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| RESEARCH ARTICLE

A Review on the Effects of Foreign Language Anxiety on Second Language Learning

Zhao Xiaofei
Postgraduate student, School of Foreign Languages, Ocean University of China, Qingdao, China
Corresponding Author: Xiaofei Zhao, **E-mail**: 18954591860@163.com

| ABSTRACT
Foreign language anxiety (FLA) plays an indispensable role in students' second language (L2) learning. This paper briefly reviewed the relevant research based on the foreign language classroom anxiety scale (FLCAS) in terms of the effects of FLA on students' L2 skill performance and the debate on the role of FLA in L2 learning. The research indicated that FLA served as a confounding affective variable influencing L2 performance and achievement differently among the individuals. Furthermore, from the perspectives of L2 cognitive processing and the interference of the first language (L1), whether FLA was a cause or effect came under a heated discussion. Together, these findings suggest that L2 instructors should take both FLA anxiety reduction and L2 skill improvement into account to facilitate students' L2 learning effectively.

| KEYWORDS
FLA, FLCAS, L2 skill performance, the role of FLA, L2 learning

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1. Introduction

Anxiety, which is viewed as an influential affective variable in second language (L2) learning, has experienced burgeoning development since the 1980s. Intuitively, anxiety is considered an obstacle for language learners in their language skill proficiency and achievement in that classroom interaction tends to be anxiety-provoking. To probe into the relationship between anxiety and L2 learning in specific contexts, many researchers focus on relevant topics, hoping to provide feasible suggestions for the improvement of L2 learning.

Generally, anxiety can be divided into three main types, that is, trait anxiety, state anxiety, and situation-specific anxiety. Spielberger (1983) distinguished the concepts of state anxiety and trait anxiety from the perspective of time and proposed that state anxiety occurred transitorily when people responded to the stimulus at a particular moment, varying in intensity over time, whereas trait anxiety remained relatively stable, emphasizing the predisposition of negative experiences. To be exact, trait anxiety reflects the frequent exposure to state anxiety, influencing present and future behavioral responses.

Situation-specific anxiety, however, was defined by Ellis (1994) as the apprehension unique to specific situations or events with required time and place. As for state anxiety, MacIntyre and Gardner (1991a) concluded that it is state anxiety, which they defined as a feeling of apprehension resulting from early language practice, that causes negative experiences that, in turn, cause situation-specific language anxiety (Chen & Chang, 2004).

Krashen (1982) put forward the affective filter hypothesis and elaborated on the relationship between L2 learning and affective factors such as motivation, anxiety, and confidence, which affirmed the emotional roles in L2 learning. Krashen claimed that L2 learners with negative attitudes or feelings filtered out the comprehensible input, thereby performing not successfully in L2 achievements. By contrast, learners with positive emotions optimal for L2 learning had a weaker affective filter conducive to L2 learning. However, how this system works and the exceptions in which some high-anxiety learners still perform proficiently render this hypothesis vague and controversial. Scovel (1978) put forward the dichotomy between facilitating anxiety and debilitating

anxiety to highlight the equivocal and misleading results about the relationship between language anxiety and language learning. These were attributed to imprecision in anxiety measurement and conceptualization, which further brought language anxiety research into ambiguities.

2. Reviewing the Related Literature

2.1 Foreign Language Anxiety and Foreign Language Anxiety Scale

To address the ensuing problems, the constructs and theoretical frameworks should be established to distinguish language anxiety from general anxiety. Horwitz, Horwitz, and Cope (1986) put forward foreign language anxiety (FLA), which was defined as a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process (p. 128). MacIntyre and Gardner (1994) considered FLA as the tension and apprehension in the L2 context, influencing the L2 learning process.

FLA is a situation-specific anxiety discriminated from other types of anxiety, such as communication apprehension, fear of negative evaluation, and test anxiety. McCroskey (1978) regarded communication apprehension as an individual's level of fear or anxiety associated with either real or anticipated communication with another person or persons, and he proposed that avoidance and withdrawal mainly comprised communication apprehension.

People who are communicatively apprehensive tend to participate in social interaction reluctantly. The more unwilling they are, the less competent in expressing themselves in L2 they will be. Fear of negative evaluation was defined as apprehension about others' evaluations, distress over their negative evaluations, avoidance of evaluative situations, and the expectation that others would evaluate oneself negatively (Watson & Friend, 1969). Test anxiety, however, means the state of self-doubt and self-depreciation specific to the test situation in terms of the test taker's behavior and psychological reactivity (Sarason & Stoops, 1978). The paucity of learning abilities gradually makes students susceptible to their frequent negative learning experiences and thus prone to be distracted, thereby worrying about poor performances. However, according to Horwitz (2010), some FLA researchers think of these three types as subcomponents of FLA without clarifying their simple relevance to each other.

Horwitz et al.'s (1986) foreign language classroom anxiety scale (FLCAS) is universally acknowledged as a standard measure of students' level of FLA, which is a five-point Likert-scale questionnaire of thirty-three items with high internal consistency (r=.93) and test-retest reliability (r=.83). MacIntyre (1995) posited that FLCAS was a trait-based scale which could identify students' experience of state anxiety arousal and predict who would be possible to experience state anxiety in the future. Sparks and Ganschow (2007) described that studies conducted with the FLCAS refer to related studies on anxiety and language learning and explain our concerns with prevailing views about the role of anxiety in foreign language learning, including a description of research we and others have conducted to support these concerns.

2.2 The FLA Research on L2 Skill Performance

A great deal of research on this basis centers on the correlation between FLA and L2 skill performance or achievement. Chen and Chang (2004) employed a modified FLCAS in Chinese version and discovered that FLCAS scores were negatively related to L2 learning and that Chinese students with L2 learning difficulty variables, particularly English learning history, tended to become more anxious. This study also provided guidance for tackling the wrangling on intricate roles of FLA in L2 learning under the circumstances in which a robust theoretical FLA model could be ideally established. Since non-western language learning received scanty attention, Aida (1994) carried out a replication study of Japanese as L2 and figured out that Horwitz et al.'s (1986) FLCAS was still suitable for non-Western languages; higher anxiety students received lower course grades than lower anxiety students; no prominent gender distinction displayed among students' FLA levels, which was consistent with Amengual-Pizarro's (2018) study of English for Specific Purposes (ESP) students; FLCAS might measure persistent trait anxiety instead of temporary state anxiety; unlike speech anxiety and fear of negative evaluation, test anxiety did not contribute to FLA for lack of factor loading, which conformed to MacIntyre and Gardner's (1989) generalization of test anxiety against its uniqueness to language learning. Nevertheless, this study did not systematically control students' L2 learning experiences or elaborate on the cause-effect relationship between FLA and L2 achievements. Similarly, Elkhafaifi (2005) longitudinally investigated 233 students from six universities in the Arabic language program and found that language anxiety was positively linked with listening anxiety and adversely influenced overall Arabic performance and Arabic listening comprehension and that general language anxiety was separated but related to listening anxiety. Gulmez (2012) explored the influence of FLA on Turkish learners of French as the third language (L3) and reached the same conclusion that students' language anxiety hampered their language performance. This provided a new perspective of multilingualism for FLA research, though the previous learning experience of English partially influenced the results in that English is a cognate language regarding French.

Sheen (2008) analyzed the effect of FLA on L2 learning mediated by teacher's recast within two experimental groups with recast and two control groups without recast. The study yielded the result that students in the low-anxiety recast group were superior in using English articles more accurately, such as in speeded dictation and writing posttests, and recast solely benefited low-anxiety students. Moreover, low-anxiety students outperformed other groups in the production of modified output and the repair of their

incorrect utterances, which was considered conducive to L2 learning. By and large, this study is of great innovation and significance in that the researcher attached great importance to skill-specific situations easy to incur FLA and simultaneously gleaned students' utterances timely during language learning tasks, whereas most researchers merely depended on the linguistic data without timely and effective processing. Taking cognitive aspects into account is another reason.

Based on students' College English Test Band 4 (CET-4) scores and students' interviews, Zheng and Cheng (2018) claimed that both FLA and test anxiety were inversely associated with test confidence and that higher cognitive test anxiety negatively predicted L2 achievement. Contrary to previous studies, FLA could not predict students' test performance in that FLA levels perceived by the interviewers varied both in the testing process and skill-specific activities. This study sets an example for combining quantitative and qualitative research methods and taking social and cognitive aspects into account. Alghorbany and Hamzah (2020) conducted a study on the emotional intelligence, L2 speaking anxiety, and oral performance of 209 ESL undergraduate students in Malaysia, and the results elucidated students' emotional intelligence substantially correlated with their oral communication skills and that FLA negatively interacted with communication skills. Most significantly, oral communication skills served as a mediator functioning in the interplay between FLA and emotional intelligence.

Different from most research conducted in traditional classroom settings, Russell (2018) explored whether pedagogical interventions such as forming peer support groups and communications with L1 speakers could reduce students' level of FLA in an online Spanish course, and he discovered that students' anxiety was significantly alleviated at the end of their online course. However, the cause of FLA reduction was multifaceted in that some variables, such as the time of communication practice or familiarity with online technology, inevitably exerted an influence on the research. Currently, many students have been forced into online and remote learning as a result of the global pandemic. Therefore, more research is urgently needed to determine whether these students experience higher levels of language anxiety (face-to-face or online) (Russell, 2020).

Based on the constructs of FLA and FLCAS, Saito, Horwitz and Garza (1999) put forward the foreign language reading anxiety scale (FLRAS), a twenty-item Likert scale, which was specific to the skill anxiety stemming from incomplete understanding when students were confronted with unfamiliar L2 materials difficult to read or decode. FLRAS is a variation of FLCAS but is still distinguishable from FLCAS in terms of their shared variance. Previously, the investigation of language reading skills has been fully tapped cognitively, which dwarfs the effect of affective variables to some extent.

Voluminous studies had the same conclusion on L2 reading anxiety based on FLRAS measures. For instance, the findings of Chow, Chiu and Wong Simpson (2018) and Zhang (2019) revealed that students' L2 reading anxiety is negatively linked to their L2 reading performance. However, other researchers yielded divergent results in a great variety of aspects. MacIntyre and Gardner (1991b) contended that the simplicity of the reading content made no conspicuous difference in students' anxiety fluctuation. Brantmeier (2005) attributed the lack of associations between anxiety and L2 reading comprehension to students' familiarity with the teacher's reading instructions and task procedures. Shi and Liu (2006) found a negative correlation between L2 reading anxiety and students' performances in reading comprehension and gender differences in L2 reading anxiety and achievement. Considering the language differences in learning mechanisms between native and target languages, Zhao, Guo, and Dynia (2013) investigated 114 English-speaking students of Chinese as L2 in the United States on their FLA, L2 reading anxiety, and their L2 reading performance respectively in terms of FLCAS, FLRAS, one background information questionnaire, and an email interview. They argued that students' FLA level was similar to their L2 reading anxiety level and that L2 reading anxiety varied in students' course levels and experience in China.

Nevertheless, gender differences exerted no influence on L2 reading performance. L2 reading anxiety mainly originated from unfamiliar scripts with different topics and worry about comprehension. In the same vein, the study of Zhou (2017) partially backed up Zhao et al.' s (2013) conclusion, which suggested that the variation of L2 reading anxiety had no prominent difference among four Chinese course levels and that unknown Chinese pronunciation and reading Chinese aloud were the additional sources of anxiety. Bahmani and Mohammad (2017) scrutinized two groups of EFL learners divided according to the text difficulty levels below or above their average proficiency level and discovered that both groups' reading comprehension enhanced through this four-month extensive reading program despite the text difficulty and that L2 reading anxiety in the difficult-level group increased significantly but declined in the other group. As a whole, more anxious students outperformed less anxious students in reading comprehension. On the contrary, Tsai and Lee's (2018) study suggested a significantly positive relationship between L2 reading anxiety and text difficulty.

2.3 The Debate on the Role of FLA

The debate on the role of anxiety in L2 learning remains controversial among L2 researchers. As for FLCAS and FLRAS, Sparks, Patton, and Luebbers (2018) pointed out that because 59% of the variance was not shared by the instruments, they hypothesized that general anxiety about L2 learning was related to but distinct from L2 reading anxiety. However, Sparks, Ganschow, and Javorsky (2000) pinpointed the theoretical deficits in the FLRAS framework and argued that FLRAS did not measure students' anxiety levels

in the L2 reading process purportedly but generally their self-perception of language skills and learning ability, and it was also true of FLCAS, which was essentially a linguistic proxy instead of a credible psychometric tool.

Sparks and his colleagues were dedicated to longitudinal studies protesting against the L2 anxiety hypothesis through FLCAS and measures of L1 skills, L2 proficiency, L2 achievements, and L2 aptitude (e.g., Ganschow et al., 1994; Ganschow & Sparks, 1996; Sparks & Ganschow, 1996). In their empirical research, FLCAS was employed in categorizing students into low, average, and high anxiety levels; L2 aptitude was tested prior to students' L2 learning in terms of Carroll and Sapon's (2000) Modern Language Aptitude Test (MLAT); the levels of L1 skills, L2 proficiency, and achievement were investigated through students' course grades in different periods or linguistic instruments such as word decoding, reading comprehension, working memory and so on. To guarantee the credibility of research participants, students were selected randomly to participate in the study, which objectively excluded the interference of potentially severe or low levels of language learning.

Based on Tobias' (1986) models of the effects of anxiety on learning (input, processing, and output), MacIntyre and Gardner (1989) administered four trials for participants after learning 38 English-French pairs together with Spielberger's (1983) State-Anxiety scale, and the tests of French vocabulary production and free recall of the pairs to substantiate FLA correlated with both language learning and production. They found there existed a negative causation direction from anxiety to language learning performance and that merely French class and French use anxieties correlated with the production scores. This study supports the role of FLA as the cause of deficits in L2 learning and the development of FLCAS. Besides, it offers a thought-provoking interpretation from a cognitive perspective that written vocabulary tests require long-term memory retrieval, whereas the recall of word pairs requires short-term memory in high-pressure conditions, thereby influencing the test results of production to some extent. Therefore, information processing is anxiety-provoking.

Sparks and Ganschow (1991), however, held the stance that language anxiety was not a causal factor, but the consequence of L2 learning difficulty owing to the confounding nature of the first or second language learning and was in favor of FLA as a natural result of language learning difficulty. The finding also revealed that L1 difficulties, particularly L1 phonetic decoding, influenced L2 learning. By contrast, MacIntyre and Gardner (1994) confirmed the role of anxiety as a causative variable instead of the consequence when they observed that a video camera, which aroused student's anxiety, resulted in students' poor L2 vocabulary performance, but the removal of the anxiety stimulus ultimately improved L2 performance. In 1995, MacIntyre continued to criticize Sparks and Ganschow's (1991) unreasonable view of FLA as a consequence or side effect based on their model of linguistic coding deficit hypothesis (LCDH), which emphasized difficulties such as L1 phonological and syntactic aspects lead to L2 difficulties, and insisted that affective variables, L2 learning context, and cognitive processing be taken into account when correlations between FLA and individual differences in L2 learning were analyzed. He supported the rationality of FLCAS for encompassing social and cognitive factors easily ignored in the assessment of FLA. Language learning is a complicated process in which the affective variable, such as the anxiety stemming from task complexity, influences students' allocation of cognitive resources and the amount of effort, thereby bringing out the occurrence of individual differences.

In 2007, Sparks and Ganschow found that FLCAS scores were negatively relevant to L2 measures, and the differences in the level of FLA were related to L1 skills emerging in early childhood, higher and lower anxiety levels in particular; however, the weaker L2 learners, though prone to be more anxious, did not exhibit rather poorly in L1, partially fossilizing the speculation that L2 processing was constrained by limited working memory capacity. Through FIML (Full Information Maximum Likelihood) procedure and hierarchical regression, Sparks and Patton (2013) uncovered that FLCAS explained significant unique variations in L1 skills in elementary school prior to L2 learning, indicated negative correlations between L1 ability level and FLA, and even assessed early L1 learning skills. In addition, FLCAS was an indicator predicting L1 skill development throughout primary school and into high school as well concerning a great many L1 skill measures. It was unexpected to figure out that FLCAS well explained the variances of L1 skills and L2 aptitude from the beginning of L2 learning. As is illustrated from the relevant research, the emphasis is always mentioned that FLCAS should not incorporate any L1 skills when elaborating students' FLA or predicting L1 and L2 development and that FLCAS measures students' perception of their language learning skill ability (Sparks & Ganschow, 2007; Spark & Patton, 2013). The negligence in comparing different student groups while controlling for language proficiency level, either native or foreign, is radically problematic for FLCAS measuring self-rated language abilities rather than their specific anxiety level, thereby impacting the study's internal validity detrimentally.

Furthermore, Sparks et al. (2018) carried out the replication research of FLRAS with similar research methods in earlier FLCAS studies and discovered that students of Spanish as L2 with lower FLA achieved higher grades in all L1 and L2 measures, but it could not directly explain the variance of L1 print exposure. FLRAS explained L1 unique variances such as working memory, metacognitive ability, reading attitudes, L2 phoneme awareness, and L2 aptitude. It would also predict L2 achievement growth over three-year Spanish courses to a high degree. The earlier L1 skills transfer and L2 aptitude had a long-term influence on later L2 achievement. The multifaceted results of this FLRAS study were congruous with those of the previous studies about FLCAS, depicting that both scales were the instruments for the individual differences in L1 skills and L2 aptitude, not specifically oriented towards unique

anxiety for L2 learning and reading. In effect, the correlations between FLA and L2 learning were spurious. The study may well explain some special cases of students who achieve poorly in low anxiety levels and who demonstrate high L2 levels with extrovert anxiety, penetrating the claims about the causal role of language anxiety in language learning. It is imperative to deal with language problems prior to or simultaneously tackling students' anxiety (Sparks & Ganschow, 2007) because to test language proficiency, language produced by students is, in effect, the core index in the learning process during which FLA and other individual variables function complicatedly.

3. Summary and Conclusion

He (2018) probed into the main FLA research in China in terms of 103 widely-cited journal articles and doctoral dissertations from 1998 to 2014 and summarized four domestic periods of FLA development: the first period from 1998 to 2002 was the introduction of FLA in China; the second period from 2003 to 2008 was the flourishing of domestic FLA research with the peaks of 2004 and 2007; the third period from 2009 to 2014 remained continued stably; the last period from 2015 towards envisioned the further research on FLA. FLA research in China principally catered to FLA research review, reasons, and strategies towards FLA, FLA in diversified L2 skills, which witnessed the transition from general FLA research abounding in scale analysis to skill-specific FLA research. Nevertheless, L2-speaking anxiety research is relatively deficient, and some domestic studies of FLA are not rigorous but utilitarian, which calls for more rigorous empirical studies. As a whole, most research from abroad and China concerning FLA is characterized by reliable and valid scales such as FLCAS and FLRAS within a longitudinal study, in which students' anxiety and L2 development are statistically measured through quantitative research methods. Standard and prevalent as the scales proved, the results were unavoidably affected by the temporariness of data effectiveness, particularly in skill-specific contexts. In other words, FLA is consecutively changing over time by certain potential factors, but its level is usually post-tested, which might be constrained by students' memory. To encompass qualitative research methods such as interviews within the research is encouraged as well to adequately guarantee the in-depth self-perception of students' FLA. According to a contrastive analysis of 198 research papers from 29 SSCI and 12 CSSCI journals focusing on FLA research, Shi and Xu (2013) argued quantitative research method was widely employed domestically and qualitative analysis such as discourse analysis and think-aloud should also be incorporated within the further research. Additionally, the research regarding FLA is limited on a relatively small scale, and sometimes other variables such as instructors, methodologies, and teaching context cannot be entirely controlled all the time. However, FLA research indeed exerts pedagogical implications upon L2 teaching linguistically and cognitively in skill-specific contexts, notwithstanding the arguments over the ambiguous role of FLA as the cause or the consequence of l2 learning.

Lightbown and Spada (2013) argued that this relationship is an intricate one, however, in that it is probably not personality alone but how it combines with other factors that influence second language learning. It is not reasonable to affirm one conclusion and refute the other since the two claims are not theoretically opposed and could interpret L2 learning difficulties from different perspectives. The effects of affective variables on L2 learning differ in individual differences, including the exception that some high-anxiety students outperform low-anxiety students in L2 performance and achievement. In effect, as Aida (1994) argued, certain teaching methods might not alleviate students' FLA level effectively owing to the confounding variables. To ameliorate students' L2 learning, both students' FLA and L2 learning problems should be considered by L2 teachers, and corresponding teaching strategies should be adopted as well in L2 teaching to relieve students' FLA and facilitate the acquisition of L2 skills concomitantly.

L2 instructors should be equipped with strategies for coping with FLA and improving students' L2 proficiency levels. For instance, creating a relatively friendly and comfortable atmosphere is conducive to building a good teacher-student relationship and advancing cooperative L2 learning among peers, particularly for anxious L2 learners, to stimulate a sense of security. L2 instructors should pay heed to students' unique individuality, endeavor to reduce peer pressure and instruct different students in terms of their FLA levels and L2 abilities. Sparks et al. (2018) criticized the excessive emphasis on FLA reduction strategies primarily based on the causal role of FLA in that the level of L2 skill ability was an integral indicator of measuring students' L2 proficiency level. In other words, the hypothesis that anxiety reduction leads to better performance is not substantiated to the fullest, but we cannot overlook the impact of FLA on L2 learning. Therefore, promoting students' L2 skill training is the principal to settle L2 problems, but the mastery of some anxiety reduction instructions could be a supplement to further L2 teaching and learning.

Recently, Russell (2020) has stressed the urgency of dealing with L2 learners' FLA evoked by the online environment under the circumstances of COVID-19, and the insufficiency of online methodologies has exacerbated L2 difficulties during online and remote learning. L2 instructors should keep in mind that adjusting teaching strategies and caring about students' feelings, and L2 difficulties are of great necessity in any teaching context. It is high time that remedial measures should be taken to compensate for the deficiency in L2 proficiency and performance influenced by FLA. Besides, it is worth mentioning that students' familiarity with L2 reading contents could reduce the influence of text complexity and L2 reading anxiety because task difficulty may well heighten students' FLA levels. When providing feedback, L2 teachers can be expected to correct students' L2 mistakes indirectly to minimize their FLA. MacIntyre (1995) illustrated that when processing L2 information, more anxious students might be susceptible to task-irrelevant information and become distracted from task-relevant information due to the limited capacity of

cognitive attention allocation. Hence, when encountering difficult L2 tasks, instructors ought to scaffold students with explicit teaching strategies to familiarize them with the tasks beyond their current comprehension and make them more concentrated and conscious in L2 learning. It is also anticipated that the involvement of L2 teachers as research participants, not merely towards L2 learners, would provide a more holistic view of FLA research in that teachers' emotional competence serves as a catalyst facilitating students' L2 learning, thereby enriching FLA research findings.

Regardless of the complicated associations between FLA and L2 performance, all the efforts cater to the effective promotion of L2 teaching and learning.

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