

A Study of Foreign Language Vocabulary Test Anxiety in the Context of Concrete/Abstract Word Test

Wei Chen^{1*}

¹ Fuzhou Polytechnic, 8 Lianrong Road, University Town, Fuzhou, Fujian Province, 350108, China

*Wei Chen. Email: 18407025@masu.edu.cn

ABSTRACT

Anxiety as an important emotion of individual differences will affect the language performance. There are many researches on learning and test anxiety involving in language skills, while the detailed foreign language vocabulary test remains relatively less. On the basis of anxiety measurement and word spelling test of concrete and abstract word test, this paper attempts to explore the relationship between the foreign language vocabulary anxiety and vocabulary test performance. 100 freshmen major in English participated in the experiment. Vocabulary test anxiety turns out to be a little higher among English majors and exerts a significant influence on the test performance. There are different test performances and anxiety levels in the concrete and abstract word tests. All these above implicate that both language instructors and learners cannot ignore the common vocabulary test anxiety. On the one hand, they can build up language learners' confidence and self-evaluation. On the other hand, the reduction of vocabulary test anxiety can be practiced through the way of setting up images of words.

Keywords: Test Anxiety, Vocabulary Test, Concreteness, Test Performance.

1. INTRODUCTION

Anxious emotion is a prevalent problem for language learners. Many linguistics relate language anxiety to the passive subject feelings [1][2]. Anxiety also appears in Krashen's Affective Filter Hypothesis together with motivation and confidence to influence second language input. Topp and Robert identified test anxiety as a kind of negative emotion associated with lower test performance [3]. In foreign language learning, on one hand, more linguistics manage to explore the relationship between vocabulary and learning anxiety [4][5]. On the other hand, both vocabulary and test anxiety is generally related with language skill test, test performance and item tests [6][7][8][9][10]. However, prior studies have seldom targeted for the isolated vocabulary test anxiety.

Previous researchers concluded that test anxiety would negatively predict the achievement [11]. H. John, Mueller, D. Thomas and Overcast related the inefficient recall of words for highly anxious people with the access to the concreteness [12]. Dual-coding theory also indicates two systems are provided for the encoding of concrete words [13]. Besides, Schwanenflugel suggests that abstract words are harder to be understood than

concrete words from three aspects of the sentence comprehension, lexical tasks and vocabulary acquisition [14]. These researches focused more on the vocabulary itself and well explained the encoding of vocabulary. Isolated vocabulary test strategies like dictation are more adopted in daily language classroom. Both language instructors and learners often ignore the detailed special vocabulary test anxiety. The current study attempts to explore foreign language vocabulary test anxiety and vocabulary test performance among English majors in detailed word spelling test.

Therefore, three factors of test performance, test anxiety and tested word type are combined in the process. The test performance and the word type are expected to be a predictive of test anxiety. Detailed relationship between vocabulary test anxiety and scores will be examined in the context of concrete and abstract word test, respectively. Concrete and abstract words with similar word frequency are engaged in word spelling test. Effect of anxiety and word type is observed through the test performance. Word-spelling test score is aimed at accessing the test performance and the self-designed anxiety test scale is applied to gain the anxiety situation. What's more, detailed anxiety items is expected from the aspects integrated with the deep cognitive explanation and anxiety comparison will be

conducted to identify the differences and its reasons under the framework of dual coding theory. Besides, corresponding test anxiety reduction strategies for foreign language vocabulary will be provided to better improve the testing performance.

2. THEORETICAL FRAMEWORK

2.1. Anxiety

Anxiety is a psychological concept as an abnormal emotion originated from the failure of task or expectation. In an earlier time, Alpert and Haber divided the anxiety into facilitating anxiety and debilitating one, between which the latter is what we called anxiety in general [15]. Anxiety is generally observed as the learning anxiety and test anxiety. As for the learning anxiety, linguistics believe that anxiety can function as an essential factor to influence the language learning and probably change with different external or internal stimuli. These stimuli can range from the level of second language, the gender, to even districts [16][17]. As for the test anxiety, based on the process of second language acquisition, the test anxiety is explored in the input and output skill tests.

Input test anxiety in second language learning is generally related with the listening and reading, while output test anxiety is based on the speaking and writing. Listening generally is taken as a choke point for second language learners and reading is a more popular input for language learners in the classroom. In Cheng, Hortwitz, and Schallert's study, they recognized that the classroom anxiety was more considered related with speaking while the writing anxiety is more related with the language skills [18]. The test anxiety is considered to be related with these skill test performance. For example, B. G. Zhou and J. J. Tang believed that the divided cognitive resources because of the overload writing anxiety were attributed to the poor writing performance [19]. However, no matter test anxiety is engaged in the input or output skills, the vocabulary continues to play an important role in their relationship in the second language acquisition.

2.2. Concrete and Abstract Vocabulary

Generally speaking, people describe concrete words as the existent and objective things in the daily life, while abstract words tend to refer to the conceptual things in our brain, like emotions, ideas and quality. When it comes to the concrete or abstract vocabulary process, the dual-coding theory is considered as a very important model. In dual-coding theory, there are verbal and imagery systems. Paivio, Clark and Lambert suggested that "shared images, however, are assumed to be more available for concrete words than for abstract words" [13]. The mechanism in activating vocabulary is

different in terms of the concreteness and concrete referents will help second language learners to better build the concrete vocabulary node than abstract vocabulary one.

However, there are also different findings on the concreteness. For example, Janet and De Groot found that although concreteness was helpful in lexical processing but concreteness effect might disappear when it was related with the context availability [20]. Besides the concreteness and imageability, there are many other factors including the word frequency, order of presentation, word length influencing concrete and abstract vocabulary processing in the bilingual memory system [21].

This article looks at foreign language vocabulary test anxiety in English majors, especially after vocabulary spelling test. In order to explore the profile of foreign language vocabulary test anxiety under the context of concrete and abstract word test, both the test performance and the anxiety level as well as their relationship will be carefully examined in the context of concrete and abstract word tests.

3. METHODOLOGY

3.1. Participants

In the experiment, there are 100 subjects (mean=18.86, SD=0.592, range 17-20), among which 87 females and 13 males are contained. They are freshmen of English major and take Chinese as native language. Subjects are able to use their phone to finish the questionnaire. Subjects were taken apart into two groups. Fifty of them were tested on the concrete word spelling test and the remaining were tested in the abstract word spelling test.

3.2. Instrument and Design

There are two kinds of questionnaires and a word familiarity investigation in the experiment. Two questionnaires contain four parts. The first part is the basic information collection including name, gender, age and area.

The second part consist of a picture of word list borrowed from the word stimuli in the research of Yao, Keitel, Bruce, Scott, O'Donnell and Sereno [22]. The word list contains concrete and abstract words that are also classified by positive, neutral and negative emotions. Stimuli words are of highly similar word frequency ranging from 22.2 to 23.6.

The third part is the word spelling test adopting the optional items of 3-point scale, in which 1 represents "I do not remember the word", 2 represents "I've met the word but I am not sure" and 3 stands for "I remember the word and I can spell it as _". This part, the reminder

of the first two alphabets will be provided and students need try their best to write down the word they can retrieve. The selected first two alphabet items in both concrete and abstract word spelling tests are of similar word frequency in the word stimuli with means of 2.6 (SD=1.07) and 2.8 (SD=1.14), respectively.

The final part is the vocabulary test anxiety scale in the form of 5-point scale, in which 1 is represented totally agree and 5 means totally disagree. The total scores range from 15 to 75 and the higher scores stands for the stronger anxiety. Some vocabulary learning and testing features are taken into consideration, such as the confidence, vocabulary size evaluation, feelings of test. The self-designed vocabulary test anxiety scale transfers the test anxiety, communication apprehension and fear of negative social evaluation in the FLCAS (Foreign Language Classroom Anxiety Scale) into vocabulary test anxiety, vocabulary apprehension and fear of insufficient vocabulary evaluation, respectively [1]. Finally, 15 items are selected in the vocabulary test anxiety scale with Cronbach alpha of 0.778 for Questionnaire A and 0.716 for Questionnaire B. Four of 15 items are positively scoring while others are reversed scoring.

In order to master the vocabulary familiarity of subjects, the vocabulary familiarity investigation is collected one week later after the word spelling test. The scope of word familiarity in the investigation ranges from 0 to 30, with the medium of 15.

3.3. Data Collection

Two questionnaires are issued on 14th March, 2022 on the Internet. Subjects are required to finish the questionnaire on the phone. Subjects need to finish the questionnaire in the sequence of filling the basic information, receiving the word stimuli, finishing the concrete or abstract word test and finally finishing the anxiety scale. In the word stimuli part, participants finish the Questionnaire A scanning within 1.96 minutes (SD=0.87) and the Questionnaire B within 1.92 minutes (SD=0.76). All the data is downloaded as the Excel form and is uploaded to SPSS 28.0.1.1 to make the analysis. The vocabulary familiarity is also collected one week later so as to minimize the retention of word stimuli.

4. RESULTS

Taking both abstract and concrete word tests into consideration, the mean for each questionnaire item ranged from 2.80 to 4.10. Among the 15 items, the top two items were that “I worry about the consequences of not enough vocabulary storage” and “I keep thinking that other students are better at vocabulary than I am” with the mean of 4.10 and 3.67, respectively. In the abstract word test, the means for the fifteen items

ranged from 2.89 to 4.04. In the concrete word test, the means of 15 items ranged from 2.64 to 4.15 with little larger scope than that in abstract word test. The top two items in both kinds of the word tests were in line with that in the general word test.

The scope of anxiety level ranged from 15 to 75 with the median of 45 in the experiment. In Table 1, the general anxiety score mean is 48.52 (SD=7.531), a litter higher than median. As for the three factors collected, they presented strong correlated with each other. Besides the vocabulary test score has a strongly negative correlation with VT anxiety ($p < 0.001$), the word familiarity is also correlated with vocabulary test score positively ($p=0.002$) and with vocabulary test anxiety negatively ($p < 0.001$). This is partly similar with what Ralph. E. Culler and Charles J. Holahan suggested that part of the academic performance decrement was related with the less knowledge of the relevant material [23]. Therefore, in the following analysis, the word familiarity is controlled at the very closely level of 17.3 and 17.6 to avoid its influence.

Table 1. Vocabulary Test Anxiety

Items	Number	Mean	SD
Word Familiarity	92	19.46	5.061
VT Score	92	21.80	5.526
VT Anxiety	92	48.52	7.531

When the word familiarity is controlled closely to medium level, there is no correlation between test word familiarity and score or the test anxiety. The vocabulary test anxiety remains 48.67, even a little higher than 48.52. The test score possessed a highly negatively correlation with the test anxiety. As for the details in the concrete and abstract word test, it presented that the anxiety level in concrete word test located at 47.90, while at 49.28 in the abstract word test. There was a level of 1.38 higher in the anxiety in the abstract word test. In the concrete word test, the test anxiety is negatively correlated with the test score with significance of -.446*, a little lower than that of -.495* in the abstract word test.

5. DISCUSSIONS

5.1. The Profile of Foreign Language Vocabulary Test Anxiety in English Majors

Besides the listening, speaking, reading and writing anxiety, the vocabulary test anxiety exists in English majors. The mean higher than medium indicates that vocabulary test anxiety for English majors remains

higher although they've finished one-semester professional study in English. The result is also explained in Casado's research. Casado suggested that anxiety is present in the freshmen and would not diminish with increasing experience acquired later [24]. Based on the aspect, even for English majors who have richer experience than non-English majors still suffer in the language test anxiety. Therefore, in the process of vocabulary test, the vocabulary test anxiety exists as a considerable phenomenon

The top 2 items according to the mean are related with the fear of the insufficient vocabulary storage and their vocabulary self-evaluation. The finding also occurred in the research among foreign learners of Chinese in the research by Li Zhang and Biao Wang [9]. What most language learners will attach more attention to is the self-evaluation on language acquisition. It shows during the test, self-evaluation and self-confidence will act as two important psychological expression to manifest the vocabulary test anxiety level. Lifang Xue also suggested that English anxiety is negatively correlated with both self-perceived proficiency and actual proficiency [25]. Continuous low self-evaluation and lack of self-confidence is a kind signal of anxiety for language learners and instructors can further transfer or reduce students' anxiety by improve learners' self-evaluation and build up the confidence on the vocabulary.

5.2. The Relationship between FL Vocabulary Test Anxiety and Vocabulary Test

The significant correlation between the scores and anxiety stands that the better test performance is, the lower anxiety level represents. It means that anxious emotions distracting subjects' limited cognitive resources will worsen subjects' performance in the vocabulary test. The finding replicates many researches on the relationship between anxiety level and language performance. Ralph. E. Culler and Charles J. Holahan showed the better academic performance for lower anxious students through collecting the mean GPA [23]. The result remains true when the word familiarity is well-controlled. The obvious traits of low self-evaluation and self-confidence for high-anxious subjects could probably greatly consume their cognitive resources in the vocabulary test. It will diminish the help of word stimuli and increase the burden of vocabulary encoding in the test.

The vocabulary test anxiety and test performance are proved to be the negative predication of each other. The negative correlation indicated that not only the test anxiety would affect the test performance, but the worse test performance would in turn to testify language learners' self-evaluation and self-confidence to further increase the anxiety level. Peter D. MacIntyre, Kimberly A. Noels and Richard Clement also confirmed the

important role of self-perception in both the anxiety and the achievements [26]. Therefore, for language instructors and learners, it is important to break the vicious cycle to reduce the anxiety and improve the test performance.

5.3. Vocabulary Test Anxiety in Abstract and Concrete Word Test

Foreign language vocabulary test anxiety still remains a little higher than medium in both kinds of word test. It implicates that the type of vocabulary in the test will not determine the level of vocabulary anxiety. However, De Groot and Keijzer has ever explained that concrete words have a better learning effect and retention than abstract words [27]. It means that the differences of abstract and concrete words will affect the test performance. The test performance in concrete vocabulary test is higher than that in abstract vocabulary test. The tested word type will in some way affect the fluctuation of performance. This kind of effect is also observed in the different test anxiety level in both tests.

On the other hand, the correlation between the vocabulary test scores and vocabulary test anxiety is also detected in both kinds of tests. However, the significance of the correlation in concrete vocabulary test is not so high as that in abstract word test. It means that the correlation between test anxiety and test performance is more obvious under the condition of abstract words. Arnold suggested that a plausible strategy to minimize the anxiety level was visualization [28]. This is similar with the dual-coding system. The concrete words are stored in both verbal and imagery systems while the abstract words are only stored in the verbal system. In other words, the image of concrete word can in certain way distract the strength of the correlation. It implicates that the encoding in single system will greatly affect the performance of the vocabulary test and increase the anxiety level.

6. CONCLUSION

As it is well-known, test is a popular strategy for language instructors to observe students' second language acquisition. Vocabulary test are more adopted in both forms of dictations or exams. Therefore, as the important factor affecting students' test performance, the vocabulary test anxiety should be paid more attention. This essay observed the general situation of vocabulary test anxiety among English majors and tried to define the relationship between vocabulary test anxiety and performance. To a further step, the different vocabulary test anxiety activated by different word types of concreteness has been examined.

The data appeared in the experiment summarized a series of results for the vocabulary test anxiety. First, the vocabulary test anxiety remains at a higher level

even for English majors. Comparing the degree for each item in the vocabulary test anxiety, the lower self-confidence and self-evaluation are considered to be the important factors to for the vocabulary test anxiety. Second, the significant correlation between vocabulary test score and anxiety presented that the limited cognitive resources will be consumed by the test anxiety and further more increase the word processing burden in the test. Therefore, the scores will be affected and in turn to increase the anxious emotions. Third, the different anxiety levels in both kinds of word tests are explained under the framework of dual-coding theory. Processing in dual systems for concrete words will help interfere with the strength of correlation between anxiety and performance to a lower level.

The vocabulary test anxiety will impair the test performance or the retrieval of vocabulary information during the vocabulary dictation or English exam for English majors. In the abstract word test, the vocabulary test anxiety is more correlated with the test scores. It suggests that language instructors should pay attention to the vocabulary anxiety that may make a difference on students' vocabulary learning. Building the word image and the vocabulary confidence when learning abstract words will better relieve the vocabulary anxiety. As for the process of vocabulary test, language instructors can help students to narrow the cognitive resources to the actual word test to better form the positive vocabulary test performance evaluation.

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