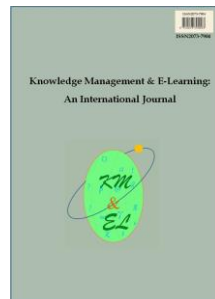# Anxiety and engagement in the online classroom: A case study of Thai learners of Chinese as a foreign language

Pairin Srisinthon
Walailak University, Thailand

Anxiety and engagement in the online classroom: A case study of Thai learners of Chinese as a foreign language

Pairin Srisinthon* ⓘ

Centre of Geosocial and Cultural Research for Sustainable Development
School of Liberal Arts
Walailak University, Thailand
E-mail: pairinxu@gmail.com

*Corresponding author

Abstract: This article aimed to explore which factors caused Thai learners' anxiety in an online Chinese course provided by Chinese universities, how Chinese proficiency affected online learning anxiety, and how online learning anxiety influences learning engagement. The participants, i.e., learners of Chinese as a foreign language (CFL), completed the questionnaires dealing with online learning anxiety and learning engagement, and their Chinese proficiency was measured by the Hanyu Shuiping Kaoshi (HSK) level 4 test. A semi-structured interview was conducted to enrich the study and the full picture of learner anxiety and engagement in online learning. The result of the questionnaires showed that the level of CFL learners' anxiety was moderate. The crucial factor in anxiety was the fear of communication in Chinese. ANOVA analysis indicated that Chinese proficiency also affected CFL online learning anxiety; most learners of low Chinese proficiency had a higher level of anxiety than those with moderate and high Chinese proficiency. Additionally, online engagement in the dimension of social presence was significantly related to CFL learners' anxiety. The interviews also revealed that classroom interaction was the crucial element of online learning, which may lessen learners' anxiety and increase their engagement.

Keywords: Online learning anxiety; learner engagement; post-Covid-19 pandemic; online learning; social presence; Chinese as a foreign language

Biographical notes: Dr. Pairin Srisinthon is an assistant professor of Chinese program, School of Liberal Arts at Walailak university in Thailand. She received a doctoral degree from Shandong University in China. Her research related to teaching Chinese as a foreign language, Chinese literature, and Thai-Chinese literature comparison.

1. Introduction

The most extensively used language in the world is Mandarin Chinese (Myers, 2018). The growth of China's economy, politics, and culture has also contributed to a steady rise in the number of people learning Chinese as a foreign language (CFL) on a global scale, and this trend is certain to continue into the future (Baverstock, 2019; Gong et al., 2021; Xu et al., 2022) including in Thailand.

Since the start of the Belt and Road Initiative (BRI) in 2013, China has been Thailand's main supplier of foreign tourists and has significantly boosted the country's

economy. Around 10 million Chinese visitors came to Thailand in 2018, bringing in more than 590 billion Baht (Thai website, 2019). By 2017, Thai students were the second largest international student group in China (Zhang, 2018). Communication skills with the Chinese are becoming increasingly important for Thai people. Thus, the two countries' student exchange programs also developed quickly (Zhou, 2021).

In the context of education globalization and informatization, Thailand's higher educational institutions continue to cooperate with China's higher educational institutions for the development of CFL education and provide a better study environment in China for Thai CFL students. Covid-19's rapid growth in 2019 resulted in serious illness and fatalities as the number of confirmed cases climbed sharply (Komolafe et al., 2020). The World Health Organization (WHO) formally declared a global health emergency and pandemic on March 11, 2020 (WHO, 2020). The Covid-19 pandemic caused China to lock down and not permit foreign students to enter China. This crisis impacts every step of CFL teaching and learning and will continue to impact academic activities between Thailand and China's higher educational institutions.

Covid-19 has provided a significant opening for global digital learning (Hope, 2020; Mekonen & Nneoma, 2021). The health crisis forced Chinese partners and Thai higher education institutions to alter their modes of collaboration in order to develop cutting-edge teaching strategies for students to learn and acquire information in response to this pandemic.

The major change has been the transition to distance learning, giving rise to a significant increase in the use of online learning technologies and techniques (Huang et al., 2021; Jamilah & Fahyuni, 2022). Long-distance learning has a number of difficulties, including low student interest and involvement, less engaging classes, learning anxiety, and network capacity issues (Komolafe et al., 2020; Mekonen & Nneoma, 2021). However, most of the previous studies conducted on international students in China explored their attitude to online learning (Basith et al., 2019; Geng, 2021; Mekonen & Nneoma, 2021). Fewer current studies have investigated the attitude or emotions toward online learning in Thai CFL learners, including studies about the relationship between anxiety and learning engagement for CFL among Thai learners. The findings from the present study will allow a better understanding of what is important to online learning in the post-Covid-19 pandemic era and what is more commonly related to anxiety experience and engagement by Thai CFL learners in the online mode. Furthermore, it will be useful for developing CFL teaching and learning management of online classes.

In the context of the post-Covid-19 crisis, this article aimed to explain learner concerns and participation with remote CFL learning. It presents the study's findings in a Thai university's Chinese department. In order to investigate CFL learning anxiety and engagement with online learning and identify associated factors, the paper first studies relevant literature before providing a questionnaire. Additionally, semi-structured interviews with learners were held to analyze the impact of learning anxiety and engagement in online learning. At the end of the second academic semester, data were collected from Thai CFL learners taking Chinese online classes offered by Chinese universities to examine the relationship between CFL learning anxiety and the engagement of Thai CFL learners toward online Chinese learning. Therefore, the present study tried to answer the following questions:

1. What factors cause anxiety in online learning?

2. How does Chinese proficiency affect online learning anxiety of CFL learners?

3. How does online learning anxiety influence learning engagement?

2. Literature review

When the Covid-19 pandemic was widespread worldwide, online foreign language learning played an important role in supporting teaching and learning. More research was conducted to explore online students' emotions in online classes. In order to investigate the precise reason for the decline in a foreign language in the emergency remote teaching setting, more research is being done on the psychological environment of learners. In a university setting, Maican and Cocoradă (2021) looked at the stressors and reactions related to online learning during the pandemic and discovered no difference in the investigated variables by gender, study program, or achievement level. They also discovered a negative correlation between the perceived value of the FL task and the perceived level of FL proficiency. According to Wang and Jiang (2022), CFL learners enjoyed their remote learning, but no significant relationship between anxiety and Chinese proficiency was observed.

In this study, the following hypothesis was investigated in the context of CFL learning:

H1: The level of anxiety in online classes would be higher than that in offline classes.

Situational anxiety associated with learning a foreign language, such as worries about being unable to converse with others in that language due to linguistic restrictions, is known as foreign language anxiety (Horwitz, 2017; Pan et al., 2022). Anxiety affects second-language learners worldwide in both formal and informal contexts (Horowitz, 2019; Alla et al., 2020). Foreign language learning anxiety is primarily caused by the fear of making mistakes while speaking in academic and social contexts (Horwitz et al., 1986; Alla et al., 2020; Wang & Zhang, 2021). According to Abdulaal et al. (2022), focusing on speaking fluency and accuracy can make pupils feel uneasy in class. According to Geng (2021), some international students find Chinese challenging to learn, get restless in Chinese language classes, and feel worried and frightened when communicating in Chinese.

Learners who are anxious may only speak the target language when they are in their "comfort zone" (Horowitz, 2019; Yang et al., 2018; Zhang, 2019). Because they are afraid of getting bad grades or being teased, many students are reluctant to utilize their second language (Horowitz, 2019). Learning anxiety was divided into three categories based on how it performed, namely: 1) communication apprehension; 2) test anxiety, caused by the control of knowledge and skills; and 3) fear of negative evaluation by other students and the teacher (Horwitz et al., 1986).

Shyness brought on by the requirement to interact in a foreign language with other students and teachers is known as communication anxiety (Alla et al., 2020). Test anxiety is linked to a learner's personality emotional state and manifests itself when they are routinely subjected to highly critical tests where failure or success in the exam is greatly exaggerated for them.

The fear of negative evaluation is the expectation that others will judge them negatively. Students are reluctant to use their second language because they are afraid of receiving poor evaluations or being mocked; however, this concern can arise in any social or evaluative situation (Horwitz et al., 1986; Horowitz, 2019). Learning FL is greatly influenced by how students view the teacher's actions; the more anxious students feel, the more unfavourable their impression of the teacher is (Maican & Cocoradă, 2021).

In comparison to offline learning, online learning may make students feel less motivated and more anxious than offline learning due to the absence of intermediary

feedback and support from instructors or interaction with peers; as a result, they need to be more self-regulated (Ma, 2022; Mihai et al., 2022). Bollinger (2017) explored how online learning affects students' anxiety and discovered contextual differences: students in classes taught on-site experienced considerably lower levels of anxiety than students enrolled in remote courses. Hurd (2007), for instance, found in her study on foreign language classroom anxiety in online learning among tertiary-level learners of French that the nature and intensity of learners' anxiety in the online mode differed significantly from those experienced in classes held on-site.

The findings indicated that anxiety-provoking factors that are specifically related to the online mode include the absence of immediate feedback, feelings of isolation (see also Hauck & Hurd, 2005), learners' difficulty comparing their own progress to that of their peers, a lack of speaking practice and confidence when working independently, and, relatedly, a lack of clear task instructions. Interactions with teachers and peers in two dimensions on a screen lack the emotional resonance of traditional, three-dimensional classroom settings where the volume cannot be turned down, and the very physicality of the experience can excite students and foster feelings of connectedness (Bollinger & Inan, 2012; Mekonen & Nneoma, 2021). The anxiety related to participation in online debates may be lessened by the significance of interaction in getting to know one another, developing relationships, and creating social bonds (Renik & Dewaele, 2012).

According to Sung and Li (2019), college-aged native English speakers in the United States who are learning Chinese as a second language worry about their performance in Chinese classes, their proficiency with all four language skills, their ability to write Chinese characters, and their learner confidence. Zhou (2017) revealed that the main causes of reading anxiety among CFL students in the United States were identified as understanding unfamiliar topics, incorrect pronunciation, and uncomfortable in reading aloud.

Some studies by Chinese scholars focused on language skills such as speaking anxiety, and writing anxiety (Chen, 2021; Liu, 2019; Xie & Luo, 2021; Wang & Zhang, 2021). Basith et al. (2019) indicated that CSL students in China who have been studying Chinese for longer periods of time and who are more proficient tend to have lower anxiety levels. According to Zheng and Lynch (2021), there is relatively little correlation between students' motivation and language anxiety for learning Chinese and academic achievement in the language. The study by Zheng and Lynch (2021) indicated a weak relationship between motivation, anxiety, and Chinese academic achievement among young Thai CFL learners.

Nevertheless, most studies of anxiety in CFL learning focused on foreign learners who studied in Chinese universities or other countries, paying little attention to learners who have been learning Chinese in Thailand. Studies were specifically conducted on the anxiety of long-online learners in Thailand's higher educational institutions.

H2: The level of learner engagement in online classes would be lower than that in offline classes.

Kuh (2003) defined engagement as "the time and energy students devote to educationally sound activities." Student engagement has evolved from a student-centered interest in enhancing learning to being a proxy for higher education quality and a performance criterion for higher education institutions. This concept served as the basis for surveys in the US and Australia (National Survey of Student Engagement, NSSE; Australian Survey of Student Engagement, AUSSE) (Harrison, 2 0 1 3 ; Waters & Day,

2022). The NSSE assesses student engagement in five activity categories, including the level of academic difficulty, the supportive campus environment, enriching educational opportunities, student-faculty interaction, and active and collaborative learning (Dixson, 2015).

Since research shows that social presence is an essential feature of student engagement, Dixson combined the community of inquiry model with the preceding components of engagement in the traditional classroom to define online student engagement (Chen, 2021; Dixson, 2015). He asserted that an online learning environment supports social presence and community while generating meaningful interactions and that the community of inquiry model (COI) provides a clear framework for adopting social constructivist concepts in the online learning environment. A COI framework that stresses the three key elements of cognitive presence, social presence, and instructional presence was employed to create a meaningful educational experience. (Feng et al., 2017; Garrison et al., 2000; Majeski et al., 2018; Nolan-Grant, 2019).

According to the COI paradigm, emotional expression is one component of social presence (Majeski et al., 2018). In addition to emotional expression, the function of emotional presence in learning appears to include affective and motivational experiential elements like self-efficacy, openness, increased self-awareness, increased receptivity to others, and an improved capacity for managing high-arousal emotional states that are typical in learning (Majeski et al., 2018; Stenbom et al., 2016).

Particularly in the online setting, where students can frequently feel isolated and disengaged, student engagement is crucial to learning (Dixson, 2015). Unsatisfactory levels of overseas students' participation in CFL offline classes were observed, according to Tian et al. (2020), with a significant portion of the participants being passive or ineffectively engaged in learning. The least positive comments came from students' interactions with host teachers and the amount and quality of their teacher-student interactions. However, according to Fan and Zhou (2022), foreign students had positive perceptions of an online learning environment, student engagement, and Chinese learning achievement.

Additionally, Muir et al. (2022) recommend that instructors should implement interactive techniques to increase their students' interaction with the material in online CFL classes. Wang (2017) discovered that, while international students in Chinese universities were active in their academics, they were less likely to engage in extracurricular activities, interact with their instructors or classmates, or make use of the institutions' helpful resources. Additionally, he stated that participation levels in the areas of gender, nationality, and length of Chinese study are remarkable. According to Chen (2021), social integration was discovered to be a direct factor in the learning engagement of international students taking CFL online at a Chinese university. Additionally, the peaceful learning environment and the requirement for technical preparations and training for online CFL teaching and learning were taken into consideration for increasing student participation.

H3: Online learning anxiety has a significant impact on learner engagement.

Particularly in online teaching and learning, emotional expression is linked to the COI model's components and can be considered essential to successful learning (Majeski et al., 2018). Positive emotions can help students pay attention more holistically, create more contact and conversation among students, and motivate them to participate in their studies (Majeski et al., 2018; Nolan-Grant, 2019; Wong et al., 2022). Anxiety is often

regarded as a negative emotion that affects performance and learning enthusiasm (Hilliard et al., 2020; Mihai et al., 2022). Foreign language anxiety has been reported in online settings (Côté & Gaffney, 2021; Garcia-Castro & O'Reilly, 2022) and has been shown to decrease students' online engagement. Learning strategies should be assessed primarily in terms of how well they increase student engagement and participation while removing any stressors and negative emotions that might impair students' performance, especially in difficult circumstances (Mihai et al., 2022).

Little research has explored the relationship between anxiety and engagement in online learning settings. In a study on how anxiety affects students' academic engagement during the Covid-19 pandemic, Garcia-Castro and O'Reilly (2022) investigated how anxiety affected students studying L2 English and L2 French at universities in Costa Rica. They discovered that, whereas students studying L2 French from rural regions experienced anxiety, students studying L2 English from rural areas did not appear to be significantly impacted by worry in terms of their online participation. According to the study by Wei et al. (2022), motivation, anxiety, and learning strategies only strongly predicted the learners' self-rated Chinese proficiency in an online context but not their performance on the Chinese vocabulary levels test. These limited findings highlight the need for more research on how anxiety impacts learners' engagement in varied learning environments.

3. Method

The following section (Fig. 1) presents conceptual framework, research design, participants, and instruments.

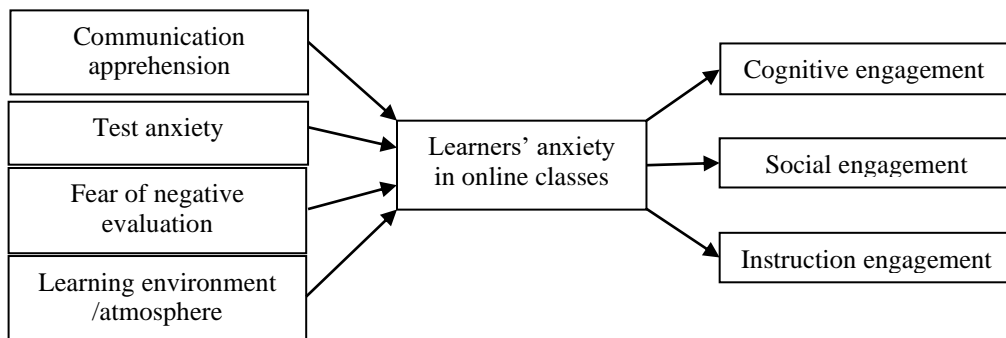### 3.1. Conceptual framework

Fig. 1. Illustration of research framework

3.2. Research design

Mixed method approaches were used to investigate learners' experiences of anxiety and engagement in online learning during the post-Covid-19 pandemic period. Quantitative data were gathered from the questionnaire, whilst qualitative data were collected from the

semi-structured interviews. The researcher carefully explained the items to all class participants to minimize the misunderstanding of the questions and in order to receive the correct answers. Evidence from different data gatherings and analysis methods support the internal validity of the research. Informed consent information was provided before gathering data. At the end of the semester, learners were given a questionnaire to answer, and an interview was conducted. Transcription and analysis of the data followed.

3.3. Participants

The participants were 48 third-year Chinese majors at a university located in the southern part of Thailand. They were 5 males and 43 females. They had studied Chinese for about 3-6 years. All learners were registered for two courses entitled "Chinese History" and "Chinese Writing" in the second semester of the 2022 academic year offered online by Chinese universities. The data were collected during the last week of the semester.

3.4. Instruments

3.4.1. Online learning anxiety scale

Learners' online learning anxiety was measured by the questionnaire created based on the Foreign Language Classroom Anxiety Scale (FLCAS) (Horwitz et al., 1986), Online Chinese Learning Anxiety Scale (Xu et al., 2022), and related literature. A variety of questions were changed specifically to the Thai learners' and Thailand's learning context. The translation of questionnaire items into Thai was carried out by a Thai expert who majors in English with a long period of teaching EFL. The five-point Likert-type scale consisted of 18 items. In order to check the reliability of the scale, the researcher piloted it with a group of 30 CFL learners who were studying at the university. Cronbach's alpha value for the whole scale was 0.98. Three invited Item Objective Congruence IOC experts validated the questionnaire. The score obtained was 0.89.

3.4.2. Online learning engagement scale

Le. To assess learners' engagement, a modified questionnaire consisting of 30 items was adapted from The Online Student Engagement Scale (OSE) (Dixson, 2015); Community of Inquiry (COI) model (Garrison et al., 2000), and Foreign Language Enjoyment scale (FLE) (Mihai et al., 2022), as well the related literature for describing the engagement in CFL online learning. The utilization of a COI model rooted in cognitive presence, social presence, and instruction presence (Garrison et al., 2000) is recommended for the implementation of online courses. Cognitive presence includes various stages that learners can engage in to generate and negotiate meaning through individual reflection and collaborative conversation (Garrison et al., 2000). The phases involve a series of distinct stages, namely initial triggering events, exploration, integration, and resolution (Garrison et al., 2000). Social presence includes three key concepts: affective/personal reactions, open communication, and coherent reactions (Garrison & Arbaugh, 2007). The primary objective of this platform is to facilitate the exchange of personal experiences and beliefs through online discussions (Majeski et al., 2018). The components of instruction presence include direct teaching, facilitation of learning, and instructional design (Garrison & Arbaugh, 2007). Important facets of instructional presence include developing and structuring the many course components, designing teaching strategies,

exchanging viewpoints and knowledge, and promoting conversation (Majeski et al., 2018). There are 19 items in OSE for checking self-reporting online learning behaviors, such as studying on a regular basis, listening/reading carefully and putting in unrelenting effort. FLE was used to explore student online learning during the Covid-19 pandemic period. Questions were framed around students' attitude related to the process of online teaching such as teaching and assessment tools used during class, students' interactions with teachers and peers, active participation during class, and technological challenges to participate in online classes. Items that fit the Thailand context and post-Covid-19 pandemic online learning were chosen. Similar to the FLA scale, the original items written in English were translated into Thai by a Thai expert majoring in English with a long period of teaching EFL experience. The five-point Likert-type scale consisted of 30 items with three factors; cognitive presence, social presence, and instructional presence. Like the FLA scale, the reliability of the scale was confirmed by 30 CFL learners who were studying at the university. The Cronbach's alpha values for the whole scale and its factors were calculated as .86, .96, and .92, respectively. Three invited Item Objective Congruence IOC experts validated the questionnaire. The score obtained was over 0.90.

3.4.3. Semi-structured interview

The interviews were expected to provide some qualitative information about online learning from the point of view of learners to enrich the study and full picture of anxiety and engagement in online learning. The questions were based on online learning anxiety and engagement concepts and developed by referring to participants' responses to the questionnaires. Ten learners from the class attended the semi-structured interviews voluntarily. Based on the Hanyu Shuiping Kaoshi (HSK) result, three high Chinese proficiency learners, three moderate Chinese proficiency learners and four low Chinese proficiency learners were chosen.

4. Analysis and results

The results of the questionnaires were calculated into the statistical values in mean range and standard deviation. ANOVA analysis was applied to compare the level of anxiety between low Chinese proficiency learners, moderate Chinese proficiency learners, and high Chinese proficiency learners. In addition, Pearson Square was used to analyze the relationship between learning anxiety and learning engagement, while thematic analysis was used to analyze the interview data (Braun & Clarke, 2019).

Table 1
Interpretation of the Likert scale categories

Scale	Range	Interpretation
1	1.00-1.80	Strongly disagree
2	1.81-2.60	Disagree
3	2.61-3.40	Neutral
4	3.41-4.20	Agree
5	4.21-5.00	Strongly agree

4.1. HSK test

Based on CFL learners' vocabulary acquisition of about 1200 words, HSK level 4 was used to measure learners' Chinese proficiency. As shown in Table 1, it was grouped into three levels: high Chinese proficiency (score between 241-300), moderate Chinese proficiency (score between 180-240), and low Chinese proficiency (score between 1-179).

Table 2
Descriptive statistics for learning anxiety toward online Chinese learning

Variables	Mean	SD
Anxiety		
1. I feel anxious when I want to express an idea but can't find the proper words to say in Chinese when engaging in online learning.	3.65	1.041
2. When participating in online activities I can get so nervous I forget things I know.	3.23	1.077
3. I feel nervous communicating in Chinese with my lecturers.	3.13	1.084
4. I feel nervous communicating in Chinese with my classmates on online learning.	2.77	1.171
5. I feel low self-confidence about participating in Chinese online classes.	2.88	1.064
6. I feel anxious when I don't understand what the instructors in my class are saying in Chinese.	3.60	1.180
7. I don't enjoy sharing my opinions on online learning.	2.81	1.045
8. I feel uncomfortable interacting online.	2.58	1.108
9. I feel nervous talking to a partner who has a higher proficiency in Chinese than me.	3.25	1.082
10. I feel uncomfortable when speaking in Chinese on online learning	2.73	0.984
11. I feel overwhelmed by the number of Chinese words and grammatical rules I have to learn in Chinese.	2.98	0.838
12. I don't like to talk online to Chinese lecturers.	2.37	1.044
13. I feel uncomfortable in video conferences.	2.71	1.320
14. I worry about making mistakes in my Chinese online classes.	3.21	1.129
15. I start to panic when I have to speak without preparation in my Chinese online classes.	3.73	1.250
16. It embarrasses me to volunteer to answer in my Chinese classes.	2.69	1.014
17. I am afraid that my Chinese lecturers are ready to correct every mistake I make while communicating	2.75	1.120
18. Chinese online classes move so quickly, I worry about being getting left behind.	3.19	1.249
Total	2.86	1.100

Eighteen questions were analyzed to investigate CFL learners' anxiety in online classes. As shown in Table 2, the average mean score for learning anxiety was at the moderate level (2.86). The three most anxiety-provoking situations were:(1) I start to panic when I have to speak without preparation in my Chinese online classes (item 15 with a mean score of 3.73); (2) I feel anxious when I want to express an idea but can't find the proper words to say in Chinese when engaging in online learning (item 1 with a mean score of 3.65); and (3) I feel anxious when I don't understand what the instructors in my class are saying in Chinese (item 6 with a mean score of 3.60).

Table 3
Descriptive statistics for learning engagement toward online Chinese learning

Variables	Mean	SD
Cognitive presence	3.77	0.5172
Social presence	3.42	0.6110
Instruction presence	3.71	0.5960

As shown in Table 3, in the investigation of students' online engagement, it was observed that the quantitative expression of social presence obtained the lowest average score (3.42).

Table 4
The comparison of CFL online learning anxiety between Chinese low-proficiency learners, Chinese moderate-proficiency learners, and Chinese high-proficiency learners.

	Sum of Squares	*df*	Mean Square	*F*	Sig.
Between Groups	5.472	2	2.736	5.760	.006
Within Groups	21.374	45	.475		
Total	26.846	48			

Table 4 shows that there is significance between the groups in terms of their online learning anxiety level scores ($p < .05$).

Table 5
The multiple comparisons of CFL online learning anxiety between Chinese low-proficiency learners, Chinese moderate-proficiency learners, and Chinese high-proficiency learners

	(I) HSK 4	(J) HSK 4	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
						Lower Bound	Upper Bound
Scheffe	1.Low	2	.70600*	.20801	.006	.1794	1.2326
		3	.36905	.37598	.621	-.5828	1.3209
	2.Moderate	1	-.70600*	.20801	.006	-1.2326	-.1794
		3	-.33696	.37336	.668	-1.2821	.6082
	3.High	1	-.36905	.37598	.621	-1.3209	.5828
		2	.33696	.37336	.668	-.6082	1.2821
LSD	1.Low	2	.70600*	.20801	.001	.2870	1.1250
		3	.36905	.37598	.332	-.3882	1.1263
	2.Moderate	1	-.70600*	.20801	.001	-1.1250	-.2870
		3	-.33696	.37336	.372	-1.0889	.4150
	3.High	1	-.36905	.37598	.332	-1.1263	.3882
		2	.33696	.37336	.372	-.4150	1.0889

Note. * The mean difference is significant at the 0.05 level

As shown in Table 5, ANOVA analyses were conducted to compare the CFL online learning anxiety between Chinese low-proficiency learners, Chinese moderate-proficiency learners, and Chinese high-proficiency learners. The results showed significant anxiety between Chinese low-proficiency learners and Chinese moderate-proficiency learners ($p < .05$).

Table 6
The relationship between learner anxiety and learner engagement

Variables	Pearson Chi-Square	Cognitive Engagement	Social Engagement	Instruction Engagement
Anxiety	Chi-Square	499.467	659.667	635.733
	Sig. (2-sided)	.622	.046	.151

As shown in Table 6, Pearson Chi-Square showed the relationship between CFL online learners' anxiety and social engagement at the 0.046 level of significance.

Based on thematic analysis (Braun & Clarke (2019), the students' opinions were collected from 10 interviewees in the semi-structured interview for a better understanding of CFL online learning anxiety and learning engagement.

Table 7
Interviewees' responses

Item	Category	Frequency (number of persons giving the response)
1	Boring to learn Chinese online	3
2	Chinese content beyond comprehending level	7
3	No interaction in class	7
4	The online class moved so quickly	8
5	Difficult to use Chinese to express ideas	10

The analysis of the data obtained from interviews, specifically presented in Table 7, is outlined in the information that follows:

4.1. Boring to learn Chinese online

Three learners stated they were bored during the online learning process because there were no physical interactions between learners and instructors. They got nervous when they did not understand the online lecture delivered by Chinese instructors, which caused engagement with the study to be decreased. They felt less anxious in traditional face-to-face classrooms. They also said that weak WIFI connectivity caused learning anxiety because they could not catch up with the lecture. One learner stated that: "I felt isolated when learning online, did not learn in a group with my classmates, so when I cannot comprehend what Chinese instructors said, nobody helped me, the learning environment did not suit my need."

4.2. Learning content beyond comprehension level

All Chinese content and lectures by native speakers were difficult. It was a factor that increased the nervousness of learners and obstructed the learning process. All learners

mentioned that their academic performance might decrease because they did not understand most of the Chinese content. One interviewee said: "PPT presentation slides of learning content or learning materials were not provided before classes, it made us so nervous when cannot prepare lessons for study," while another interviewee stated: "the content of Chinese history (Chinese history class) was too much, I must find the meaning of new Chinese words in order to understand easily, but could not download learning materials; this made me so uncomfortable."

4.3. No interaction in class

Online Chinese classes did not offer an active classroom environment with learner-centered activity and communication between instructors, learners, and peers. Most learners need collaborative group discussions online to help each other in the learning process and engage with their studies. One of the learners commented: "if we worked with peers, it decreased our anxiety. We can share opinions and help classmates to accomplish assigned tasks or answer questions." One of the interviewees added: "Chinese instructor turned off her camera during giving the lecture. I felt that she did not like to communicate with us."

4.4. Online classes moving so fast

Most learners reported that Chinese online classes moved so quickly they were unfamiliar with them. They needed more time on tasks or classroom activities, but instructors provided limited time for accomplishing learning tasks and assignments. Giving many opportunities to practice their language skills was necessary. One of the learners said: "it took some time for someone to be able to answer questions with their teachers." One of the interviewees explained that: "in my opinion, the class moved so fast, the Chinese teacher spoke too fast, and I could not understand her words. I told her to reduce the speed of speaking, but she did while I told her, and later she still lectured with fast speed." One of the learners said: "I cannot understand the lecture, which is beyond my comprehension level, so I chat with my classmates instead."

4.5. Difficult to use Chinese to express ideas

All learners panicked when they were spontaneously asked to communicate in Chinese. Since they have limited vocabulary, they cannot state their ideas clearly. Due to fear of making mistakes, they avoid communicating with native speakers. Most learners stated that asking questions and randomly pointing them out to answer made them more nervous because they were unprepared and lacked the vocabulary to express ideas. Furthermore, the instructor's negative emotions made learners uncomfortable and unwilling to answer questions. One learner pointed out that: "when we tried to answer questions but not correctly, my teacher felt not satisfied with our expression, she told that why we did not remember the content." One of the learners stated: "my oral performance was not good. I could not construct sentences perfectly and hesitated to speak." Two learners indicated that they used online dictionaries to find the vocabulary for answering the Chinese instructor's questions, which helped them to reduce learning anxiety.

5. Discussion

The objective of this study was to explore (1) what factors caused anxiety in CFL online learning (2) how Chinese proficiency affected online learning anxiety, and (3) how online learning anxiety influences learning engagement. The findings from the questionnaire administered to 48 Thai CFL learners of the university in the southern part of Thailand showed that the level of CFL learners' anxiety was moderate (M = 2.86). Although the feeling of anxiety was not so high in online learning, this may, however, be associated with less interaction, i.e., more teacher-centered, which made learners feel more unhappy and isolated (Resnik et al., 2023). Furthermore, due to Thailand's pleasure-oriented cultural beliefs, anxiety may not be as prevalent when learning online (Xu et al., 2022). In 2022, the World Happiness Report placed Thailand third in Southeast Asia. The influence of anxiety on foreign language achievement might be low by a higher level of subjective satisfaction and a lower level of ambition/achievement orientation (Xu et al., 2022).

The majority of CFL learners became anxious when the lecturer asked questions that they did not prepare beforehand because they could not find the proper words to express in Chinese. One of the most anxiety-provoking situations was not understanding what instructors said in Chinese. This result was also supported by the interview analysis; most learners were not confident speaking in Chinese. They were very nervous when having to communicate without enough preparation. The feeling of anxiety about speaking in Chinese may be due to a lack of natural language learning environments in which they can practice their Chinese skills or the opportunity to study in the target country (China). They use the Thai language to communicate in daily life and only practice Chinese in the classroom. Based on the results, the main factor of learning anxiety related to speaking skills, which was consistent with many previous studies indicating that learners' anxiety always comes from their ability to use the target language to communicate with others (Bashori et al., 2020; Horwitz, 2017; Pan et al., 2022; Sung & Ko-Yin, 2019; Yang & Quadir, 2018; Zhang, 2019).

Regarding the effect of Chinese proficiency on CFL online learning anxiety, the statistical analyses showed that Chinese proficiency plays an influential role in learning anxiety. The results showed that low Chinese proficiency learners' anxiety was significantly higher than moderate Chinese learners. The current finding is partially consistent with the previous study conducted by Zhou (2017), which found that beginner learners experienced the highest level of learning anxiety. It is also congruent with a previous study related to anxiety in EFL learners' online role-playing games (Yang & Quadir, 2018), which found that English ability had a negative relation with the anxiety experience of EFL students. The low-Chinese-ability learners had difficulty understanding Chinese content, and their vocabulary was limited (Xu et al., 2022). It may be explained by Chinese courses such as Chinese history and Chinese writing, which need a large vocabulary size. However, the meaning of various words exceeds the learner's ability to understand them. Not delivering course materials by instructors before learning may have affected low-proficiency learners' preparation. In addition, explaining the learning content in Chinese is even more difficult to understand. In contrast, only four high Chinese proficiency learners seemed to be more anxious than moderate Chinese proficiency learners, implying that they were perfectionists with high standards. This result was similar to the study by Maican and Cocorada (2021), which showed that high-language-ability students had a higher level of learning anxiety than medium and low-language-ability students. These high-performance learners put more effort into learning Chinese, fear mistakes, and frequently experience anxiety. Nevertheless, the interview result also indicated that one of the high Chinese proficiency learners could deal with

learning anxiety, for example, finding new word meanings before classes or revising learning knowledge.

It was expected that online learning anxiety would be correlated with learning engagement in the subscale of cognitive presence, social presence, and instructional presence. However, only social presence significantly correlated with learning anxiety. It confirms the importance of social presence in online learning environments (Martin & Bolliger, 2018). Based on the questionnaire of online learning engagement and interview data, the results showed that the three items of social presence got the lowest score were: 1) I always use emoticons to express my emotion along the learning (M = 2.71); 2) I have fun in online chats, discussions or via email with the instructor or other students (M=, and 3.27); and 3) Online classes encourage me to share ideas and experiences in discussion (M =, and 3.27). This study found that learners' anxiety in online courses provided by Chinese instructors from China universities was due to the lack of interaction between learners and peers or learners and instructors. The negative emotion of instructors caused learners to be less engaged with online learning. Some learners need teachers to make conversation more engaging since they are passive or provide poor responses. Because of Chinese vocabulary limitations, learners cannot express ideas in Chinese with teachers or other students. Additionally, due to little utilization of emoticons or emojis in interaction between learners and instructors, positive emotional engagement with online Chinese classes was low. Most learners need to discuss ideas and corroborate with peers to accomplish learning tasks (Yu et al., 2020). This reinforces the belief that instructors must accept their facilitative role of scaffolding to improve learning outcomes through interaction (Hung & Nguyen, 2022). Some studies by Chinese scholars revealed that Chinese teachers have encountered many challenges in online teaching, such as its effectiveness, teachers' conception and online teaching ability, and the transformation of teaching methods (Dai et al., 2020; Xia et al., 2020). They should transitioning the learning mode from the traditional classroom to the online classroom and consider the practices that should be further implemented and which should be terminated (Azizi & Farid Khafaga, 2023). According to this finding, social presence or emotional presence is a key element of the interaction between learners and instructors in online learning, so that, in order to foster emotional presence in their students and make them feel comfortable, instructors can employ active, reflective listening and speaking techniques (Muir et al., 2022). Using open-ended questions encourages the learner to explore and articulate their ideas. By talking about these sentiments with students, teachers can assist students in better understanding the anxiety that may develop when working on challenging tasks and with classmates who have different perspectives from their own (Majeski et al., 2018). Moreover, instructors must clearly define the learning objective and the evaluation system and offer learning materials to encourage learners' participation (Molinillo et al., 2018). Complex learning activities should be broken down into their component parts by instructors, who should also give students a clear rubric to use in evaluating their performance on each component as well as suggestions for improving it (Majeski et al., 2018).

6. Conclusion

The current study concluded that CFL learners' level of online anxiety was moderate due to less interaction in the online classroom and Thailand's pleasure-oriented cultural beliefs. The most crucial factor in anxiety was the fear of communication in Chinese. The majority of learners were nervous when speaking without enough preparation. Based on the results, Chinese proficiency also affected CFL online learning anxiety; most low

Chinese proficiency learners had a higher level of anxiety than those with moderate and high Chinese proficiency. It implied that instructors should provide various activities to improve learners' Chinese abilities and decrease their anxiety. Additionally, online engagement in the dimension of social presence was significantly related to CFL learners' anxiety. The items about expression ideas and discussion of social presence got a low mean score. It implied that learners' sense of online community is strong, which may reduce their anxiety. Encouraging learners to share experiences and ideas in online discussion through the online platform should be emphasized. It confirmed the study conducted by Richardson and Swan (2003) that social presence positively affects student and instructor course satisfaction. The instructors should consider utilizing the benefits of technological devices to promote an interactive and enjoyable online learning environment for all learners.

Like any other study, this study also has some limitations. The main limitation is that the sample size of our research is relatively small, so its outcomes are likely not transferrable to another environment. Future research could find it useful to use more samples in order to boost the statistical power. Since the degree of online learning anxiety may vary from one culture or country to another, more research can contribute to understanding why anxiety may be more or less severe to foreign language learners in different countries. This study focused on the relationship between online learning anxiety and engagement, thus future research can explore the correlation between learning anxiety and other factors like self-regulated, attitudes, and learning strategy.

Author Statement

The author declares that there is no conflict of interest.

Acknowledgements

ORCID

Pairin Srisinthon https://orcid.org/0000-0003-3693-3163

References

Abdulaal, M. A. A.-D., Alenazi, M. H., Tajuddin, A. J. A., & Hamidi, B. (2022). Dynamic vs. diagnostic assessment: Impacts on EFL learners' speaking fluency and accuracy, learning anxiety, and cognitive load. *Language Testing in Asia*, *12*(1): 32. https://doi.org/10.1186/s40468-022-00179-0

Alla, L., Tamila, D., Neonila, K., & Tamara, G. (2020). Foreign language anxiety: Classroom vs. distance learning. *Universal Journal of Educational Research*, *8*(12), 6684–6691. https://doi.org/10.13189/ujer.2020.081233

Azizi, Z., & Farid Khafaga, A. (2023). Scaffolding via group-dynamic assessment to positively affect motivation, learning anxiety, and willingness to communicate: A case study of high school students. *Journal of Psycholinguistic Research*, *52*(3), 831–

851. https://doi.org/10.1007/s10936-023-09935-6

Bashori, M., Van Hout, R., Strik, H., & Cucchiarini, C. (2021). Effects of ASR-based websites on EFL learners' vocabulary, speaking anxiety, and language enjoyment. *System*, *99*: 102496. https://doi.org/10.1016/j.system.2021.102496

Basith, Abd., Musyafak, N., Ichwanto, M. A., & Syahputra, A. (2019). Chinese learning anxiety on foreign students. *European Journal of Educational Research*, *8*(4), 1193–1200. https://doi.org/10.12973/eu-jer.8.4.1193

Baverstock, A. (2019). Increased trade with China prompts Mexicans to begin learning Mandarin. *CGTN America*. Retrieved from https://america.cgtn.com/2019/10/04/increased-trade-with-china-prompts-mexicans-to-begin-learning-mandarin

Bollinger, A. (2017). *Foreign language anxiety in traditional and distance learning foreign language classrooms*. Doctoral dissertation, Liberty University, USA.

Bolliger, D. U., & Inan, F. A. (2012). Development and validation of the online student connectedness survey (OSCS). *International Review of Research in Open and Distributed Learning, 13*(3), 41–65. http://doi.org/10.19173/irrodl.v13i3.1171

Braun, V., & Clarke, V. (2019). Reflecting on reflexive thematic analysis. *Qualitative Research in Sport, Exercise and Health*, *11*(4), 589–597. https://doi.org/10.1080/2159676X.2019.1628806

Chen, C. (2021). The effects of online learning on alleviating students' Chinese language learning anxiety: A study in a Chinese university. *Frontiers in Education Technology*, *4*(2), 85–107. https://doi.org/10.22158/fet.v4n2p85

Côté, S., & Gaffney, C. (2021). The effect of synchronous computer-mediated communication on beginner L2 learners' foreign language anxiety and participation. *The Language Learning Journal*, *49*(1), 105–116. https://doi.org/10.1080/09571736.2018.1484935

Dai, X., Tang, H., Chen, H., Li, J., & Yang, L. (2020). Challenges of online teaching on the situation of "keeping students learning during schools disruption." *Education and Teaching Research*, *20*(3), 50–62. https://doi.org/10.3969/j.issn.1674-6120.2020.03.009

Dixson, M. D. (2015). Measuring student engagement in the online course: The online student engagement scale (OSE). *Online Learning*, *19*(4), 1–15. https://doi.org/10.24059/olj.v19i4.561

Fan, X., & Zhou, L. (2022). A study on college students' anxiety in online English learning in a multimedia environment. *Journal of Tasting the Classics. 2022*(3), 170–172.

Feng, X., Xie, J., & Liu, Y. (2017). Using the community of inquiry framework to scaffold online tutoring. *The International Review of Research in Open and Distributed Learning*, *18*(2), 162–188. https://doi.org/10.19173/irrodl.v18i2.2362

García-Castro, V., & O'Reilly, J. (2022). Foreign language anxiety and online engagement during the COVID-19 pandemic: A comparison between EMI and FMI university students. *English Teaching & Learning*, *46*(3), 273–291. https://doi.org/10.1007/s42321-022-00120-x

Garrison, R. (2000). Theoretical challenges for distance education in the 21st century: A shift from structural to transactional issues. *International Review of Research in Open and Distributed Learning*, *1*(1), 1–17. https://doi.org/10.19173/irrodl.v1i1.2

Garrison, D. R., & Arbaugh, J. B. (2007). Researching the community of inquiry framework: Review, issues, and future directions. *The Internet and higher education*, *10*(3), 157–172. https://doi.org/10.1016/j.iheduc.2007.04.001

Geng, G. (2021). A study on the relationship between college students Chinese language anxiety and Chinese language learning strategies. *Psychiatria Danubina*, *33*(Suppl 8),

184–186.

Gong, Y. F., Gao, X. A., Li, M., & Lai, C. (2021). Cultural adaptation challenges and strategies during study abroad: New Zealand students in China. *Language, Culture and Curriculum*, *34*(4), 417–437. https://doi.org/10.1080/07908318.2020.1856129

Harrison, T. (2013). Conceptualizing student engagement: A co-creation perspective. In D. Derricott, H. Kekäläinen, M. Kelo, R, S, Kristensen, T, Loukkola, B, Michalk, F. G. Palomares, N. Ryan, & B. Stensaker (Eds.), *Working Together to Take Quality Forward* (pp 51–68). European University Association Brussels.

Hauck, M., & Hurd, S. (2005). Exploring the link between language anxiety and learner self-management in open language learning contexts. *EUROPEAN Journal of Open, Distance and E-learning, 2005*(2).

Hilliard, J., Kear, K., Donelan, H., & Heaney, C. (2020). Students' experiences of anxiety in an assessed, online, collaborative project. *Computers & Education*, *143*: 103675. https://doi.org/10.1016/j.compedu.2019.103675

Hope, J. (2020). Be aware of how COVID-19 could impact international students. *The Successful Registrar*, *20*(3), 1–8. https://doi.org/10.1002/tsr.30708

Horowitz, K. S. (2019). Video games and English as a second language: The effect of massive multiplayer online video games on the willingness to communicate and communicative anxiety of college students in Puerto Rico. *American Journal of Play*, *11*(3), 379–410.

Horwitz, E. K. (2017). 3. On the misreading of Horwitz, Horwitz and Cope (1986) and the need to balance anxiety research and the experiences of anxious language learners. In C. Gkonou, M. Daubney, & J.-M. Dewaele (Eds.), *New Insights into Language Anxiety* (pp. 31–48). Multilingual Matters. https://doi.org/10.21832/9781783097722-004

Horwitz, E. K., Horwitz, M. B., & Cope, J. (1986). Foreign language classroom anxiety. *The Modern Language Journal*, *70*(2), 125–132. http://www.jstor.org/stable/327317

Huang, R., Tlili, A., Wang, H., Shi, Y., Bonk, C. J., Yang, J., & Burgos, D. (2021). Emergence of the online-merge-offline (OMO) learning wave in the post-COVID-19 era: A pilot study. *Sustainability*, *13*(6): 3512. https://doi.org/10.3390/su13063512

Hung, B. P., & Nguyen, L. T. (2022). Scaffolding language learning in the online classroom. In R. Sharma & D. Sharma (Eds.), *New Trends and Applications in Internet of Things (IoT) and Big Data Analytics* (pp. 109–122). Springer International Publishing. https://doi.org/10.1007/978-3-030-99329-0_8

Hurd, S. (2007). Anxiety and non-anxiety in a distance language learning environment: The distance factor as a modifying influence. *System, 35*(4), 487–508. https://doi.org/10.1016/j.system.2007.05.001

Jamilah, J., & Fahyuni, E. F. (2022). The future of online learning in the post-COVID-19 era. *KnE Social Sciences, 7*(10), 497–505. https://doi.org/10.18502/kss.v7i10.11251

Komolafe, B. F., Fakayode, O. T., Osidipe, A., Zhang, F., & Qian, X. (2020). Evaluation of online pedagogy among higher education international students in China during the COVID-19 outbreak. *Creative Education*, *11*(11), 2262–2279. https://doi.org/10.4236/ce.2020.1111166

Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning*, *35*(2), 24–32. https://doi.org/10.1080/00091380309604090

Liu, C. (2019). A survey of Sri Lankan students' anxiety in spoken Chinese learning. *New West, 2019*(3), 54–55. Retrieved from https://www.fx361.com/page/2019/0429/5079158.shtml

Ma, Y. (2022). A blessing in disguise: The emergency remote teaching of Chinese in the university of cape town in South Africa. In S. Liu (Ed.), *Teaching the Chinese Language Remotely: Global Cases and Perspective* (pp. 111–134). Palgrave

Macmillan. https://doi.org/10.1007/978-3-030-87055-3_5

Maican, M.-A., & Cocoradă, E. (2021). Online foreign language learning in higher education and its correlates during the COVID-19 pandemic. *Sustainability*, *13*(2): 781. https://doi.org/10.3390/su13020781

Majeski, R. A., Stover, M., & Valais, T. (2018). The community of inquiry and emotional presence. *Adult Learning*, *29*(2), 53–61. https://doi.org/10.1177/1045159518758696

Martin, F., & Bolliger, D. U. (2018). Engagement matters: Student perceptions on the importance of engagement strategies in the online learning environment. *Online Learning*, *22*(1), 205–222.

Mekonen, Y. K., & Nneoma, N. C. (2021). The two sides of online learning post Covid-19: Perspectives of international students in China. *International Journal of Research Publications, 71*(1), 44–57. https://doi.org/10.47119/IJRP100711220211756

Mihai, M., Albert, C. N., Mihai, V. C., & Dumitras, D. E. (2022). Emotional and social engagement in the English language classroom for higher education students in the COVID-19 online context. *Sustainability*, *14*(8): 4527. https://doi.org/10.3390/su14084527

Molinillo, S., Aguilar-Illescas, R., Anaya-Sánchez, R., & Vallespín-Arán, M. (2018). Exploring the impacts of interactions, social presence and emotional engagement on active collaborative learning in a social web-based environment. *Computers & Education*, *123*, 41–52. https://doi.org/10.1016/j.compedu.2018.04.012

Muir, T., Wang, I., Trimble, A., Mainsbridge, C., & Douglas, T. (2022). Using interactive online pedagogical approaches to promote student engagement. *Education Sciences*, *12*(6): 415. https://doi.org/10.3390/educsci12060415

Myers, J. (2018). These are the world's most spoken languages. *The World Economic Forum*. Retrieved from https://www.weforum.org/stories/2018/02/chart-of-the-day-these-are-the-world-s-most-spoken-languages/

Nolan-Grant, C. R. (2019). The community of inquiry framework as learning design model: A case study in postgraduate online education. *Research in Learning Technology*, *27*. https://doi.org/10.25304/rlt.v27.2240

Pan, H., Xia, F., Kumar, T., Li, X., & Shamsy, A. (2022). Massive open online course versus flipped instruction: Impacts on foreign language speaking anxiety, foreign language learning motivation, and learning sttitude. *Frontiers in Psychology*, *13*: 833616. https://doi.org/10.3389/fpsyg.2022.833616

Resnik, P., Dewaele, J., & Knechtelsdorfer, E. (2023). Differences in the intensity and the nature of foreign language anxiety in in-person and online EFL classes during the pandemic: A mixed-methods study. *TESOL Quarterly*, *57*(2), 618–642. https://doi.org/10.1002/tesq.3177

Richardson, J. C., & Swan, K. (2003). Examining social presence in online courses in relation to students' perceived learning and satisfaction. *Online Learning*, *7*(1), 68–88. https://doi.org/10.24059/olj.v7i1.1864

Stenbom, S., Jansson, M., & Hulkko, A. (2016). Revising the community of inquiry framework for the analysis of one-to-one online learning relationships. *The International Review of Research in Open and Distributed Learning*, *17*(3), 36–53. https://doi.org/10.19173/irrodl.v17i3.2068

Sung, K. Y., & Ko-Yin, X. (2019). Factors influencing Chinese language learning anxiety in the classroom setting. *New Waves-Educational Research and Development Journal*, *22*(2), 1–15.

Thai Website. (2019). *Tourism statistics Thailand (2009-2019)*. Retrieved from http://www.thaiwebsites.com/tourism.asp

Tian, M., Lu, G., Yin, H., & Li, L. (2020). Student engagement for sustainability of Chinese international education: The case of international undergraduate students in

China. *Sustainability*, *12*(17): 6831. https://doi.org/10.3390/su12176831

Wang, Q., & Jiang, Y. (2022). A positive psychology perspective on positive emotion and foreign language enjoyment among Chinese as a second language learners attending virtual online classes in the emergency remote teaching context amid the COVID-19 Pandemic. *Frontiers in Psychology*, *12*: 798650. https://doi.org/10.3389/fpsyg.2021.798650

Wang, T. (2017). A positive analysis of foreign students' circumstances of student engagement and influence mechanism in Chinese language learning. *Chinese Language Learning, 38*(1), 91–100.

Wang, X., & Zhang, W. (2021). Psychological anxiety of college students' foreign language learning in online course. *Frontiers in Psychology*, *12*: 598992. https://doi.org/10.3389/fpsyg.2021.598992

Waters, T., & Day, M. J. (2022). Thai Menschenbild: A study of Chinese, Thai, and international students in a private Thai university as measured by the national survey of student engagement (NSSE). *Humanities and Social Sciences Communications*, *9*: 86. https://doi.org/10.1057/s41599-022-01101-y

Wong, P. P. Y., Wong, G. W. C., Techanamurthy, U., Mohamad, W. S. B., Febriana, A., & Chong, J. C. M. (2022). Using social mobile learning to stimulate idea generation for collective intelligence among higher education students. *Knowledge Management & E-Learning*, *14*(2), 150–169. https://doi.org/10.34105/j.kmel.2022.14.009

World Health Organization. (2020). Statement on the second meeting of the International Health Regulations (2005) Emergency Committee regarding the outbreak of novel coronavirus (2019-nCoV). *World Health Organization*. Retrieved from https://www.who.int/news/item/30-01-2020-statement-on-the-second-meeting-of-the-international-health-regulations-(2005)-emergency-committee-regarding-the-outbreak-of-novel-coronavirus-(2019-ncov)

Xia, J., Wei, Y., Tang, Y., & Xue, W. (2020). Analysis of the characteristics of online learning resources for early childhood education during the epidemic prevention period and its enlightenment. *Curriculum Teaching Material and Method*, *20*(11), 70–76.

Xie, Y.. & Luo, T. (2021). Analysis of the causes of anxiety and adjustment strategies for foreign students to learn Chinese online. *Journal of Hunan Mass Media Vocational and Technical College, 21*(2), 77–81.

Xu, W., Zhang, H., Sukjairungwattana, P., & Wang, T. (2022). The roles of motivation, anxiety and learning strategies in online Chinese learning among Thai learners of Chinese as a foreign language. *Frontiers in Psychology*, *13*: 962492. https://doi.org/10.3389/fpsyg.2022.962492

Yang, J. C., Lin, M. Y. D., & Chen, S. Y. (2018). Effects of anxiety levels on learning performance and gaming performance in digital game-based learning. *Journal of Computer Assisted Learning*, *34*(3), 324–334. https://doi.org/10.1111/jcal.12245

Yang, J. C., & Quadir, B. (2018). Effects of prior knowledge on learning performance and anxiety in an English learning online role-playing game. *Educational Technology & Society*, *21*(3), 174–185.

Yu, J., Huang, C., Han, Z., He, T., & Li, M. (2020). Investigating the influence of interaction on learning persistence in online settings: Moderation or mediation of academic emotions? *International Journal of Environmental Research and Public Health*, *17*(7): 2320. https://doi.org/10.3390/ijerph17072320

Zhang, X. (2019). Foreign language anxiety and foreign language performance: A meta-analysis. *The Modern Language Journal*, *103*(4), 763–781. https://doi.org/10.1111/modl.12590

Zhang, X. (2018). On economic and political development of Thailand and the Sino-Thai relations. In G. Zhuang (Ed.), *Blue Book of Thailand* (pp. 1–45). Social Sciences

Academic Press.

Zheng, Y., & Lynch, R. (2021). A correlational study of motivation and language anxiety for learning Chinese as a foreign language with Chinese academic achievement of Thai Grade 6 students. In *Proceedings of the AU Virtual International Conference Entrepreneurship and Sustainability in the Digital Era* (vol. 2, no. 1, pp. 347–355).

Zhou, J. (2017). Foreign language reading anxiety in Chinese as a foreign language context. *Reading in a Foreign Language*, *29*(1), 155–173.

Zhou, Y. (2021). Confucius institute in the Sino-Thai relations: A display of China's soft power. *Asian   Journal   of   Social   Science*,   *49*(4),   234–243. https://doi.org/10.1016/j.ajss.2021.09.009