

Exploring the Facilitating Effect of Anxiety on Learners who studying Chinese as a Second Language

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Abstract: Anxiety, as a psychological emotion experienced by learners during the learning process, has garnered significant attention, especially as contemporary teaching models have shifted from being teacher-centered to learner-centered, in line with constructivist education theory emphasizing student learning and development. This paper provides an overview of the current research on facilitating effects of anxiety in second language learning. It clarifies the interplay between anxiety and individual factors in second language learners and their impact on learning performance. Furthermore, we offer a research methodology and for the quantitative research on measuring anxiety and to answer whether “Facilitating Anxiety” really exist in the process of second language acquisition.

Keywords: Second Language Acquisition; Individual Factors; Facilitating Anxiety; Learning Effect.

1. Anxiety

Anxiety is defined as “subjective feelings of tension, fear, and worry associated with excitement in the autonomic nervous system.” (Spielberger 1983). During learning activity, anxiety is the emotional embodiment of the learning subject, and the learner's emotional factors, same as competence factors, will have a positive or negative impact on the learning process. It's studied that anxiety is probably the emotional factor that most hinders the learning process (Dai Manchun 2000). Therefore, learners who are able to control their own anxiety level can succeed more easily.

1.1. Language Acquisition Anxiety

Language acquisition anxiety arises as an emotional experience when learners are acquiring a new language. During learning, even a high-level language learner will feel anxious as well (Dewaele&MacIntyre 2014, 2016). Different from general anxiety, language acquisition anxiety is primarily caused by specific situation scenarios, such as classes, tests, and authentic interactions. Regarding that language acquisition anxiety maybe caused by the studying environment, such as a language class, or the authentic language using environment, it is possible for learners to feel anxious when language outputs are not desirable.

1.2. Second Language Acquisition Anxiety

American linguist Krashen put up the “Affective Filter Hypothesis” including anxiety as one of the emotional factors in the 1980s. Horwitz et al. (1986) made up “The Foreign Language Classroom Anxiety Scale” and clearly defined language anxiety as a complex of self-perception, beliefs, emotions, and behaviors associated with foreign language learning class. They divided anxiety into three types on the origin of it, including communication anxiety, testing anxiety and negative evaluation anxiety. Since then, scholars have mostly carried out empirical research on the impact of anxiety on academic performance and the quality of output based on this scale. In addition, more specific anxiety scales were created, like reading, listening, speaking, or writing anxiety scales to examine specific language skills anxiety.

1.3. Facilitating Anxiety

Alpert and Harber (1960) primarily concerned about learning anxiety has a positive effect, and divided anxiety into “Facilitating Anxiety” (FA) and “Deliberating Anxiety” (DA). Their research proved that the incorporation of items designed to measure facilitating anxiety into a scale that already effectively measures debilitating anxiety can significantly increase the prediction of academic performance scores. Before that, the discovery of Yerkes, R. M., & Dodson, J. D. (1908), which found an intermediate range of intensity of stimulation most favorable to the acquisition of a habit, laid the groundwork for the founding of FA. Scovel (1978) agreed with A&H (1960) and believed that FA helps to mobilize the cognitive drive of language learning and constantly approach the learning goal, while DA often hinders the learner's enthusiasm for learning, and further suggested that teachers should conquer the students' DA as much as possible when they teach.

There are few empirical studies about FA, other emotional factors always are discussed together. Ruebush (1960) uses two anxiety scales, one intelligence test on 280 six-grade boys, and found that the facilitating or interfering effect of anxiety on performance is mediated primarily by defensive reactions (cautiousness) to the anxiety. In the field of language acquisition anxiety, it is hard to find any recent research on FA. Besides, the nature of FA is also being challenged. Williams (2008) pointed out FA meant a sense of motivation and made an overview of past studies related to facilitating anxiety, also stated that the Yerkes-Dobson law outlived its usefulness due to its absoluteness and unicity.

Research on anxiety in China started later, almost beginning in the 90s of the 20th century. In the research of anxiety and second language acquisition, the methods focus on quantitative materials, and the subjects are not comprehensive, mainly on non-English major undergraduates. Instead of learners who taking Chinese as a second language, researchers more worked on learners who taking English as a second language, and explore the relevant degree between anxiety and testing grade through using the specific anxiety scales. Li Hang (2015) pointed out that foreign language anxiety was only moderately negatively correlated with

foreign language performance($r=0.34$). Guo Yan et al. (2010) announced that the negative correlation between two factors mentioned above is extremely low($r=-0.1$). In general, there is a negative correlation between language learning anxiety and achievement, that is, the higher the anxiety level is, the lower the academic performance will be.

2. The Relationship between Anxiety and Other Individual Factors in Second Language Acquisition

2.1. Individual Factors That Effect Anxiety in L2 Learning

From the perspective of individual factors of learners, anxiety is part of the emotional individual factors, and it has a significant interaction with other individual factors.

Luo Han (2018) carried out an analysis of the seven variables as potential predictors of Chinese language learning anxiety, and there were five significant predictors altogether explained the anxiety. Combined with the same topic results from Qin Xiaoping and Wen Qiufang's study (2002), a more comprehensive interactive relationship diagram of anxiety and individual factors can be derived as shown in Figure 1 below.

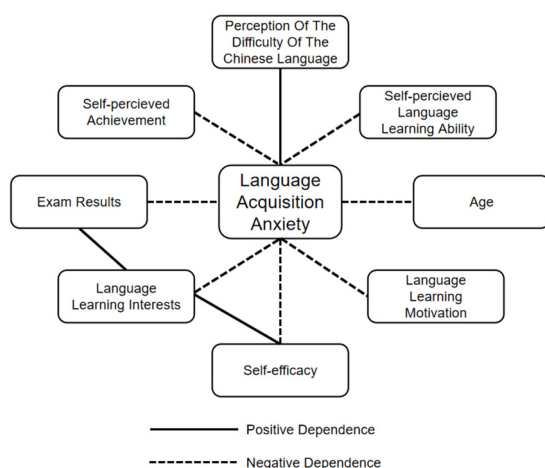


Figure 1. A more comprehensive interactive relationship diagram of anxiety and individual factors can be derived

However, the factors involved in Luo Han's study (2018) could only explain 34.7% of the predictors of Chinese learning anxiety, and 65.3% of the predictors remained unexplained. Emotional intelligence refers to an individual's ability to perceive, assess, understand, and regulate their own and others' emotions. Studies have shown that emotional intelligence has a significant alleviating effect on foreign language learning anxiety. (Dewaele et al. 2008) We can also pay attention to the learner's emotional intelligence and other emotional factors that govern the individual's "irrational factors".

From the point of view that positive emotions can eliminate the harmful impact of negative emotions, Li Chengchen (2020) pointed out that anxiety, pleasure, and fatigue are all mediated emotional factors, which are regulated by emotional intelligence, thereby affecting foreign language performance, and the correlation is shown in Figure 2.

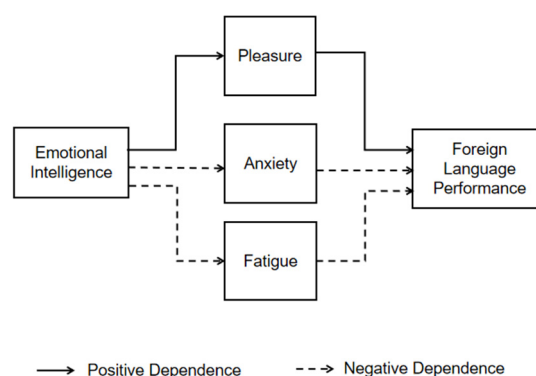


Figure 2. The correlation

In the discussion of the relationship between age and anxiety, Luo Han (2018) has pointed out that older learners pay more attention to mistakes in language learning, and they do not learn as fast as younger learners, which causes a relevance that age is being directly proportional to anxiety. Instead, Dong Lianqi(2021) emphasized that, as the learner gets older, they become more aware of foreign language learning and are able to continuously reduce the negative impact of negative emotions on academic performance, so the older they get, the lower their anxiety will be. In our view, the divergence here is actually ignoring the difference between short-term and long-term anxiety. With the increase of grades, learners' emotional cognitive abilities in all aspects have improved, and they will be more mature to deal with negative emotions such as long-term anxiety. But even older learners still have the potential to experience short-term anxiety when being exposed to a new foreign language. According to the "critical period hypothesis" of foreign language learning, the younger the learner at the same stage of language learning, the faster the ability to master the foreign language.

In other study results, anxiety has a reciprocal effect with other emotional factors in learners. Guo Yan et al.(2014) did a study of the factors related to anxiety and self-confidence, it is concluded that the factors of lack of self-confidence greatly affect foreign language learning anxiety. It is not difficult to find that learners' self-emotional cognition also has an impact on anxiety values. From the perspective of the relationship between anxiety and external factors affecting learners' language learning, the type of language test has no obvious effect on learners' anxiety level, while teachers' teaching strategies and external cognitive interventions on learners will have an impact on anxiety. Research shows that the learning atmosphere in the classroom with less anxiety is conducive to language learning, and the anxiety of foreign language learning can be artificially intervened through psychological diagnosis, cognitive improvement, behavior modification and cognitive reconstruction.

Anxiety also interacts with learning outcomes at the level of learners' self-perception. Zhang Xiaolu (2008) conducted a study on the correlation between anxiety and attribution caused by international students' use of Chinese. The attribution of learners' self-perception has a greater impact on learning success or failure than the attribution of external assessment performance. Learners who taking Chinese as a second language may think their failure in completing similar learning tasks cause their unexpected bad performance at present, therefore, they may feel more anxious.

Previous studies on the correlation between anxiety and external factors have mainly been qualitative analysis and

case-by-case interventions, and no quantitative studies have been found to clearly quantify the extent to which anxiety is reduced will be beneficial to the language learning performance.

2.2. The Effect of Anxiety on L2 Learning Performance

To consider the effects of anxiety on grades, Weng Deshou (1988) provided the formula ($\frac{\text{Time+Interests}}{\text{Anxiety}} = \text{Results}$) to predict the learning achievement. Anxiety in foreign language learning is negatively correlated with grades can be concluded from the previous literature (Zhang Li, Wang Biao 2002, Yu Weihua et al. 2015).

There are still some studies that have focused on the positive effects of anxiety. However, it is only qualitative speculation, and it does not verify the opinion. Chastain (1975) argues that anxiety can promote language learning because the anxiety value gradually decreases when the language learner has more modified output. Thus, anxiety stimulates the learner's motivation and makes them must put in more effort to achieve better learning outcomes. Qian Xujing (1999) examines the factors that affect anxiety and its impact on academic performance. It is found that when facilitating anxiety and deliberating anxiety work together, the effects of both anxieties will offset, but this opinion has not been developed and demonstrated.

Zhao Xia (2002) found that students' own emotions, such as confidence and motivation, previously acquired knowledge or experience and abilities or skills have a direct impact on the formation of facilitating anxiety, and teachers' classroom teaching design plays a decisive role in the above individual factors of students. Liu Zhiwei (2008) argues that moderate anxiety will prompt students to understand that they will not be able to achieve their goals without hard work, and at the same time can build students' confidence.

Trebits (2016) discovered that anxiety has a two-sided effect on the quality of learners' oral output in Second language acquisition. The facilitating effect appears on the positive impact of inputting and processing anxiety on the output of learners' lexical diversity and syntactic complexity. When anxiety plays a facilitating role, learners compensate for the distractions caused by anxiety via using richer vocabulary and more complex sentence structures. However, the emergence of this facilitative effect is limited to specific indicators and task types. It can be seen that the scope of facilitative anxiety impact is relatively narrow, and the source of its force is not clear yet.

Several studies have already noticed the effect of anxiety on language learning performance. As learners' emotional attitudes change, so does the anxiety vary, but there is no research to quantify the anxiety value that actually dominates test scores. Here are the questions: What is the relationship between "Facilitating Anxiety" and "Deliberating Anxiety"? Assuming exam results as academic performance, which will directly affect by FA or DA or both of them. Can FA and/or DA well predict exam results?

If FA really works, we can seek ways to intervene against anxiety by taking the interaction among anxiety and internal and external factors correlated with L2 learners into consideration. Based on this, we can measure the anxiety value of students at different learning stages, introduce internal and external variables, and comprehensively observe the trend of anxiety changes and its impact on academic

performance, so as to obtain a reasonable interval of facilitative anxiety. Then, we will try to give some teaching advice based on the findings.

3. Research Methodology for Reference

The subjects of our study will be a class of elementary Chinese learners participated in this study, aiming to pass the HSKK4 (Chinese proficiency Speaking test with Level 4) and come to a Chinese university for study. The reason for choosing the oral test is that students appear to have more obvious nervousness and anxiousness in speaking.

The basic instrument in this study is a questionnaire, composed of background information inquiry and "The Achievement Anxiety Test" (Alpert, R., & Haber, R. N. 1960). Then, HSKK4 test grades will be collected. The data above will be computed by means of the statistical program SPSS, with the main operations being reliability and validity tests, correlations, and an inferential statistics operation.

Since there are three groups of statistics, including FA values, DA values, and HSKK4 grades. Firstly, to do the reliability and validity tests on the questionnaire statistics.

Secondly, to use SPSS to calculate the Pearson correlation coefficient between FA and DA. It may appear three outcomes: positive dependence, negative dependence, and independence.

Thirdly, if FA and DA are positive dependent or independent, we need to do a unary regression analysis between FA values and grades, DA values and grades separately. It is also possible that both of them cannot well predict grades due to the statistics. Such results can testify to the wrong conception of FA or DA. If FA and DA are positive dependent, they will have the same prediction on grades. By comparing to the real grades, it is possible to find one of them will contradict its nature. Then, we can correct a wrong concept. If FA and DA are negative dependent, we can do binary regression analysis and get a grade prediction model.

Lastly, according to the above summary of the research on the factors affecting anxiety, it can be clear that anxiety and individual factors of learners are in a system of intertwined influences, and we can use positive or negative correlation to control anxiety values when regulating anxiety. After taking the relationship between anxiety and other factors in second language acquisition into account, we can make innovations in teaching methods and change students' anxiety conditions to improve L2 teaching.

4. Conclusion

Previous scholars have proposed that anxiety has both facilitating and deliberating effects, but in the study of the effects of anxiety on learning, it has not been found that anxiety has a facilitating effect on academic performance. In this study, we can find out whether there is a FA in SLA, and if so, what is the relationship between FA and DA, which is often discussed in the past literature. It is also meaningful to know whether FA can effectively predict grades, and if so, whether we can improve academic performance by adjusting anxiety levels in SLA, and put forward teaching suggestions that can be used as references. Since DA is broadly acknowledged as a common concept, it will be helpful to do a series research on testing FA and to answer whether "Facilitating Anxiety" really exist in second language acquisition or not.

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Appendix

A designed questionnaire for research reference
 Direction: Please answer each of the following questions.
 All of your information is to be reserved confidential.

I Background Information

1. Age
(1) < 18 (2) 19-24 (3) > 25
2. Gender
(1) Male (2) Female (3) Others
3. Nationality
(1) Japan (2) Korea (3) Europe (4) America (5) Southeast Asia (6) Others

The Achievement Anxiety Test: (AAT)
 Direction: For each item, indicate whether you
 (1) Strongly Disagree (2) Disagree (3) Neither Agree or nor Disagree (4) Agree or (5) Strongly Agree.

1. Nervousness while taking an exam or test hinders me from doing well.
(1) Strongly Disagree (2) Disagree (3) Neither Agree or nor Disagree (4) Agree or (5) Strongly Agree
2. I work most effectively under pressure, as when the task is very important.
(1) Strongly Disagree (2) Disagree (3) Neither Agree or nor Disagree (4) Agree or (5) Strongly Agree

3. In a course where I have been doing poorly, my fear of a bad grade cuts down my efficiency.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

4. When I am poorly prepared for an exam or test, I get upset and do less well than even my restricted knowledge should allow.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

5. The more important the examination, the less well I seem to do.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

6. While I may (or may not) be nervous before taking an exam, once I start, I seem to forget to be nervous.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

7. During exams or tests, I block on questions to which I know the answers, even though I might remember them as soon as the exam is over.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

8. Nervousness while taking a test helps me do better.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

9. When I start a test, nothing is able to distract me.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

10. In courses in which the total grade is based mainly on one exam, I seem to do better than other people.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

11. I find that my mind goes blank at the beginning of an exam, and it takes me a few minutes before I can function.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

12. I look forward to the exams.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

13. I am so tired from worrying about an exam, that I find I almost don't care how well I do by the time I start the test.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

14. Time pressure on an exam causes me to do worse than the rest of the group under similar conditions.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

15. Although "cramming" under pre-examination tension is not effective for most people, I find that if the need arises, I can learn material immediately before an exam, even under considerable pressure, and successfully retain it to use on the exam.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

16. I enjoy taking a difficult exam more than an easy one.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

17. I find myself reading exam questions without understanding them, and I must go back over them so that they will make sense.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

18. The more important the exam or test, the better I seem to do.

(1)Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree

19. When I don't do well on a difficult item at the beginning of an exam, it tends to upset me so that I block on even easy questions later on.

(1) Strongly Disagree (2)Disagree (3)Neither Agree or nor Disagree (4)Agree or (5)Strongly Agree