

Vocabulary Learning Style, Strategy and Attitude of Chinese Non-English Majors

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Abstract: Vocabulary learning is a critical aspect of English language acquisition, serving as the foundation for developing essential language skills. For Chinese students, mastering a second language poses various challenges, making vocabulary acquisition of utmost importance. Insufficient vocabulary can hinder language proficiency and impede students' overall language development. To address this issue, this study explored effective learning styles, strategies, and attitudes for enhancing vocabulary learning of Chinese non-English major students. They were chosen from three universities in China as research subjects to determine the respondents' vocabulary learning styles, learning strategies, and learning attitudes. A total of 442 non-English College students in China were surveyed via questionnaire. In this study, the descriptive correlational method were employed to give a description and explanation of the variances in participants' responses to the three variables. Based on the findings derived from the collected data, it was concluded that participants generally agreed with the three variables. Furthermore, participants prefer visual and auditory learning compared with kinesthetic learning. Moreover, an enhanced program was proposed to help university students achieve effective vocabulary learning. Thus, it is advisable to include more participants and other variables in future research to enhance more effective vocabulary learning.

Keywords: Non-English Major, Vocabulary Learning Attitude, Vocabulary Learning Strategy, Vocabulary Learning Style.

1. Introduction

Vocabulary learning is a fundamental and indispensable aspect of English language acquisition, serving as the cornerstone for the development of all language skills. For Chinese students, mastering a second or foreign language can be a daunting and intricate process, making vocabulary acquisition of paramount significance in language learning. Cultivating a robust vocabulary is crucial for facilitating effective communication and comprehension in any linguistic context. Wilkins (1972) pointed out that "without grammar, very little can be conveyed, but without vocabulary, nothing can be conveyed.[1]" This highlights the indispensability of vocabulary even when one possesses good grammar skills.

According to EF Education First's seventh edition of the English Proficiency Index (EF EPI) report in 2019, Mainland China ranked 40th worldwide in terms of English proficiency, outperforming many other non-English speaking countries. However, some studies show that Chinese college students' vocabulary is still insufficient [2]. For example, Wei (2003) summarized the results of several Chinese scholars' surveys on college students' vocabulary and concluded based on his own survey that the average vocabulary of Chinese non-English majors in their first year of college was 4,452.25 words [3]. Whereas the vocabulary of a 10-year-old children in native English-speaking countries was about 20,000 words. One plausible explanation for this discrepancy can be attributed to the prevailing teacher-centered approach adopted in most Chinese schools, which may inadvertently overlook students' individual initiatives in vocabulary learning. To address this issue, a paradigm shift is needed in vocabulary learning, redirecting focus towards exploring students' learning strategies rather than solely emphasizing teaching methodologies.

Taking into account the aforementioned context, the research aims to contribute for the enhancement of the

vocabulary proficiency of Chinese non-English major students. This paper discusses the learning styles, learning strategies and learning attitude of Chinese non-English majors and the influence of these three variables on vocabulary acquisition. Hence, this study was proposed for the college that aims to continuously improve vocabulary learning proficiency for the students.

2. Literature Review

2.1. Vocabulary Learning Style

There is diverse and ongoing debate among scholars regarding the definition of learning styles. Oxford (2003) described learning styles as the general approaches –for example, global or analytic, auditory or visual –that students use in acquiring a new language or in learning any other subject [4]. According to Ibrahim, R. H., & Hussein, D. A. (2016), "Learning styles refer to the ability of learner to perceive and process information in learning situations"[5]. scholars have different viewpoints on the definition of learning styles, but they all emphasize that learning styles represent learners' unique preferences and approaches in the learning process. As for educators, Miller (2011) as cited in Shandu (2016) suggested that adjusting teaching methods to cater to the diverse learning style preferences of students is a means of enhancing student motivation and performance[6]. The concept of VLS is still evolving in the field of language learning and teaching research. Instead, the concept of learning styles in general, including vocabulary learning styles, remains a topic of ongoing research and debate. Vocabulary learning style specifically focuses on how individuals acquire and expand their vocabulary. Keefe's (1979) definition as cited in Sasipriyaa, J., & Rajkumar, R. (2022) defined VLS as an individual's specific way of engaging in the learning process[7].

Dunn's model (1986) categorized VLS into four

dimensions: environmental, emotional, sociological, and physiological [8]. Kolb's Experiential Learning Theory (ELT) (1984) as cited in McCarthy (2016) outlined a continuous learning cycle consisting of four stages: concrete experience, reflective observation, abstract conceptualization, and active experimentation [9]. Brown (2000) categorized language learners into visual learners, auditory learners, tactile learners, kinesthetic learners, field-independent learners, field-dependent learners, reflective learners, and impulsive learners [10]. The VARK model (Fleming, 2001), categorized learners as visual, aural, reading and writing, kinesthetic, and learners who prefer to read and write [11].

Overall, these studies suggest that there is a relationship between individual learning style preferences and vocabulary acquisition. Teachers can use this information to tailor their teaching methods and materials to cater to each student's learning style preferences, ultimately enhancing their vocabulary acquisition and language proficiency. Further research in this area will continue to contribute to the advancement of language education practices. And most of these scholars' theories and classifications are related to the use of the senses. For example, Keefe's perceptual modality preferences. The term "perceptual modality" typically refers to the sensory systems through which we perceive and receive information, such as visual (sight), auditory (hearing), kinesthetic (movement and touch), olfactory (smell), and gustatory (taste) modalities. Dunn and Dunn's model (1987) physiological dimension refers to sensory preferences, such as visual, auditory, or kinesthetic modes of information intake. The VARK model (Fleming, 2001) classified learning style mainly by sensory. Therefore, in this study, the VARK model based on the senses, combined with Shandu's (2016) Vocabulary Learning Styles Inventory, which categorized learners into three distinct styles: visual, auditory, and kinesthetic and Brown (2000) will be employed to analyze the VLS of Chinese non-English major students' vocabulary learning style.

2.2. Vocabulary Learning strategy

The scientific and systematic research on learning strategies in the field of education began after the concept of "cognitive strategies" was proposed by Bruner in 1956. After that, learning strategies have always been an important research focus in the field of education. Many scholars have conducted in-depth research on the effectiveness and influencing factors of learning strategies, and have proposed various theories and models.

The term refers to "the special thoughts or behaviors of processing information that individuals use to help them comprehend, learn, or retain new information" (O'Malley & Chamot, 1990) [12]. As Oxford (1990) claimed, the language learning strategies are "specific actions taken by the learner to make learning easier, faster, more enjoyable, more self-directed, more effective, and more transferable to new situations" [13]. Learning strategies are also defined as "specific actions, behaviors, steps, or techniques -- such as seeking out conversation partners, or giving oneself encouragement to tackle a difficult language task -- used by students to enhance their own learning" (Scarcella & Oxford, 1992) [14].

Different scholars have different classifications of learning strategies. O'Malley and Chamot (1987) classified learning strategies into three major categories: metacognitive strategies, cognitive strategies, and social strategies. Gu and

Johnson (1996) identified six strategies - guessing, dictionary, note taking, rehearsal, encoding, and activation. Rebecca L. Oxford (2003) classified learning strategies into six categories: cognitive strategies, metacognitive strategies, memory strategies, compensatory strategies, emotional strategies, and social strategies.

2.3. Vocabulary Learning Attitude

The concept of "learning attitude" originates from research on learning psychology and the learning process. It encompasses theoretical and empirical studies from fields such as educational psychology, cognitive psychology, and education.

There are various interpretations of the concept of learning attitude. One such interpretation is "learning attitude is a self-initiated, voluntary attitude stemming from natural curiosity & motivation & it's critical for both personal & professional development". H.Şenay Şen (2013) believed that "attitudes towards learning are important factors on the learners' levels of goal setting, problem solving abilities, their beliefs towards learning, their inner and external motivations in the process of learning and all the academic performances they perform." [15] According to the definition provided by Baidu Baike, learning attitude refers to the persistent affirmative or negative behavioral tendencies or internal responses of learners in relation to learning. It can be assessed and explained based on students' attention, emotional states, and willpower towards learning.

The Longman Dictionary of Applied Linguistics and Language Teaching (2002) defined language attitudes as follows: "the attitudes which speakers of different languages or language varieties have towards each other's languages or to their own language." [16]

The study of learning attitudes can be traced back to the early 20th century in the field of educational psychology. During that time, psychologists and educators began to explore the relationship between learners' psychological states, behavioral patterns, and their academic performance and learning outcomes. They found that different learning attitudes have significant impacts on learners' motivation, engagement, and achievement.

Currently, research on learning attitudes primarily focuses on three aspects: cognitive, affective, and behavioral tendencies. In a study, Li Mingzhen (1994) pointed out that "learning attitude is a preparatory state formed through learning, which is directed towards the learning object and influences individuals' choices of learning activities. This attitude is composed of cognitive, affective, and behavioral tendencies, forming a unified and integrated structure." [17] Professor Shen Deli (2000) considered learning attitude as the evaluative and relatively stable internal psychological inclination of learners when responding to learning activities in a specific way. It encompasses three main categories: cognitive components, affective components, and behavioral tendencies. [18]

The impact of learning attitude on learning outcomes has been demonstrated by numerous experimental studies. As early as 1919, psychologists Mac Douqai and Smith found in an experiment that a positive learning attitude facilitates learning speed. In 1952, Carry summarized a research study and pointed out that the attitudes of male and female college students towards problem-solving directly affect the effectiveness of problem-solving.

Over time, scholars have delved deeper into the study of

learning attitudes. They began to explore the formation and influencing factors of learning attitudes, as well as how to improve learning attitudes through interventions and education. For example, Sun Yayun (2006) identified subjective and objective factors as influencing factors of learning attitudes in a study on college students' learning attitudes. Subjective factors include unclear learning goals, insufficient learning motivation, and inadequate learning cognition. Objective factors include unreasonable program design, monotonous course structure, and inappropriate teaching methods by teachers, among other factors [19]. Zhang Yingqiu (2020), through questionnaire surveys and interviews, categorized the factors influencing learning attitudes of secondary vocational school students into six aspects: learning mindset, self-control ability, curriculum design, teacher-student relationships, family atmosphere, and parental expectations[20]. Based on the results of this study and previous relevant research, the author proposes several suggestions for improving the learning attitudes of secondary vocational school students, such as helping students build confidence, cultivating good study habits, and optimizing curriculum design.

Shameem Ahmed (2015) analyzed survey results from 238 undergraduate English as a Foreign Language (EFL) students at a public university in Malaysia. The survey focused on their attitudes towards English learning and identified potential hindrances to their learning. The qualitative analysis revealed that students had a highly positive attitude towards learning English and using the language in various domains [21]. However, most students had negative feelings or fear regarding classroom instructions. Students from different fields varied in their attitudes towards English learning and the focus of learning skills, highlighting the inadequacy of a single curriculum or teaching methodology. Several suggestions were made regarding teaching methodology, curriculum, teaching materials, and the status of English in Malaysia based on these findings. Furthermore, educational practices and reforms have also fostered attention to learning attitudes. In modern education, educators widely recognize the crucial importance of learning attitudes for students' learning and development. Students' learning attitudes can specifically include their attitudes towards course learning, attitudes towards learning materials, and attitudes towards teachers and schools. Therefore, vocabulary is also considered a type of learning material. This study will focus on students' attitudes towards vocabulary as a learning material.

Based on the aforementioned research results, it is evident that students' learning attitudes are closely related to their learning outcomes. In the school context, if other conditions are relatively equal, students with positive learning attitudes always outperform those with poor learning attitudes. Therefore, teachers need to employ various methods to transform students' perception of learning, such as persuasion, assistance, and reforming teaching methods.

3. Methodology

3.1. Participants

In order to explore the research questions, a sample survey was conducted in three universities in Henan Province, China. The questionnaires were administered on a voluntary participation basis. These students came from different majors, including literature, science and technology

engineering, art, and some other majors. A total of about 442 valid questionnaires were submitted.

3.2. Instrument

In this research endeavor, the primary methodology employed was a comprehensive questionnaire survey. The questionnaire encompassed four distinct sections, namely Demographic Data, Vocabulary Learning Style Questionnaire, Vocabulary Learning Strategy Questionnaire, and Vocabulary Learning Attitude Questionnaire. The initial section of the questionnaire aimed to collect demographic data. In addition, all questions in the questionnaire are presented in the form of multiple choices, allowing for effective and structured participant participation.

The Vocabulary Learning Style Questionnaire used in this study is adapted from the academic work *Gender Differences in Students Vocabulary Learning Styles* published by Shandu (2016) on uksw. edu [22]. It includes a total of 30 projects, dividing learners into three different styles: visual, auditory, and kinesthetic. Each item on the list uses a Likert 4-component scale, ranging from 1 to 4, including the answer options of "strongly disagree", "disagree", "agree", and "strongly agree". The "Student Vocabulary Learning Strategies" questionnaire used in this study is based on the Yilmaz's (2017) work *Student Vocabulary Learning Strategies*[23]. This questionnaire contains a total of 60 items specifically designed to evaluate the vocabulary learning strategies of science students of different genders and majors. This questionnaire aims to explore the use of five different strategies in vocabulary learning among non English major college students. The strategies include triggering strategy, resolution strategy, determination strategy, reinforcement strategy, and retrieval strategy. The Student Vocabulary Learning Attitude questionnaire in this study is developed based on the research of Vasu, Sindhu, and Senkamalam Periyasamy Dhanavel (2015) [24]. The main objective of this questionnaire is to determine students' awareness of the importance of learning English vocabulary and the sources they use for vocabulary learning. The questionnaire consists of 21 items. To ensure the reliability of the collected data, a preliminary study was undertaken, involving a sample of 21 non-English major students as participants. The data were meticulously collected via the "Questionnaire Star" platform, followed by encoding and subsequent entry into SPSS 28.0 for thorough analysis. A fundamental aspect of assessing the reliability of the questionnaire lay in calculating the Cronbach's alpha coefficients, which enabled the evaluation of internal consistency for each sub-scale as well as the questionnaire as a whole.

4. Result and Discussion

Table 1. Vocabulary Learning Style

Key Result Areas	Composite Mean	VI	Rank
Visual	3.28	Agree	1.5
Auditory	3.28	Agree	1.5
Auditory	3.18	Agree	3
Grand Composite Mean	3.25	Agree	

Legend: 3.50-4.00=Strongly Agree;2.50-3.49=Agree;1.50-2.49=Disagree;1.00-1.49=Strongly Disagree

Table 1 is a summary table form on vocabulary learning styles showing the mean scores and rankings of the three

learning styles (visual, auditory, and kinesthetic). The data in the table comes from participants' ratings of the three learning styles. The visual and auditory learning styles had the same score of 3.28, which is in the "agree" range.

This indicates that participants' preferences and tendencies towards visual and auditory learning methods are quite similar, and they believe that both learning styles are effective for their vocabulary learning. The score for kinesthetic learning style is slightly lower at 3.18, still within the "agree" range, but slightly lower than that for visual and auditory learning styles. This means that participants have a slightly lower preference for kinesthetic learning styles, and they prefer visual and auditory vocabulary learning styles. The mean score for overall learning style was 3.25, which is still in the "agree" range, indicating that participants generally had a more positive view of all three learning styles and found them useful for vocabulary learning. According to Ibrahim, R. H., & Hussein, D. A. (2016), the Visual, Auditory, and Kinesthetic learning styles among undergraduate nursing students were 40.0%, 29.5%, and 30.5% respectively [25]. Janakiraman, B. (2018) conducted a descriptive study on a sample of 101 management graduate students, and the results showed that the ranking order of visual, auditory, and kinesthetic learning styles was the same, with response rates of 54.5%, 35.6%, and 4.0%, respectively [26]. The findings of these two scholars are consistent with the findings of this table, both of which indicate that the respondents preferred visual and auditory learning styles.

Learning styles is a field of research that has many useful implementations for both the learner and educator (Moussa, N. (2014) [27]. In summary, learning styles can be defined as the diverse approaches that students favor to perceive, process, and engage with information and the learning environment. Recognizing the different aspects of learning styles offers educators valuable insights into the distinct traits of learners. Armed with this knowledge, educators can optimize student learning and enhance effective education by tailoring teaching methods that cater to various learning styles. Determining the learning styles of students is of vital importance in order to collect data about their preferences. It fosters student awareness, enabling learners to acquire knowledge during their learning efforts and serves as a motivation for them to apply the knowledge they have gained. (Federico 2000, as cited in Özbaş, S. (2013) [28].

Table 2. Vocabulary Learning Strategy

Key Result Areas	Composite Mean	VI	Rank
Triggering	3.36	Agree	1
Resolution	3.30	Agree	2
Determination by guessing	3.28	Agree	3.5
Reinforcement	3.26	Agree	5
Retrieval	3.28	Agree	3.5
Grand Composite Mean	3.30	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

Table 2 presents the summary of vocabulary learning strategies in terms of five main steps (Triggering, Resolution, Determination by guessing, Reinforcement and Retrieval). The composite mean of 3.30 indicates that the respondents

conformed on all the indicators of the above vocabulary learning strategy. The table also reveals that the most popular type of VLS is triggering strategies with an average score of 3.36 while the least agreed type of VLS is Reinforcement Strategies with an average score of 3.26. Resolution Strategies (m=3.30) is found to be the second. Determination (m=3.28), Retrieval (m=3.28) are third popular types of VLSs by the EFL learners in Chinese students. Bearing in mind that these categories are actually five steps to learning a word, it is quite normal that the first stage, being Triggering Strategies has the biggest average (as learners starts their process of learning a word, but then somehow fail to reach the last step, hindering the acquisition of the word). Triggering Strategies are strategies that help learners identify which vocabulary items they want to learn. The weighted mean 3.36 indicates that participants generally agreed that these strategies are effective in helping them decide which words to learn. This strategy refers to the fact that this is the first and most crucial step to know what to learn when meeting a word. This is in line with the findings of Vesile GUL YILMAZ (2017) [29]. She conducted her study with 79 Turkish graduate students and the results also showed that the most frequently used type of VLS is triggering strategies with an average score of 4.06 while the least frequently used type of VLS is reinforcement strategies with an average score of 3.02.

Based on the above findings, educators should emphasize the diversity of vocabulary learning strategies. Table 2 shows the differences in the degree of acceptance of different vocabulary learning strategies among students. Educators should first realize that students may use different strategies during vocabulary learning rather than applying the same method across the board. Understanding students' preferences for different strategies can help educators better support their learning.

Table 3. Vocabulary Learning Attitude

Key Result Areas	Composite Mean	VI	Rank
Importance of Vocabulary	3.34	Agree	1
Sources of New Words	3.29	Agree	2
Grand Composite Mean	3.32	Agree	

Legend: 3.50-4.00=Strongly Agree; 2.50-3.49=Agree; 1.50-2.49=Disagree; 1.00-1.49=Strongly Disagree

Table 3 presents the results of the survey on students' attitudes towards vocabulary learning. It consists of two main parts, the first part is the students' awareness of the importance of vocabulary with a composite mean score of 3.34, which is ranked first. It belongs to "Agree", which means that students generally agree on the importance of vocabulary. They realized the crucial role of vocabulary for language learning and communication. This domain scored the highest among the students indicating that they have a consistent understanding of the importance of vocabulary. The second section is sources for acquiring new vocabulary: the composite mean score of 3.29 is the second highest and also falls under the category of agreement (Agree). This shows that students generally agreed that they can acquire new vocabulary from different sources and are willing to try a variety of ways to expand their vocabulary. This may include reading, listening, the Internet, social media, and so

on. The students were generally positive in their attitudes towards vocabulary learning, they considered vocabulary important and were willing to acquire new vocabulary from a variety of sources, which would be very beneficial to their language learning and communication skills. Şen, H. Ş. (2013) argued that “the positive attitudes serve a better comprehension of the nature of learning for the learners, it also makes the students more open to learning, increases their expectations from learning process and reduces their anxiety levels.” In this context, it is one of the important roles of teachers to support the learners for developing positive attitudes towards learning. For the learners, they need to know what is necessary to learn and what learning materials they can use to make the learning process easier.

5. Conclusion

With the results obtained from the data gathered, the following conclusions were produced.

Firstly, in general, participants held positive views on the three vocabulary learning styles visual, auditory and kinesthetic, and believed that they were helpful for vocabulary learning. However, participants had a slightly lower preference for kinesthetic learning styles, preferring visual and auditory learning styles for vocabulary learning. Participants generally agreed with the five vocabulary learning strategies. Reinforcement Strategies were the most agreed upon, followed by resolution strategies, determination by guessing and retrieval strategies in a tie for third place, and reinforcement strategies in last place. These five vocabulary learning strategies are actually the five steps of vocabulary learning, and the participants were able to follow the steps of vocabulary learning, but the reinforcement strategies were neglected. Participants generally agreed that vocabulary learning is important and realized the key role of vocabulary in language learning and communication. Participants generally agreed that they could acquire new vocabulary from different sources and were willing to try various ways to expand their vocabulary, including reading, listening, the Internet, social media, and so on.

Considering that participants had a slightly lower preference for kinesthetic learning styles, preferring visual and auditory learning styles for vocabulary learning. We should encourage students to try kinesthetic learning styles. The following activities are suggested: organize vocabulary games that require physical movement, such as word relay races, vocabulary scavenger hunts, or charades with vocabulary words; encourage learners to associate vocabulary words with specific gestures or movements, helping them connect words to physical actions for better retention; incorporate role-play and drama activities where learners embody vocabulary words, allowing them to understand and remember words in context. Because students rarely use reinforcement strategies, educators can provide vocabulary lists and exercises for context-based learning; create personalized word cards reflecting reinforcement strategies; launch online platform with vocabulary games and quizzes; initiate vocabulary challenges with rewards. Moreover, in order to help students make full use of more sources, educators should encourage students to maintain a vocabulary notebook where they record new words encountered from various sources, such as teachers, friends, reading materials, and media; organize interactive sessions where students discuss and share new words learned from sources like English textbooks, novels, news, movies, and online

platforms; conduct workshops that teach students effective strategies for learning new words from different sources, including utilizing dictionaries, online resources, and native speaker interactions.

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