It also made a valuable contribution to the literature by proposing a cycle model for implementation of the flipped instruction. This model could serve as a useful guide for instructors seeking to introduce the FC in similar educational contexts.

References

Abdullah, M. Y., Hussin, S., & Ismail, K. (2019). Investigating the effects of the flipped classroom model on Omani EFL learners' motivation level in English speaking performance. *Education and Information Technologies, 24*(5), 2975-2995. https://doi.org/10.1007/S10639-019-09911-5

Alhamami, M., & Khan, M. R. (2019). Effectiveness of flipped language learning classrooms and students' perspectives. *Journal on English as a Foreign Language, 9*(1), 71-86. https://doi.org/10.23971/JEFL.V9I1.1046

Altas, E. A., & Mede, E. (2021). The Impact Of Flipped Classroom Approach On The Writing Achievement And Self-Regulated Learning Of Pre-Service English Teachers. *Turkish Online Journal of Distance Education, 22*(1), 66-88. https://doi.org/10.17718/TOJDE.849885

Ansori, M., & Nurun Nafi', N. (2022). English teachers' perceived benefits and challenges of flipped classroom implementation. *JEELS (Journal of English Education and Linguistics Studies), 5*(2), 211-227. https://doi.org/10.30762/JEELS.V5I2.79

Bang, T. C. (2016). *The motivation of Vietnamese university students to learn English: A study using the expectancy-value model of academic motivation* (Unpublished master's thesis). The University of Newcastle, Newcastle.

Basal, A. (2015). The implementation of a flipped classroom in foreign language teaching. *Turkish Online Journal of Distance Education, 16*(4), 28-37. https://doi.org/10.17718/TOJDE.72185

Bergmann, J., & Sams, A. (2012a). Before you flip, consider this. *Phi Delta Kappan, 94*(2), 25. https://doi.org/10.1177/003172171209400206

Bergmann, J., & Sams, A. (2012b). *Flip your classroom: Reach every student in every class every day*. Washington DC: International Society for Technology in Education.

Bloom, B. S. (1984). *Taxonomy of educational objectives*. London: Pearson.

Brown, B. A. (2016). *Understanding the flipped classroom: Types, uses and reactions to a modern and evolving pedagogy* (Unpublished master's thesis). St. Cloud State University, St Cloud, MN.

Cabi, E. (2018). The impact of the flipped classroom model on students' academic achievement. *International Review of Research in Open and Distance Learning, 19*(3), 202-221. https://doi.org/10.19173/IRRODL.V19I3.3482

Chang, C., & Lin, H. C. K. (2019). Classroom interaction and learning anxiety in the IRS-integrated flipped language classrooms. *Asia-Pacific Education Researcher, 28*(3), 193-201. https://doi.org/10.1007/S40299-018-0426-X

Chen, M. R. A., & Hwang, G. J. (2020). Effects of a concept mapping-based flipped learning approach on EFL students' English speaking performance, critical thinking awareness and speaking anxiety. *British Journal of Educational Technology, 51*(3), 817-834. https://doi.org/10.1111/BJET.12887

Chen, W. (2019). A survey of English learning anxiety of English Majors under flipped classroom. *Journal of Chifeng University, 40*(10), 124-129.

Chen, Y., Wang, Y., Kinshuk, & Chen, N. S. (2014). Is FLIP enough? or should we use the FLIPPED model instead? *Computers and Education, 79*, 16-27. https://doi.org/10.1016/J.COMPEDU.2014.07.004

Chen, Y., & Zhao, C. (2014). An instructional design and application research based on the flipped classroom model. *Modern Educational Technology, 3*, 49-54.

Chen, Z. (2020). *A contrastive study on the causes of foreign language classroom anxiety of high school students in urban and rural areas* (Unpublished master's thesis). Hainan Normal University, Haikou.

Chinese Ministry of Education. (2020). *Teaching guide for undergraduate English majors*. Beijing: Foreign Language Teaching and Research Press.

Choi, J., & Lee, Y. (2018). To what extent does 'flipping' make lessons effective in a multimedia production class? *Innovations in Education and Teaching International, 55*(1), 3-12. https://doi.org/10.1080/14703297.2015.1123105

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: Lawrence Erlbaum Associates, Publishers.

Cuong, P. H. (2021). English language education in rural areas: Current issues, complexities and ways forward. *VNU Journal of Science: Education Research, 37*(4), 39-48. https://doi.org/10.25073/2588-1159/VNUER.4538

Deepa, R. (2021). A study on rural and urban learners in learning English language and their difficulties in sentence formation in English. *International Journal of Multidisciplinary Educational Research, 10*(4), 105-110.

Dewaele, J. M., & MacIntyre, P. D. (2014). The two faces of Janus? Anxiety and enjoyment in the foreign language classroom. *Studies in Second Language Learning and Teaching, 4*(2), 237-274. https://doi.org/10.14746/SSLLT.2014.4.2.5

Diana, Z. (2019). Exploring 4 types of flipped learning. Retrieved from https://blog.neolms.com/exploring-4-types-of-flipped-learning/

Dörnyei, Z. (2005). *The psychology of the language learner: Individual differences in second language acquisition*. Mahwah, NJ: Lawrence Erlbaum.

Evans, W., & Savage, J. (2015). *Developing a local curriculum: Using your locality to inspire teaching and learning*. London: Routledge.

Fan, Y., & Cheng, Q. (2015). Empirical analysis of urban-rural students' performance gap in college entrance exam in Chongqing. *Educational Measurement and Evaluation, 8*(1), 44-50.

Feng, W., Liu, Y., & Qu, L. (2019). Effect of land-centered urbanization on rural development: A regional analysis in China. *Land Use Policy, 87*, Article 104072. https://doi.org/10.1016/J.LANDUSEPOL.2019.104072

Flipped Learning Network. (2014). The four pillars of F-L-I-P™. Retrieved from https://flippedlearning.org/definition-of-flipped-learning/

Gao, Z., & Li, J. N. (2016). English classroom anxiety of Chinese learners: Flipped vs. Traditional. *Technology Enhanced Foreign Language Education, 2*(167), 37-42.

García-Sánchez, S., & Santos-Espino, J. M. (2017). Empowering pre-service teachers to produce ubiquitous flipped classes. *PROFILE*

Issues in Teachers' Professional Development, 19(1), 169-185. https://doi.org/10.15446/PROFILE.V19N1.53857

Gasmi, A. A., & Thomas, M. (2016). Academic writing in the flipped EFL classroom: A case study on student engagement in Oman. In J. P. Loucky & J. L. Ware (Eds.), *Flipped instruction methods and digital technologies in the language learning classroom* (pp. 232-251). Hershey, Penn: IGI Global.

Ghufron, M. A., & Nurdianingsih, F. (2019). Flipped teaching with call in EFL writing class: How does it work and affect learner autonomy? *European Journal of Educational Research, 8*(4), 983-997. https://doi.org/10.12973/EU-JER.8.4.983

Glassdoor Team. (2021). *Answering questions about educational background.* Retrieved from https://www.glassdoor.com/blog/guide/educational-background/

Gok, D., Bozoglan, H., & Bozoglan, B. (2021). Effects of online flipped classroom on foreign language classroom anxiety and reading anxiety. *Computer Assisted Language Learning, 36*(4), 840-860. https://doi.org/10.1080/09588221.2021.1950191

Haghi, M. (2021). The effective integration of flipped classroom in ELT contexts: A review of recent literature. *Arab World English Journal, 2,* 120-132. https://doi.org/10.24093/AWEJ/MEC2.9

He, J. (2007). *Anthology of Chinese history*. Beijing: Beijing University Press.

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign Language Classroom Anxiety. *The Modern Language Journal, 70*(2), 125-132. https://doi.org/10.2307/327317

Hsiao, I. C. V., Hung, S. T. A., & Huang, H. T. D. (2021). The flipped classroom approach in an English for specific purposes (ESP) course: A quasi-experimental study on learners' self-efficacy, study process, and learning performances. *Journal of Research on Technology in Education, 55*(3), 507-526. https://doi.org/10.1080/15391523.2021.1976329

Jiang, H. X. (2019). Some thoughts on reform of foreign language education in the new era. *Foreign Language World, 1,* 13-16.

Jin, Y., Zhang, L. J., & MacIntyre, P. D. (2020). Contracting students for the reduction of foreign language classroom anxiety: An approach nurturing positive mindsets and behaviors. *Frontiers in Psychology, 11*, Article 1471. https://doi.org/10.3389/FPSYG.2020.01471

Karaaslan, H., & Çelebi, H. (2017). ELT teacher education flipped classroom: An analysis of task challenge and student teachers' views and expectations. *Journal of Language and Linguistic Studies, 13*(2), 643-666.

Karjanto, N., & Simon, L. (2019). English-medium instruction Calculus in Confucian-Heritage Culture: Flipping the class or overriding the culture? *Studies in Educational Evaluation, 63*, 122-135. https://doi.org/10.1016/J.STUEDUC.2019.07.002

Ke, Z. (2016). Curriculum reform and rural students' opportunity for academic success: Analysis of eight-year high-school entrance exam data from City A. *Educational Research, 10,* 95-105.

Kırmızı, Ö., & Kömeç, F. (2019). The impact of the flipped classroom on receptive and productive vocabulary learning. *Journal of Language and Linguistic Studies, 15*(2), 437-449. https://doi.org/10.17263/JLLS.586096

Kurt, G. (2017). Implementing the flipped classroom in teacher education: Evidence from Turkey. *Educational Technology and Society, 20*(1), 211-221.

Lage, M. J., Platt, G. J., & Treglia, M. (2000). Inverting the classroom: A gateway to creating an inclusive learning environment. *Journal of Economic Education, 31*(1), 30-43. https://doi.org/10.1080/00220480009596759

Lakarnchua, O., Balme, S., & Matthews, A. (2020). Insights from the implementation of a flipped classroom approach with the use of a commercial learning management system. *Turkish Online Journal of Distance Education, 21*(3), 63-76. https://doi.org/10.17718/TOJDE.762027

Li, G., Jee, Y., & Sun, Z. (2018). Technology as an educational equalizer for EFL learning in rural China? Evidence from the impact of technology-assisted practices on teacher-student interaction in primary classrooms. *Language and Literacy, 20*(3), 159-184. https://doi.org/10.20360/LANGANDLIT29415

Liu, J. L. (2021). Practical research on promoting flipped classroom in rural junior middle school English teaching. *Parents, 21,* 122-123.

Liu, Y., & Wang, H. (2021). English Education in Rural Secondary Schools in Southwest China: Problems and Countermeasures under the Rural Vitalization Strategy. *International Journal of English Language Teaching, 8*(2), 32-40. https://doi.org/10.5430/IJELT.V8N2P32

Lv, T. T., & Wang, N. (2016). A study on the establishment and effect of the flipped classroom mode for SPOC+ teaching resource platform as applied in College English Teaching. *China Educational Technology, 5*, 85-90+131.

MacIntyre, P. D., & Gardner, R. C. (1991). Methods and Results in the Study of Anxiety and Language Learning: A Review of the Literature. *Language Learning, 41*(1), 85-117. https://doi.org/10.1111/J.1467-1770.1991.TB00677.X

Ming, C. (2009). *Exploration of Tai Chi diagram*. Chengdu: Sichuan University Press.

National Bureau of Statistics. (2020). Announcement on the renewal of the national statistical zoning code and urban and rural zoning code. Retrieved from http://www.stats.gov.cn/tjsj/tjbz/tjyqhdmhcxhfdm/2020/index.html

Ömer, Ö., & Akçayoğlu, D. İ. (2021). Examining the roles of self-efficacy beliefs, self-regulated learning and foreign language anxiety in

the academic achievement of tertiary EFL learners. *Participatory Educational Research, 8*(2), 357-372. https://doi.org/10.17275/per.21.43.8.2

Oteir, I. N., & Al-Otaibi, A. N. (2019). Foreign language anxiety: A systematic review. *Arab World English Journal, 10*(3), 309-317. https://doi.org/10.24093/AWEJ/VOL10NO3.21

Ou, C. (2017). A Review on Language Learner Autonomy Research in China (2006-2016): Based on 12 Key Domestic Journals. *English Language Teaching, 10*(11), 76-76. https://doi.org/10.5539/ELT.V10N11P76

Ozer, O., & Akçayoğlu, D. İ. (2021). Examining the roles of self-efficacy beliefs, self-regulated learning and foreign language anxiety in the academic achievement of tertiary efl learners. *Participatory Educational Research, 8*(2), 357-372. https://doi.org/10.17275/PER.21.43.8.2

Pang, Y. (2022). The role of web-based flipped learning in EFL learners' critical thinking and learner engagement. *Frontiers in Psychology, 13*, Article 1008257. https://doi.org/10.3389/FPSYG.2022.1008257

Piniel, K., & Albert, Á. (2018). Advanced learners' foreign language-related emotions across the four skills. *Studies in Second Language Learning and Teaching, 8*(1), 127-147. https://doi.org/10.14746/SSLLT.2018.8.1.6

Qu, P. (2017). A flipped classroom model of oral practice in integrated English teaching based on WeChat platform. *Journal of Ningbo Institute of Education, 17*(6), 23-26.

Rajabi, P., Mahmoodi, K., & Hosseini, S. A. (2021). Flipped classroom model and its impact on Iranian EFL learners' classroom anxiety and listening performance. *Computer-Assisted Language Learning Electronic Journal, 22*(3), 1-16.

Robinet, I. (2008). Wuji and Taiji, Ultimateless and great ultimate. In F. Pregadio (Ed.), *The encyclopedia of Taoism* (pp. 1057-1059). London: Routledge.

Rural Education Action Program. (2018). *Computers as tutors: Leveraging PCs to advance learning in China's rural schools.* Retrieved from https://reap.fsi.stanford.edu/sites/default/files/REAP116-EN.pdf

Salehi, M., & Marefat, F. (2014). The effects of foreign language anxiety and test anxiety on foreign language test performance. *Theory and Practice in Language Studies, 4*(5), 931-940. https://doi.org/10.4304/TPLS.4.5.931-940

Sellman, J. D. (2002). *Timing and rulership in master Lü's spring and autumn annals*. Albany, NY: State University of New York Press.

Spielberger, C. D. (1989). *State-trait anxiety inventory: Bibliography*. Palo Alto, CA: Consulting Psychologists Press.

Sukerti, G. N. A., Rudiastari, E., & Susana, K. Y. (2020). The Effectiveness of Flipped Learning in Teaching Writing. *SOSHUM : Jurnal Sosial dan Humaniora, 10*(1), 78-92. https://doi.org/10.31940/SOSHUM.V10I1.1634

Suranakkharin, T. (2017). Using the flipped model to foster Thai learners' second language collocation knowledge. *3L: Language, Linguistics, Literature, 23*(3), 1-20. https://doi.org/10.17576/3L-2017-2303-01

Tran, T. T. (2013). Is the learning approach of students from the Confucian heritage culture problematic? *Educational Research for Policy and Practice, 12*(1), 57-65. https://doi.org/10.1007/S10671-012-9131-3

Tsai, Y. R. (2021). Promotion of learner autonomy within the framework of a flipped EFL instructional model: perception and perspectives. *Computer Assisted Language Learning, 34*(7), 979-1011. https://doi.org/10.1080/09588221.2019.1650779

Wang, H., Mansor, N. S., Wang, X., Hoon, L., & Darmi, R. (2021). Application of flipped classroom for English education based on network information technology. *Journal of the Balkan Tribological Association, 27*(2), 321-331.

Wang, Y. (2020). A study on college English high-efficiency class based on blended teaching mode of flipped classroom. *Theory and Practice in Language Studies, 10*(9), 1066-1071.

Wu, S., Xu, Y., Han, J., & Jiang, M. (2021). Detecting the factors affecting the learning performance of students with different learning styles in flipped learning. *ICIC Express Letters. Part B, Applications, 12*(12), 1137-1144.

Wu, X. C., & Zhang, H. M. (2021). The influence of online classroom teaching model on students' satisfaction and learning interests under the epidemic COVID-19: A case of integrated English course. *China Journal of Multimedia & Network Teaching, 3*, 51-54.

Yang, F., & Lin, J. (2016). A Chinese Tai Chi Model: An Integrative Model beyond the Dichotomy of Student-Centered Learning and Teacher-Centered Learning. *Asian Education Studies, 1*(2), 44-44. https://doi.org/10.20849/AES.V1I2.61

Yang, R. (2008). Urban-rural disparities in educational equality: China's pressing challenge in a context of economic growth and political change. In W. T. Pink & G. W. Noblit (Eds.), *International Handbook of Urban Education* (pp. 231-247). Dordrecht: Springer.

You, C., & Dörnyei, Z. (2016). Language learning motivation in China: Results of a large-scale stratified survey. *Applied Linguistics, 37*(4), 495-519. https://doi.org/10.1093/APPLIN/AMU046

Yuan, C., & Moran, C. M. (2017). *Flipped classroom in China*. Hershey, Penn: IGI Global.

Yue, A., Tang, B., Shi, Y., Tang, J., Shang, G., Medina, A., & Rozelle, S. (2018). Rural education across China's 40 years of reform: Past successes and future challenges. *China Agricultural Economic Review, 10*(1), 93-118. https://doi.org/10.1108/CAER-11-2017-0222

Yusofi, M., Zarghami-Hamrah, S., Ghaedy, Y., & Mahmudnia, A. (2018). A quasi-transcendental approach for removing hierarchical teacher-student relation. *Policy Futures in Education, 16*(3), 346-359. https://doi.org/10.1177/1478210317736205

Zhang, J. Q., & Guo, L. (2018). Study on language anxiety of non-English majors: An examination of FLCAS's reliability and validity. *Journal of North China University of Science and Technology, 18*(1), 105-112.

Zhang, S. (2022). A comparative study of English learning motivation of primary school students in urban, suburban and rural areas in China. *Journal of Teaching and Management, 12,* 27-32.

Zheng, Y., & Cheng, L. (2018). How does anxiety influence language performance? From the perspectives of foreign language classroom anxiety and cognitive test anxiety. *Language Testing in Asia, 8*(1), Article 13. https://doi.org/10.1186/S40468-018-0065-4

Zhong, X., Song, S., & Jiao, L. (2013). Instructional design based on the idea of the flipped classroom in ICT environment. *Open Education Research, 19*(1), 58-64.

Appendix Foreign Language Classroom Anxiety Scale (Translated Version)

The Heading to Appendix A

Foreign Language Classroom Anxiety Scale

Dear student, thank you for taking the time to complete this survey on language anxiety.

Anxiety is a common phenomenon in language classrooms, which may be manifested as fear, worries, nervousness, and restlessness. In order to understand the relationship between anxiety and English language learning, researchers designed the following questionnaire.

This questionnaire is conducted anonymously, and the survey results are only used for statistical analysis, which will not bring any negative impact to you personally. Please respond in a factual manner according to the instructions. There are no right or wrong answers, and you do not have to spend too much time thinking about any one question. Thanks again for your support!

Section A

(Demographic questions)

1) **Which class are you in?**

2) **What is the name of your secondary school? (Please specify the province, city (county))**

Section B

(Questions about foreign language classroom anxiety)

Note: The following 25 questions include 5 choices each. Please circle on of the options as your response for each item according to your actual situation.

No.	Item	1: Strong disagree 2: Disagree 3: Neither agree nor disagree 4: Agree 5: Strong agree				
1	I never feel quite sure of myself when I am speaking in my foreign language class.	1	2	3	4	5
2	I tremble when I know that I am going to be called on in language class.	1	2	3	4	5
3	It frightens me when I do not understand what the teacher is saying in foreign language.	1	2	3	4	5
4	It wouldn't bother me at all to take more foreign language classes.	1	2	3	4	5
5	I keep thinking that the other students are better at language than I am.	1	2	3	4	5
6	I am usually at ease during my tests in my language class.	1	2	3	4	5
7	I start to panic when I have to speak without preparation in language class.	1	2	3	4	5
8	I worry about the consequences of failing my foreign language class.	1	2	3	4	5
9	I don't understand why some people get so upset over foreign language class.	1	2	3	4	5
10	In language class, I can get so nervous I forget things I know.	1	2	3	4	5
11	It embarrasses me to volunteer answers in my language class.	1	2	3	4	5
12	I get upset when I don't understand what the teacher is correcting.	1	2	3	4	5
13	Even if I am well prepared for language class, I feel anxious about it.	1	2	3	4	5
14	I feel confident when I speak in foreign language class.	1	2	3	4	5
15	I can feel my heart pounding when I'm going to be called on in language class.	1	2	3	4	5
16	I don't feel pressure to prepare very well for language class.	1	2	3	4	5
17	I always feel that the other students speak the foreign language better than I do.	1	2	3	4	5
18	I feel very self-conscious about speaking the foreign language in front of other students.	1	2	3	4	5
19	Language class moves so quickly I worry about getting left behind.	1	2	3	4	5
20	I feel more tense and nervous in my language class than in my other classes.	1	2	3	4	5
21	I get nervous and confused when I am speaking in my language class.	1	2	3	4	5
22	When I'm on my way to language class, I feel very sure and relaxed.	1	2	3	4	5
23	I get nervous when I don't understand every word the language teacher says.	1	2	3	4	5
24	I am afraid that the other students will laugh at me when I speak the foreign language.	1	2	3	4	5
25	I get nervous when the language teacher asks questions which I haven't prepared in advance.	1	2	3	4	5

Copyrights