# 台灣高中師生字彙教學/學習信念之研究

# EFL Senior High School Teachers' and Students' Vocabulary Teaching and Learning Beliefs

**by**

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EFL Senior High School Teachers' and Students' Vocabulary Teaching and Learning Beliefs

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# 台灣高中師生字彙教學/學習信念之研究

## CHINESE ABSTRACT
## 中文摘要

信念不只主導人們的學習焦點，更左右人們對現實的判斷。教師對教學法的認知可能會影響其教學信念，依同理推論，學生也可能會因不同的學習背景而和教師有分歧的學習信念。務實而正向的信念可幫助學生克服困難，且持續保持學習動機。然而，某些負面信念卻可能阻礙學習。

本研究旨在探討高中教師的單字教學信念、高中學生的單字學習信念，以及探究雙方信念之一致性與歧異性。研究對象從眾多志願者中，隨機選取 982 名高中學生，和 51 名高中教師一同參與。本研究利用教師版和學生版凱利方格 (Repertory Grid) 作為研究工具來蒐集師生字彙教學/學習信念。根據文獻，研究者篩選出 17 個常用教學和學習活動，以及 7 個子信念的項目置於教師版和學生版的方格中。在可信度分析方面，整體的內部一致性數值分別為 0.97(師)和 0.96(生)，呈現極高的可信度。

方格表中的數據使用平均數和獨立樣本 T 檢定來進行分析。結果顯示，高中教師認為單字語境用法、閱讀、字根字首、同義/反義字、發音示範和合作學習對單字學習來說較為有效。除此之外，高中教師對於直接給予學生中文意義、反覆練習，和諧音教學法持反對意見。再者，高中學生對大多數單字學習法沒有特

別強烈的偏好或是反對意見。學生僅稍微傾向於相信發音示範、語境用法、合作學習以及同義/反義字對單字學習較有幫助。值得注意的是，在教師和學生的字彙教學和學習活動中，可發現到某些歧異性，尤其是字彙意義的傳達和字彙的用法。其原因一方面是學生較重視字彙的背誦、發音和其母語所造成；另一方面，是因為教師過於正向的字彙教學信念使然。最後，本研究提出研究不足之處，作為未來研究方向之參考，並提供教學應用上的建議，希望能全面性地瞭解教師和學生的信念。

關鍵字:教學信念、學習信念、英文字彙教學、英文字彙學習、凱利方格法

**EFL Senior High School Teachers' and Students' Vocabulary Teaching and Learning Beliefs**

## ABSTRACT

Beliefs not only direct the focus of one's efforts, but also act as strong filters of reality. Despite the influence of teachers' perceptions about pedagogy, it is not surprising to find out that learners sometimes share distinct beliefs with teachers because of learners' diverse learning background. Realistic and positive beliefs support learners in their quest to overcome difficulties and sustain motivation. However, as much as some beliefs may have a facilitative effect on learning, others may impede it.

The present study aims mainly to explore a) EFL senior high school teachers' vocabulary teaching beliefs, b) EFL senior high school students' vocabulary learning beliefs, c) whether there are consistencies or discrepancies between EFL senior high school teachers' and students' beliefs in vocabulary teaching/learning activities. The researcher invited 51 senior high school teachers and randomly selected 982 senior high school students from a large group of volunteers to participate in this study. Teacher version and student version repertory grids were used to elicit participants' beliefs. Amongst a wide variety of teaching and learning activities, 17 most frequently

used vocabulary teaching and learning activities and seven sub-beliefs were itemized in the two grids. The overall internal-consistency reliability analysis of the two instruments achieved the values of .97 (teacher version) and .96 (student version), which are convincingly reliable.

The data were analyzed by using mean scores and Independent Samples *t*-test. The results revealed that while senior high school teachers believed *contextual usage*, *extensive reading*, *word affixes*, *synonyms/antonyms*, *pronunciation modeling*, and *cooperative activities* were effective, they expressed disapprovals with *definition in L1*, *repeated drills*, and *keyword method*. On the other hand, students generally exhibited a moderate to somewhat positive attitude toward most of the vocabulary learning activities so they barely had strong preferences and fierce oppositions. Nonetheless, they were prone to believe that *pronunciation modeling, contextual usage*, *cooperative activities*, and *synonyms/antonyms* were more useful when learning vocabulary. Furthermore, discrepancies were found between teachers' and students' vocabulary teaching and learning beliefs, especially under vocabulary meaning conveyance and vocabulary usages. Most of the discrepancies were caused by, on one hand, students' emphasis on vocabulary memorization, pronunciation, and L1; on the other hand, teachers' overly positive vocabulary teaching beliefs. On the basis of research findings, implications, limitations, and suggestions were made for

the future study to explore a comprehensive picture of teachers' and students' beliefs.

Keywords: teacher's beliefs, student's beliefs, English vocabulary teaching, English vocabulary learning, repertory grid

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# CHAPTER ONE

# INTRODUCTION

Over the past few decades, field research on teaching methodology has found a significant gap between instructors' vocabulary teaching beliefs and students' vocabulary learning beliefs (Horwitz, 1988; Kern, 1995; Peacock, 1999). Researchers (Horwitz, 1988; Kern, 1995; Peacock, 1998; Siebert, 2003; Hawkey, 2006; Bernat, 2007) have found that teachers and students placed asymmetrical emphasis on the importance of vocabulary learning, grammar, pronunciation and vocabulary learning activities. The gap between teachers' and learners' beliefs can reduce learners' confidence in learning and may result in tension in the classroom. Kern (1995) proposed that students are frustrated when teaching approaches do not match their expectations. Further, McCarger (1993) suggested that frustrated learners may give up learning and turn instead to classes that meet their needs. Therefore, the present study uses repertory grids to pinpoint the consistencies and/or discrepancies between EFL senior high school teachers' beliefs in vocabulary instruction and EFL senior high school students' beliefs in vocabulary learning activities.

In the following chapters, the researcher will first review related literature regarding teacher and student beliefs, studies on teachers' beliefs about vocabulary

instruction and on EFL learning beliefs in Taiwan, and the relationship between teaching and learning practices. After the researcher establishes the literature review, the research design of this study will be presented, including the recruitment of the participants, the development of the questionnaire, and the data collection procedure. The results of the preliminary study are then specified later in this analysis.

### 1.1 Statement of the Problem

According to the Taiwanese Ministry of Education, students that have graduated from junior high school are expected to possess a working English vocabulary of 2,000 words, but senior high school students are expected to learn 7,000 of the most frequently used English words. This is undoubtedly a challenge for the students as well as their teachers, especially when learning in an EFL context. Both teachers and students need to know that they are doing what is most effective and efficient for them to reach the goal. However, what the teacher believes is the best way may not be appreciated by the students, and what the students expect the teachers to help with may be neglected. Therefore, in order to achieve the vocabulary learning goal, it is important for teachers to understand their students' expectations in vocabulary learning. In conclusion, having the ability to provide appropriate vocabulary instruction is a necessity for senior high school EFL teachers.

The relationship between teachers' and students' beliefs in teaching and learning has been investigated by several researchers. They have studied the effects that teachers' and learners' beliefs have on language learning, especially in regard to general language learning. Kern (1995) reported that teachers' beliefs are not the only factor that affects students' beliefs about language learning. He also indicated the gap between teachers' and students' opinions at the end of the semester contrasted more on pronunciation and the importance of rule learning than at the beginning. Moreover, Peacock (1999) suggested that a number of different learner beliefs were prejudicial to language learning, and these detrimental beliefs would result in frustrated students who could not understand the teaching rationale implemented in class. Students may prefer a more methodical approach than teachers when learning language, and are eager for corrections when they made mistakes (Davis, 2003). Bernet (2007) argued that the major discrepancy between teachers' and students' beliefs was mainly related to the importance of learning grammar and pronunciation, with students paying more attention to these two aspects in the language learning process.

In exploring vocabulary learning, studies have found that students potentially place more emphasis on vocabulary learning than their teachers do (Peacock, 1999; Siebert, 2003) and prefer rote learning, in contrast to what Castle (1988) found. Castle's findings suggested that teachers prefer teaching vocabulary through

meaningful games and activities instead of forced learning through rote memorization and drills. The aforementioned findings are the examples of the gap between teachers' and students' beliefs.

Likewise, studies in Taiwan have either focused on teacher's general teaching beliefs (Chang, 2003) or teachers' vocabulary teaching beliefs (Chen, 2005) or students' general learning beliefs (Huang & Tsai, 2003; Shi, 2004; Chen, 2006). Very few studies have explored the relationship between teachers' and students' language learning beliefs, let alone vocabulary teaching and learning beliefs. Cheng (1996) investigated the mismatch between teachers' and students' general language learning beliefs and found that teachers believed language learning dealt more with gender, learning aptitude and intelligence while students believed that language learning was about vocabulary memorization, grammar and translation.

As can be seen, these studies were mainly performed on general language learning beliefs. Little has been done on vocabulary teaching and learning beliefs, especially in Taiwan. The potential gap between teachers' and students' beliefs that may hinder successful vocabulary teaching and learning should receive greater consideration from researchers.

## 1.2 Purpose of the Study and Research Questions

Despite the fact that researchers have continued to conduct surveys that have focused on general teaching and learning beliefs, relatively less attention has been given to senior high school EFL teachers' vocabulary teaching beliefs and senior high school EFL students' vocabulary learning expectations. In addition, limited research has been conducted to explore how and what teachers and students believe in vocabulary teaching and learning; in other words, these studies have not explored teachers' decision making processes or students' learning expectations towards vocabulary learning. It remains unclear whether what consistencies and discrepancies may be found between the beliefs of the two groups. Given the importance of these beliefs in vocabulary instruction and learning, and in light of the paucity of studies that have focused on the issues mentioned above, the present study will first explore senior high school EFL teachers' beliefs about their vocabulary instruction, looking into what teachers believe or assume when providing vocabulary instruction. Next, the study will examine the beliefs of senior high school EFL students about learning vocabulary. The following three research questions are constructed to make concrete the purposes of the present study:

1. What are senior high school EFL teachers' beliefs about English vocabulary teaching approaches?

2. What are senior high school EFL students' beliefs concerning vocabulary learning activities?
3. What are the significant differences, if any, between senior high school EFL teachers' and senior high school EFL students' beliefs about vocabulary teaching and learning?

### 1.3 Definition of Terms

Terms relevant to this study are defined below:

1. Teachers' Beliefs: This is a collective term that refers to implicit assumptions, personal knowledge, cognitions or conceptions (Bernat, 2007; Borg, 2003; Borg, 2006; Chang, 2003; Clark & Peterson, 1986; Davis, 2003; Kern, 1995; Nespor, 1987). These terms are difficult to distinguish clearly, so they are held as an inseparable idea that teachers' instructional practices are generated and affected by their personally held beliefs.
2. Students' Beliefs: This refers to premises, propositions, motivations, anxieties, learning strategies, psychologically held understanding, and learning aptitude (Horwitz, 1987; Huang & Tsai, 2007; Iiuang, 2006; Kern, 1995; Rifkin, 2000; Wittrock, 1986). Similar to the definition of teachers' beliefs, it is hard to differentiate the definitions of students' beliefs. Accordingly, in this study, these

terms will be analogous to the notions already inherent in the students' minds.

3. Vocabulary Teaching Approaches: This generally refers to a set of procedures a teacher uses to teach vocabulary and serve as a means to achieve the vocabulary learning goals. In this study, this term refers to anything a teacher says or does to help students develop and expand their vocabulary knowledge (Castle 1988).

4. Vocabulary Learning Activities: This originally refers to the specific actions taken by individuals to facilitate their vocabulary learning. In this study, it means the approaches the students use to obtain definitions and how to make this vocabulary resonate in their long-term memories (Hsiao, 2008).

5. Repertory Grid: The repertory grid was first designed by Kelly (1955) as a technique to explore an individual's personal construct about the world. The components of the grid are *elements* and *constructs*. Since the present study is conducted to explore senior high school EFL teachers' and students' vocabulary teaching and learning beliefs, this technique is adapted to meet the purpose of the investigation. The instructional approaches and learning activities are treated as *elements* in the grid in this study. At the same time, beliefs concerning effective vocabulary teaching and learning activities serve as the *constructs* in this study's grid. Further, a four-point scale technique is adopted for participants to rate their degree of agreement/disagreement for the elements among the constructs.

## 1.4 Significance of the Study

As mentioned above, senior high school EFL teachers' and students' beliefs regarding vocabulary teaching and learning have yet to be thoroughly investigated. This information must be elucidated in order to develop a better understating of what is occurring inside and outside of the classroom in relation to vocabulary teaching and learning. Additionally, it is assumed that the information on what senior high school EFL students believe when learning vocabulary would contribute to senior high school EFL teachers' vocabulary instructional practices and thus lead to an improvement in teachers' vocabulary instruction. This information can assist teachers in examining their own teaching approaches and in analyzing their thinking when making teaching decisions. Finally, it is hoped that the findings of the present study may benefit the course designers who attempt to influence the events in the classroom through valuable insights. It is expected that they could reconsider certain teaching and learning activities that may actually create a negative learning environment, instead of aligning teachers' beliefs with students' expectations.

# CHAPTER TWO

# LITERATURE REVIEW

Knowledge of vocabulary plays an essential part in language learning; words are the tools of thoughts and also labels for ideas, feelings and objects that learners need to know (Castle, 1988). Accordingly, the importance of vocabulary teaching and learning has been an extensively studied topic for years (Coady, 1993; Ho, 2002; Hu, 2002; Nation, 1990; Schmitt & McCarthy, 2001). A stronger, more diversified lexical knowledge supports development of other language skills (Judd, 1978, cited in Huang, 1988). It is increasingly believed that effective communication and learning in school relies greatly upon a large and rich vocabulary. Since vocabulary is strongly related to reading comprehension in particular, and school achievement in general, a large repertoire of vocabulary is crucial in facilitates becoming an educated individual (Beck et al., 2002, cited in Nelson & Stage, 2007). The indispensable role of vocabulary therefore requires an understanding of what teachers and learners believe about effective vocabulary instruction and vocabulary learning activities.

Since the purpose of this study is to examine the relationship between EFL teachers' and students' beliefs in vocabulary teaching and learning, this literature review will discuss selected research in five areas. First, research in vocabulary

teaching and learning is quickly reviewed with the focus on the methods available for vocabulary teaching and learning and the characteristics of effective vocabulary instruction and vocabulary learning activities. Second, research on teachers' beliefs in language teaching is presented. This section includes the discussion of the definition and importance of teacher beliefs along with a review of studies on general teaching beliefs and vocabulary teaching beliefs. Third, learners' learning beliefs are examined. This following section reviews the literature regarding the definition and importance of students' learning beliefs and the studies that focus on students' beliefs in language learning. Fourth, studies on the relationship between teachers' and students' beliefs will be discussed. Finally, research gaps identified in the literature review of the above areas suggest that this study fills a research niche.

## 2.1 Research on Vocabulary Teaching and Learning

Teaching and learning is a reciprocal interaction in the language classroom. Although individual teachers may be successful in using a variety of teaching approaches, students still regard vocabulary learning as a burden when learning English. The main concern of this section is to identify the specific vocabulary teaching and learning methods that have been proposed in the literature. The purpose is not to include an exhaustive discussion of all of the teaching and learning methods;

instead, it is to outline the most often used vocabulary teaching and learning methods and to briefly discuss their effectiveness as detailed in the literature.

### *2.1.1 Methods for Teaching and Learning Vocabulary*

Vocabulary learning is a complex task that occurs across a wide variety of settings, ranging from incidental occurrences in oral or written contexts to direct instruction in the classrooms (Harmon, 1998). In other words, vocabulary is acquired incidentally through indirect exposure to words as in oral communication or listening activities, or teachers can teach intentionally through explicit instruction for specific word meanings. Therefore, it is generally accepted that the *direct method* and *indirect method* are the two basic teaching and learning approaches to teaching and learning vocabulary. Using direct instruction to help learners gain a variety of useful vocabulary is an important part in studies of ESL/EFL students' effective vocabulary learning (Chen, 2006). Studies have shown that through direct instruction, vocabulary can be learnt by using tools, demonstrations, or verbal explanations that bring the learners' attention into direct contact with the meaning and the form of words, such as words in lists, textbooks or in the dictionaries (Castle, 1988; Harmon, 1998; Chen, 2006; Nation, 2007; Smith et al, 2008). For example, Smith et al noted that the role of tools like dictionaries and other word reference books are important in fostering an

interest in words. Regardless of the various kinds of direct teaching methods, teachers who choose direct instruction believe that direct learning of the words can help learners internalize vocabulary knowledge and expand their active vocabulary. Teaching approaches as demonstrating accurate pronunciation, playing certain word games or direct dictionary look-up rely on the notion that learners' vocabulary develops mainly as a result of deliberate, highly focused attention to words on the part of both teacher and learner (Castle, 1988).

In contrast to the direct method, the indirect method is concerned more with roles of context and learning activities in word learning. Indirect vocabulary learning methods aim to develop learners' ability to pick up and reinforce words on their own. Generally, indirect word learning requires multiple exposures and occurs incrementally over a long period of time (Harmon, 1998). Teaching vocabulary learning strategies such as context clues, dictionary look-up and asking learners to read extensively are the basic tools of the indirect method. Teachers who use such methods believe that word meanings can be acquired more extensively from contexts rather than direct methods. Furthermore, they argue that indirect methods can help to increase the depth and size of learners' vocabulary. Teachers also believe that indirect methods, particularly through repeated exposure in reading, are the key to learning functional vocabulary items that are a core necessity in the English learning

environment.

Although researchers agree on the importance of each method in vocabulary teaching and learning, researchers suggest a great range of methods for vocabulary instruction. Vocabulary instructional and learning methods most frequently discussed in the literature are synthesized in Table 2.1, and briefly described in the section following.

Four main types of teaching and learning methods are reviewed in this study: pronunciation and spelling, meaning conveyance, usage, and activities (Chen, 2005). The method of pronunciation-spelling correspondence is used to learn the correspondent relationship between spelling and pronunciation. Meaning conveyance is the method that provides word knowledge. Usage includes grammatical usages and contextual usages. Word activities offer opportunities for learners to practice analyzing and processing words more deeply with the aim that learners will be more likely to store word knowledge in their long-term memories. In the following section, the definitions and examples of each subtype will be given below.

**Table 2.1**

*Methods for Teaching and Learning Vocabulary*

| Main Categories | Vocabulary Teaching/Learning Activities |
|---|---|
| 1. Pronunciation and spelling | 1. Pronunciation-spelling correspondence<br>2. Pronunciation modeling<br>3. Keyword method<br>4. Association |
| 2. Meaning conveyance | 1. Definition in L1<br>2. Word affixes<br>3. Dictionary look-up<br>4. Synonyms/antonyms<br>5. Visual aids<br>6. Semantic map<br>7. Demonstration |
| 3. Usage | 1. Contextual usage<br>2. Grammatical usage |
| 4. Activities | 1. Extensive reading<br>2. Repeated drills<br>3. Contextual practices<br>4. Cooperative activities |

*1. Pronunciation and spelling.* This kind of method includes pronunciation-spelling correspondence, pronunciation modeling, keyword method and association. For example, in explaining the word *plain*, teachers compare the spelling *ai* with correspondent pronunciation of the letter A. Although sometimes a spelling and its sound may not have a one-to-one relationship, learners can practice the principle in recognizing new words. Pronunciation modeling occurs when teachers say the words and ask learners to repeat after them, modeling a new word in English

intentionally through pronouncing it very clearly. This method is used to enable learners to understand the accurate pronunciation of the words. In addition, the keyword method relates to the pronunciation of the first language. For example, the word *tongue* sounds like 湯 which means *hot* and is associated with hot soup hurting the tongue. The last subtype in this category is the association method. This method is adopted to relate the already known words to a new word that shares a similar spelling or pronunciation. For example, *quiet* and *quite* have similar spellings while *great* and *grade* have a similar pronunciation.

*2. Meaning conveyance.* How teachers explain words may affect the degree of consolidation in learners. There are seven subtypes in this category. First, to know the translation of the definition in L1 is the most common way to acquire word meanings. This kind of method is the quickest way to know the meaning of the word and is suitable for all levels. The method of introducing word affixes is the second most common way to convey meanings. The knowledge of affixes, including stem, suffixes and prefixes is critical to understanding new words. For example, “im” implies a negative meaning, so “impossible” means there is little chance of an event happening. The next method is dictionary look-up, namely, looking up unknown words in the dictionary to understand their meanings. Fourth, a teacher may use synonyms (meanings conveyed are the same, or nearly the same, as another word) and antonyms

(meanings conveyed are the opposite) to remember more words. Fifth, visual aids such as pictures, objects, blackboard drawings or slides can convey word meanings. Sixth, a semantic map of the new word may increase learners' word power by making learners aware of the possible/available associations/links between words. For example, when it comes to transportation, learners may think of cars or motorcycles. These words are usually already associated in the learners' lexical knowledge. Teachers may draw upon them to enhance vocabulary learning. The last method is demonstration, usually using mime, action or gesture, to convey and memorize the meanings of the instructed words. The well known Total Physical Response is an example of a demonstration method.

*3. Usage.* In addition to knowing the meanings of words, students must also master core skills such as knowing when and how to use a word. This category consists of two subtypes: grammatical usage and contextual usage. Grammatical usage means teachers impart grammatical knowledge such as the correct tense or part of speech to use in order to ensure learners can use vocabulary precisely. Contextual usage means how to use the word in phrases, in sentences and in real situations.

*4. Word activities.* Extensive reading is repeatedly included as one of the most effective methods for teaching and learning words in the literature. Repeated drills refer to the practice of mechanism learning, such as repeating the word aloud or

writing the word down over and over again. Contextual practices may include (but are not limited to) doing paper-and-pencil word exercises such as cloze or test samples for TOEFL. The last subtype, cooperative activities, means doing interactive activities through learner cooperation like task-based practice.

The four main categories and eighteen specific vocabulary teaching and learning methods mentioned above are widely adopted by ESL/EFL teachers and learners. Table 2.2 lists empirical studies that have evidenced the usefulness of these methods.

**Table 2.2**

*Vocabulary Instructional and Learning Methods Proposed in the Literature*

| Vocabulary Teaching and Learning Activities | Sources |
|---|---|
| Pronunciation-spelling correspondence | Chen, 2006; Gu & Johnson, 1996; Ho, 2002; Hu, 2002; Service & Kohonen, 1995 |
| Pronunciation modeling | Gu & Johnson, 1996; Ho, 2002; Liu, 1997; Shiue & Roebl, 2007; Smith et al., 2008 |
| Keyword method | Brown & Perry, 1991; Chen, 2006; Hu, 2002; Huang, 1988; Li, 1990 |
| Association | Gu & Johnson, 1996; Harmon, 1998; Ho, 2002; Richards, 1976; Tsai, 1986; Tsai, 1997 |
| Definition in L1 | Blachowicz et al., 2006; Castle, 1988; Chan & Hsieh, 2007; Gu & Johnson, 1996; Ho, 2002; Hu, 2002; Lee, 1994; Lin, 1996; Prince, 1996; Shiue & Roebl, 2007; Singleton, 1997; Smith et al., 2008; Ding, 1987 |
| Word affixes | Castle, 1988; Chen, 2006; Gu & Johnson, 1996; Ho, 2002; Huang, 1988; Lee, 1994; Liu, 1997; Nation, 2007 |
| Dictionary look-up | Castle, 1988; Chen, 2006; Gu, 2003; Gu & Johnson, 1996; Hu, 2002; Huang, 1988; Nation, 2007; Smith et al., 2008; Tsai, 1997 |
| Synonyms/antonyms | Castle, 1988; Chen, 2006; Harmon, 1998; Li, 1987; Lee, 1994; Liu, 1997; Richards, 1976; Shiue & Roebl, 2007; Ting,1987 |
| Visual aids | Blachowicz et al., 2006; Castle, 1988; Chen, 2006; Gu & Johnson, 1996; Lee, 1994; Liu, 1997; Wang & Yeh, 2001 |
| Semantic map | Blachowicz et al., 2006; Brown & Perry, 1991; Castle, 1988; Chen, 2006; Gu & Johnson, 1996; Harmon, 1998; Ho, 2002; Hu, 2002; Lin, 1996; Liu, 1997; Richards, 1976; Ting, 1987 |
| Demonstration | Chen, 2006; Gu & Johnson, 1996; Lee, 1994; Liu, 1997 |
| Grammatical usage | Gu & Johnson, 1996; Ho, 2002; Hu, 2002; Richards, 1976; Shiue & Roebl, 2007; Ting, 1987 |
| Contextual usage | Blachowicz et al., 2006; Castle, 1988; Gu & Johnson, 1996; Harmon, 1998; Ho, 2002; Hu, 2002; Huang, 1988; Laufer & Schmitt, 1997; Lin, 1996; Nation, 2007; Nelson & Stage, 2007; Prince, 1996; Richards, 1976; Ting, 1987; Tsai, 1997; Wu, 1997 |
| Repeated drills | Gu & Johnson, 1996; Harmon, 1998; Huang, 1988; Lee, 1994 |
| Contextual practices | Gu, 2003 |
| Cooperative activities | Huang, 1988; Min, 1995; Hawkey, 2006 |
| Extensive reading | Blachowicz et al., 2006; Castle, 1988; Gu, 2003; Gu & Johnson, 1996; Huang, 1988; Lin, 2000; Nelson & Stage, 2007; Zimmerman, 1997 |

Since the central concern of this study is to explore the most common beliefs and widely used vocabulary teaching and learning methods, the schematic overview above is limited to those most prevalent in general literature on the subjects. In the next section, detailed information from research is provided about the characteristics of effective vocabulary teaching instruction and learning activities.

### *2.1.2 Effective Vocabulary Teaching Instruction and Learning Activities*

The development of effective vocabulary instruction and learning activities may not take place with direct application of a theoretical model, but by reference to factors such as classroom atmosphere or learning interests (Richards, 1976). What seems to be the most theoretically desirable model could turn out to be the least effective one in a specific real teaching classroom. To determine which vocabulary instruction is effective for learners, several studies have attempted to build up a framework for effective characteristics. (Castle, 1988; Harmon, 1998; Ho, 2002; Hu, 2002; Chen, 2003; Blachowicz et al.,2006)

A number of these studies have identified similar characteristics. The first two characteristics of effective vocabulary instruction and learning activities are to enhance learners' vocabulary memorization and increase the size of vocabulary. In order to increase effectiveness, Blachowicz et al. (2006) and Hu (2002) pointed out that word rich environments should be created. This requires teachers to give elaborate attention to words, going beyond the spontaneous demands in a particular context and offering opportunities for sufficient encounters to enhance word memorization and increase vocabulary size.

Given the similar findings in the related studies listed above, arousing learners' motivation and engaging learners in vocabulary learning activities more actively are

reported to be the dominant characteristics of effective vocabulary instruction. The value of effective vocabulary instruction is that it leads to a greater general interest in word learning and may result in a more active engagement with the learning process (Harmon, 1998). Whereas active learner engagement in learning is a hallmark of good instruction, Harmon (1998) argued that effective vocabulary instruction should also fill students with curiosity and excitement in the learning environment and more importantly, motivate learners to develop new word knowledge on their own.

Another characteristic of effective vocabulary instruction and learning activities identified by Harman (1998) as well as two other researchers (Castle, 1988; Hu, 2002) is high level thinking. They specified that an effective vocabulary learning activity is not a one-way process, involving only the teacher imparting knowledge to learners; but one that requires the active involvement of the learners in processing new information and relating it to the old. In Castle's study (1988), high level thinking is one of the constructs in his repertory grids. He stated that promoting high-level thinking advances learners' skills such as synthesis, judgment, evaluation and application. Effective vocabulary instruction and learning activities thus provide opportunities for learners to relate their existing knowledge to the target words thereby facilitating the easier acquisition of new vocabulary.

Learner factors should always affect teachers' decision making in both planning

and teaching stages. Chen (2006) found that among factors that caused the discrepancies between teachers' beliefs and their practices in the classroom, five out of nine were related to learners (e.g., learners' English proficiency levels, learners' motivation and interest, learners' reaction and willingness, learning mood, and learners' grade). She further pointed out that "teachers' meaningful practices of the instructed words can help students use the words in real life (p.155)." In other words, based on learners' age, level, learning preferences and their learning needs, choosing the teaching approaches that are suitable for a variety of students is considered a key method for use in the particular classroom. It is suggested that effective vocabulary instruction and learning activities are relevant to learners' learning needs; furthermore, they are considered priorities for both teachers and students to apply in their teaching and learning.

Based on their appropriateness to vocabulary teaching and learning methods, seven characteristics of effective vocabulary instruction and learning activities are synthesized (Table 2.3).

**Table 2.3**

*Characteristics of Effective Vocabulary Instruction and Learning Activities*

| | **Characteristics of effective vocabulary instruction and learning activities** |
|---|---|
| 1 | Effective vocabulary instruction and learning activities offer opportunities to enhance learners' vocabulary memorization. |
| 2 | Effective vocabulary instruction and learning activities offer opportunities to arouse learners' learning motivation. |
| 3 | Effective vocabulary instruction and learning activities are considered priorities by teachers and learners. |
| 4 | Effective vocabulary instruction and learning activities are relevant to learners' general English learning needs. |
| 5 | Effective vocabulary instruction and learning activities offer opportunities to promote learners' critical thinking abilities. |
| 6 | Effective vocabulary instruction and learning activities offer opportunities to increase vocabulary size. |
| 7 | Effective vocabulary instruction and learning activities motivate learners to participate in vocabulary activities. |

In conclusion, this section is concerned with describing differing views concerning effective vocabulary instruction and learning activities. The more deeply the characteristics are realized, the more likely it will be for learners to use vocabulary well. In the following sections, the studies relevant to beliefs, including teachers' beliefs, learners' beliefs and the relationship between them, will be reviewed and discussed.

## 2.2 Research on Beliefs

Belief generally refers to the "conceptual framework that one possesses toward particular events, people, items and the characteristic relationship" (Castle, 1988, p.15) between these objects. It is teachers' and learners' conceptual frameworks about vocabulary teaching and learning that are of specific concern in the current study. This section is composed of three broad domains. The first domain reports on teachers' beliefs in language teaching. The discussion falls into these sub-areas; the definition and importance of teachers' beliefs, and studies on general teaching beliefs and then mainly on vocabulary teaching beliefs. The second domain concerns learners' language learning beliefs. Parallel with teachers' beliefs, the definition and importance of learners' beliefs and studies on learners' general language learning beliefs are presented. Finally, the third domain lies in the relationship between teachers and learners' belief systems.

### *2.2.1 Teachers' Beliefs in Language Teaching*

Teachers' teaching beliefs deserve much attention since they are one of the key factors in the classroom. Teachers' beliefs influence not only their perceptions and judgments when deciding what information should be brought into classroom practices but also learners' learning preferences. In this section, teachers' beliefs in

language teaching are discussed in three areas, namely, the definition and importance of teachers' beliefs, studies on teachers' general teaching beliefs, and studies on vocabulary teaching beliefs.

#### *2.2.1.1 The Definition and Importance of Teachers' Beliefs*

Research on teachers' beliefs is thriving and robust, but the definition of teachers' beliefs remains controversial. The field of teacher beliefs has been characterized by an overwhelming array of concepts (Borg, 2006). Over the past few years, over thirty studies have attempted to define teacher beliefs in different ways based on their purpose of study. Kagan (1992, cited in Borg, 2006) defined teacher beliefs as a form of personal knowledge consisting of implicit assumptions about students, learning, classrooms and the subject matter to be taught. Other researchers (Dirkx & Spurgin, 1992; Grossman, Wilson & Shulman, 1989; Kagan, 1990; Thompson, 1992; Wilson, Shulman & Richert, 1987, cited in Borg, 2006) have defined the term as cognition, conception, content knowledge, implicit theories, general pedagogical knowledge and so forth. Generally speaking, despite the numerous substitutions, teacher beliefs originate from teachers' knowledge, school education, actions and previous experiences, and may vary with external stimuli as time goes by. Clark and Peterson (1986) developed a model of teacher thought and

action (Figure 2.1) and further defined teachers' beliefs as "the rich store of knowledge that teachers have that affects their planning and their interactive thoughts and decisions" (p.258). What teachers know and have experienced may alter and reconstruct their beliefs; moreover, what teachers believe may influence their decisions in classrooms. It is said that teacher's cognitive and overt behaviors are guided by personally held beliefs that serve as the frames of reference through which information is perceived and curriculum is operated (Castle, 1988). In this case, exploring teacher beliefs for further investigation is pivotal in teacher education.

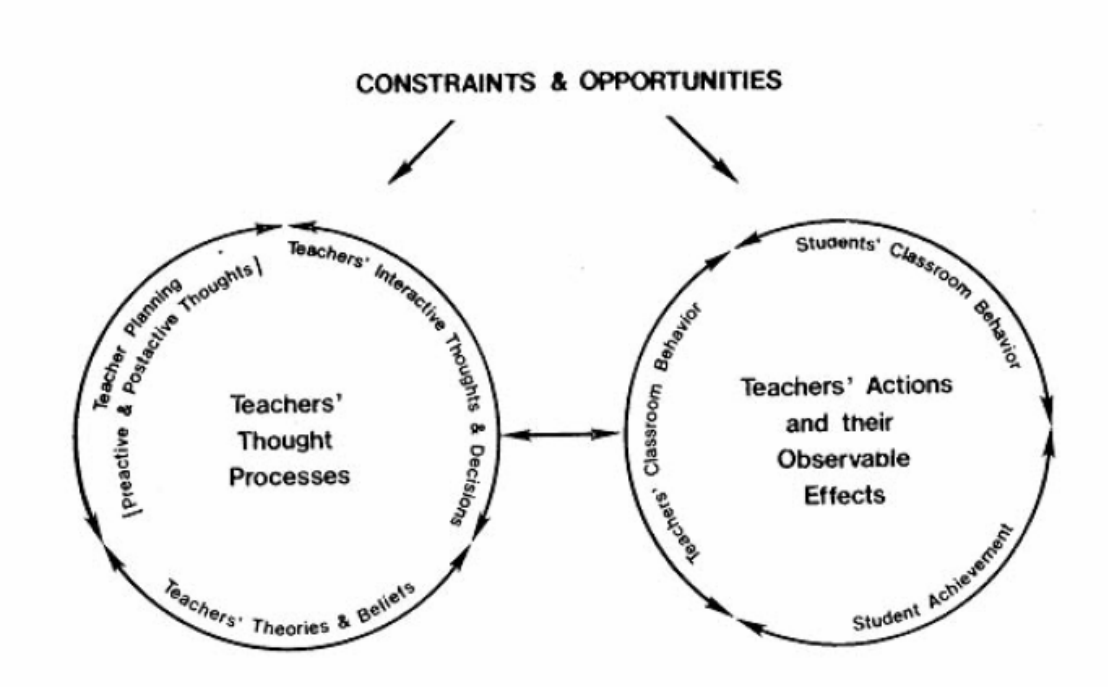


*Figure 2.1* A model of teacher thought and action (Clark & Peterson, 1986, p.257)

In sum, teacher beliefs refer to implicit assumptions, personal knowledge, cognition or conceptions. It is difficult to define these terms individually because

researchers interpret them in different ways. In other words, these definitions are not clear enough to be distinguished; an individual definition is not tenable. Therefore, in the current study, implicit assumptions, personal knowledge, cognitions or conceptions will not be separated, and collectively correspond to teacher beliefs.

In the past, teachers had significant roles as transmitters, who conveyed knowledge to the students consistently without concerning other characteristics such their decision-making processes or beliefs. In recent years, researchers have noticed the development of cognition domain for teachers. A myriad of studies have shed light on teachers' cognitive psychology, including their teaching beliefs. Furthermore, researchers have viewed teachers as decision-makers and placed importance on teachers' thinking process in their studies (Clark & Peterson, 1986). Thus, focusing on the significant role of teachers is considered a necessity in language teaching and learning.

The relation between teachers' beliefs and their practices is interactive. One of the major concerns for teachers, teaching methodology is believed to lead to the success of instruction (Liu, 1995; Lu, 1997, cited in Chen, 2005). Similarly, Clark & Peterson (1986) stated that teachers' beliefs have been demonstrated to be the basis of their actions in the classroom. In other words, the interaction between teachers' beliefs and practices directly and indirectly influences students' learning preferences and their

ultimate achievements. In turn, what students believe about learning would also arouse teachers' reflection on their teaching and further adjustment of their teaching methodology. Hence, valuing teacher beliefs in language teaching and learning is necessary.

"Mainstream educational research in the past 25 years has recognized the impact of teacher cognition on teachers' professional lives, and has generated a substantial body of research" (Borg, 2003, p.81). For this reason, the following section discusses the literature on teachers' general teaching beliefs, to understand how and what teachers believe in their teaching.

#### *2.2.1.2 Studies on Teachers' General Teaching Beliefs*

Three studies are discussed briefly here to draw attention to teachers' personal perspectives about broad issues such as their general teaching beliefs and their role in the classroom, which can lead to a better understanding of teaching behavior. Although the three studies deal with diverse participants of different backgrounds, the structure of these teachers' beliefs reveals similarities.

The first study was conducted by Chuang (1998). He set out to discover the general conceptions of student teachers of elementary schools. He described what they thought of their roles and their beliefs in teaching. Chuang used a self-made

questionnaire to elicit 83 student teachers' teaching beliefs. Following a one-year classroom observation and 15 interviews, he found that these student teachers paid much attention to teacher-student interaction, especially, the role of student teachers was seen as having a great influence upon teacher-student interaction. These student teachers defined their role as *executors* of teaching syllabi and put students' learning needs as their primary goal when carrying out the plans. Based on the results of his study, Chuang concluded that the changes in students' learning behavior were determined by three factors: teacher-student relationship, teaching methods, and teaching content. The student teachers consider themselves as having a weighty role in teaching and see students as the most dominant aspect of their belief system.

Attempting to achieve a more thorough understanding of teachers' general teaching beliefs, Nespor (1987) provided a theoretically-grounded model of belief systems that serves as a framework for systematic and comparative investigation. One of the concepts from his proposed framework was the concept of teachers' affective aspects. Teachers' affective aspects refers to feelings, moods, and subjective evaluations based on personal preferences. Nespor reported that three teachers felt teaching the "facts" and "details" in the subject matter should not be a primary goal in their class since they didn't expect students to remember such information for any significant length of time. Instead, they preferred spending more time on teaching

students “manner” and how they should behave in class or teaching them general learning skills like how to summarize a chapter. Therefore, the values of a course were decided by how teachers perceived the content and how they taught in the classroom.

Resonating with what Chuang and Nespor had found, Chang (2003) yielded similar information about general teaching beliefs. In Chang’s study, four teachers from different public senior high schools were chosen to explore their teaching beliefs. Following classroom observation and interviews, Chang identified four teachers’ beliefs in the use of teaching methods: 1) arousing students’ intrinsic needs, 2) meeting students’ learning needs, 3) applying the merits of different teaching methods and 4) passing College Entrance Exam as prior considerations. It is noteworthy that “arousing students’ intrinsic needs” includes triggering students’ learning motivation, making them feel confident and become autonomous learners, and “meeting students’ needs” consists of meeting students’ learning objectives, being effective for students’ learning, and promoting students’ language skills.

The overall findings from these studies clearly show that teachers from different educational backgrounds hold similar teaching beliefs and consider themselves to have important roles in teaching. Although research has broadly explored teaching beliefs, research in specific areas remains relatively small and underdeveloped,

especially for studies that focus on teacher beliefs in vocabulary instruction. In the following section, two studies that have focused on teacher beliefs in vocabulary instruction are discussed.

#### *2.2.1.3 Studies on Teachers' Beliefs in Vocabulary Instruction*

Due to a long period of neglect, studies of teachers' beliefs about vocabulary instruction are limited. Many studies have been conducted on the general beliefs of language teaching but appear to have overlooked certain specific areas, including vocabulary instruction. In the following section, two studies are reviewed to present the beliefs that teachers hold in their vocabulary instruction and the relationship between beliefs and practices.

Castle (1988) examined teachers' implicit beliefs about vocabulary instruction. Ten experienced teachers were asked to answer a repertory grid, which contained various vocabulary teaching practices drawn from literature review, and further rate these practices along eight dimensions (whether the practice is effective, whether the practice promotes high level thinking, whether the practice builds vocabulary directly or indirectly, whether the practice makes students actively involved, whether the practice is meaningful, whether the practice is relevant for students' needs, whether the practice requires little/much teacher time and input, whether the practice is

motivating or boring for students, whether the practice is appropriate for all students). He found those teachers preferred fun activities that were meaningful and relevant for students to learn vocabulary. The results also showed that teachers prefer student-centered activities involving using newly learned words and promoting thinking as well. For these teachers, such activities were essential in bringing about word learning through "engaging students in word games" (p. 254), and "having students use the words in a wide variety of contexts (p. 254)." Conversely, the least favored activities were presented as isolated, teacher-centered activities that failed to arouse students' participation voluntarily and neglected students' high-level thinking.

Chen (2005) examined the relationship between junior high school teacher beliefs and classroom practices in vocabulary instruction, along with discussing the factors that cause consistencies and discrepancies between these beliefs and practices. The data were collected through class observations, questionnaires and interviews with four junior high school teachers. Chen first conducted the questionnaires, which included the questions of vocabulary teaching approaches in the literature, and further requested all the junior high school teachers in the four schools to respond to the questionnaires. Then, the four junior high school classes were observed, audio-taped, and video-taped for two lesson units respectively. Finally, each of the four teacher participants was interviewed about their beliefs in vocabulary instruction. Chen's

study showed that grammar, meaning, usage, pronunciation, and teaching vocabulary learning activities are the five major components of vocabulary instruction. In addition, students are the main factor in the discrepancies between teachers' beliefs and their practices, including students' English proficiency level, motivation/interest, reaction/learning willingness, grade, discipline, mood, time consumption, teaching materials, and tests.

The above studies demonstrate that making students the priority has positive effects on students' vocabulary development. One of the studies explored teachers' beliefs in vocabulary instruction while the other focused more on the practice in the classroom. Both studies consider students to play an important role in vocabulary teaching but neither of them thoroughly explored the student role. Therefore, the present study aims to include the student element in vocabulary instruction. In order to expand this position, the concept of learners' language learning beliefs and related studies will be presented in the following sections.

### *2.2.2 Learners' Beliefs in Language Learning*

Literature related to the importance of learners' language learning belief systems are reported herein to gain an understanding of the topic. Two aspects of learners' language learning beliefs are reviewed and organized in two sections: the definition

and importance of language learning beliefs, and studies on EFL learners' learning beliefs.

#### *2.2.2.1 The Definition and Importance of Language Learning Beliefs*

Learner beliefs about language learning, according to Richardson (1996), refer to psychologically held understandings, premises, or propositions about language learning that are felt to be true. Recent studies on learner beliefs about language learning have delineated learners' beliefs towards general language learning. Such beliefs have to do with a general concept of learner characteristics, including learning motivation, anxiety, strategies, and learning aptitude. Learners hold their own beliefs about how, when, and which they should study. The preconception is that learners will determine what they want to bring to the language learning tasks. However, similar to the definition of teacher beliefs, there are different understandings among learner beliefs. Researchers over the past few years have not defined the term "learner belief" distinctively nor have they identified learner preconceptions about what should be involved in successful language learning. In sum, in order to predict unexpected conflicts that may contribute to students' learning characteristics (IIuang, 2006), knowledge about learner beliefs should be obtained first.

The term "students' language learning beliefs" in this study refers to the

preconceptions that students bring to their own language learning, including their learning preferences, motivation and strategy usage about language learning (Wittrock, 1986). It cannot be emphasized enough that the considerable body of studies on learner beliefs indicates that beliefs play a crucial role in language learning and its achievements. According to Horwitz (1987), when language classes fail to meet student expectations, students can lose confidence in the instructional approach and their ultimate achievement can be limited. She also argues that knowledge of students' beliefs provides teachers with better understanding of their students' expectation, satisfaction and commitment to success in language classes. Therefore, this research explores learner beliefs in order to provide a clear picture for all stakeholders of the language teaching profession, especially *insiders*, namely, learners, teachers, researchers, material developers, specialized agencies, and consultants (Kern, 1995).

Other studies have also uncovered various dimensions of EFL learner beliefs in language learning. Chen (2006) reported college students' English learning beliefs in Taiwan, while Tsai and Huang (2003) used a survey to examine the relationship between the beliefs of high and low English proficiency college students. Huang and Shao (2005) focused on junior high school students and issues of gender, majors, and their English learning beliefs. In the following section, these studies will be discussed in detail.

#### *2.2.2.2 Studies on Learners' Language Learning Beliefs*

Since few studies have focused on EFL vocabulary learning beliefs, the following sections will focus on the general learning beliefs of students in Taiwan. These students are of different levels of English proficiencies, of different learning beliefs and strategy preferences, and of different majors in college.

Huang & Tsai (2003) explored the relationship between the differences in English learning beliefs that high-proficiency and low-proficiency students held about learning. The results showed that high-proficiency students usually had more positive learning beliefs than low-proficiency students. High-proficiency students were confident about their ability to learn English well and were willing to learn English. It is not surprising to find that, low-proficiency students despaired of learning English. They felt anxious when required to perform their skills in the learning process. During the interviews, all of the participants expressed that classmates' reactions to their English performances somehow influenced their learning behaviors and outcomes. The implication of these students' statements revealed that one of the influences on learners' beliefs was peer reactions. Language teachers should be reminded that although assisting learners to form positive learning beliefs is one of the most important responsibilities for teachers, helping learners to deal with peer reactions in the learning process should also be considered crucial.

Interested in student beliefs and learning behaviors, Shi (2004) explored the relationship between junior high school students' learning beliefs and their strategy usage. Junior high school students strongly believed that they could and they would learn English well. Further, learning vocabulary and pronunciation using many different strategies was crucial to reach significant English learning achievement. The results showed that junior high school students in Taiwan are not used to applying affective strategies during the learning process. Students often used memory strategies, social strategies, cognitive strategies and metacognitive strategies, but seldom use affective strategies. A high affective filter may create negative learning behavior and may hinder learning motivation. Therefore, Shi's investigation suggests that students should not only hold positive learning beliefs but also take their affective factors into account in order to integrate them to help construct an enjoyable learning environment.

Chen (2006) presented a study that made clear English major and non-major college students' learning beliefs in Taiwan, hoping to provide an English learning model for non-majors and encouraging self-examination of what negative learning beliefs they held toward English learning. Chen discovered that all of the participants, English major or non-major, held positive learning beliefs toward English learning, while English majors were likely to be overoptimistic and even more unrealistic than

non-majors. They seemed to have simplified English learning and depended onlt on personal efforts, neglecting the effectiveness and function of learning strategies and the influences of teachers' methods and attitudes. Further investigation about learning beliefs, learning motivation, and achievement is suggested by Chen in order to determine whether they correlate with each other.

To summarize, learners of different levels may be affected by different factors in learning. These factors appear to have an impact on students' classroom practices. Furthermore, these factors surely influence teachers' beliefs and their decision-making processes. Therefore, it is essential to encourage further studies to explore the relationship between EFL teacher beliefs and EFL student beliefs in vocabulary teaching and learning. In the last section of this chapter, the relationship between teacher beliefs and student beliefs in language teaching and learning will be reviewed in greater detail.

## 2.3 The Relationship between Teachers' Beliefs and Students' Beliefs in Language Teaching and Learning

Although understanding teachers' and students' beliefs and the relationship between them is an important issue for language teaching/learning, a relatively limited number of studies has been conducted. Awareness of the assumptions that the beliefs

learners and teachers bring to the classroom can help teachers and students become more realistic in setting goals (Kern, 1995). Under this concept, teachers can understand student difficulties and the degree of anxiety or frustration during learning. In other words, it is the teacher's job to understand students' learning obstacles and to adopt thoughtful and effective guidance for student learning. Therefore, partnership between teachers and students should be emphasized in order to collaborate successfully in the language learning classroom.

Eighteen English teachers and 97 ESL students participated in Davis' (2003) study of the teaching and learning beliefs of two groups about second language learning. Davis used questionnaires drawn from survey instruments developed by Lightbown and Spada and applied them to the participants in Macao. The results indicated that there were four areas where students had stronger beliefs than teachers: (1) the earlier the second language is introduced in schools, the greater the likelihood of success in learning; (2) teachers should present grammatical rules one at a time and students should practice examples of each one before going on to another; (3) student errors should be corrected as soon as they are made in order to prevent bad habits; and (4) teachers should use materials that expose students only to those language structures that they have already been taught. Furthermore, students considered that learning English is all about learning vocabulary and grammar, consistent with Bernat

(2007), who found that students placed a greater emphasis on learning vocabulary and a much greater emphasis on grammar and pronunciation than their teacher.

Peacock's (1999) research had findings similar to those of Davis (2003) and Bernat (2007). Using Horwitz's (1985) "Beliefs in Language Learning Inventory" (BALLI), 202 students and 45 teachers in Hong Kong participated were surveyed to examine the relationship between their language teaching and learning beliefs. The focus of Peacock's findings lies in the significantly different beliefs toward vocabulary learning. Only 18% of teachers believed "Learning a foreign language is mostly a matter of learning a lot of new vocabulary words" (p.152) while 62% of students disagreed with such belief. Students in this research who hold this belief may memorize vocabulary lists when learning language instead of focusing on teacher-directed tasks in class. Peacock's study thus uncovered this controversial teaching and learning beliefs between students and teachers.

In another study, Kern (1995) used a different methodology from that of others. He not only compared the overall mean scores of the entire group of students with all of the teachers, but also treated the individual as a unit of analysis compared with his or her own teacher. Such "global and particular levels of analysis" (p.81) explored more deeply and explicitly the relationship between teachers' and students' beliefs. However, Kern stated that inasmuch as students' beliefs are examined, further studies

are suggested to stress the consistency between students' beliefs and their teachers' to see whether they form causal relationships.

The preceding review of research on the relationship between teachers' and students' learning beliefs is important for one reason: the obvious discrepancies that exist in language learning and teaching. In other words, teachers and students think, expect and even execute differently in teaching and learning. Therefore, the present study undertakes an investigation into the relationship between student and teacher beliefs in language learning. The following section discusses the area of need that the present research addresses.

## 2.4 Research Gap

The above review shows that many studies have focused on general teaching and learning beliefs using a large number of variables. However, only a few of them have emphasized vocabulary teaching and learning. The effectiveness of vocabulary performances depend mainly on teachers' and students' cooperation. Hence, in order to obtain a deeper understanding of vocabulary instruction and learning, more research is needed to explore what teachers believe when they adopt vocabulary instruction and what students believe and expect when learning vocabulary. Thus, the research questions of this study are:

1. What are senior high school EFL teachers' beliefs about English vocabulary teaching approaches?
2. What are senior high school EFL students' beliefs concerning vocabulary learning activities?
3. What are, if any, significant differences between senior high school EFL teachers' and senior high school EFL students' beliefs about vocabulary teaching and learning?

# CHAPTER THREE

# METHODOLOGY

This research investigates collective vocabulary teaching approaches and learning activities in Taiwanese senior high schools. Quantitative research techniques that include both teacher and student versions of repertory grids were used to conduct this study.

This chapter is divided into six sections, which, as a whole, present the methodology of this study. Participants of this academic study are introduced in the first section. The second section surveys the instruments that used to collect research. Third, participants, grid implementation, preliminary results, and problems as well as modifications based on the pilot study are delineated in the following section. Data collection and analysis procedures used in the real survey are then explained in the fourth and fifth sections, respectively. Finally, the reliability and validity of the research instruments will be examined in great detail.

## 3.1 Participants

The participants in this study include a specific range of senior high school teachers and students in Taiwan. They must comply with certain criteria that are

further explained in the details given below.

### *3.1.1 Teachers*

Fifty-one senior high school teachers in Taiwan served as one of the two participant groups in this study. Among the 51 teachers, 15 were males and 36 were females. Additionally, of the 51 teachers, 13 were from northern Taiwan, 8 were from central Taiwan and 30 were from southern Taiwan. These teachers were selected because of the following criteria. First, all teachers in this pool had completed the official teacher-training program and have been certified as qualified teachers. All of them are currently teaching English with an intermediate-level in senior high schools in Taiwan. Second, each teacher was randomly selected from a pool of teachers who volunteered to participate in this study. Third, the teaching experiences of these teachers range from 1 to 30 years, with an average of 7.5 years of teaching. These criteria were established to ensure that sufficient teaching experience enabled the teachers to develop their own teaching beliefs, and those who teach intermediate-level English courses cannot avoid dealing with large amounts of vocabulary.

### *3.1.2 Students*

Nearly 1200 senior high school students in 11$^{th}$ grade in central and southern

Taiwan were originally selected as the second pool of subjects in this study. Given the fact that a great quantity of grid data was generated, valid students will be identified according to the following criteria. First, students who participated in this study must have already been learning English for over three years. This establishes that they are experienced enough with English to have generated their own learning beliefs and thus provide productive data for the study. Second, students were required to have similar English-learning background; namely, having learned English in an EFL environment. Therefore, those who have learned English in an ESL environment were excluded in this study. Third, questionnaires of students who either missed a single answer or made random answers on the questionnaires were discarded by the researcher. Ultimately, 982 valid questionnaires from senior high school student participants with at least three years of English learning experiences, who provided complete and cogent answers to the student questionnaires, were retained. Among the 982 students, 290 were males and 692 were females. Further, 789 students were from Taichung and 193 students were from Tainan.

### 3.2 Instruments

To identify the nature and complexity of these belief systems, a repertory grid-based methodology was used in this study. The Repertory Grid Technique (RGT)

was first created by George Kelly (1955) as a method to discover the relationship between an individual's personal constructs and their life experiences. Fransella and Bannister (1977) pointed out that a repertory grid represents a methodology that can mathematically value the relationship between a person and his construct system. It has been particularly useful when the individual's subjective interpretations and perceptions are the objects of inquiry. To further verify the effectiveness of RGT, Neimeyer (1985, as cited in Lambert, Kirksey, & McCarthy, 1997) indicated that 95% of published personal construct research is based on the form of RGT. RGT remains the most appropriate technique for use in this study because the personal perspectives of both teachers and students can be reflected in this detailed construction.

Unlike other sorting questionnaires, RGT consists of the mapping of *elements* and *constructs*. The elements in a grid are the representative terms of a particular group under full investigation; they may be concrete things, actual events or abstract situations. In all cases, the elements in one grid must be of the same type and same level of complexity, so that their data will be appropriate to the topic being explored and to the purpose of the research. Since this study will be conducted to explore vocabulary teaching and learning beliefs, the statements of elements used here are related to vocabulary teaching and learning activities derived from preliminary literature review. Amongst the wide variety of teaching and learning activities, four

main categories; i.e. pronunciation and spelling, meaning conveyance, usage, and activities, were grouped, while the 17 most frequently used vocabulary teaching and learning activities were chosen and revised in this study (Table 3.1).

**Table 3.1**

*Activities for Teaching and Learning Vocabulary*

| Main Categories | Vocabulary Teaching/Learning Activities |
|---|---|
| 1. Pronunciation and spelling | 1. Pronunciation-spelling correspondence<br>2. Pronunciation modeling<br>3. Keyword method<br>4. Association |
| 2. Meaning conveyance | 1. Definition in L1<br>2. Word affixes<br>3. Dictionary look-up<br>4. Synonyms/antonyms<br>5. Visual aids<br>6. Semantic map<br>7. Demonstration |
| 3. Usage | 1. Contextual usage<br>2. Grammatical usage |
| 4. Activities | 1. Extensive reading<br>2. Repeated drills<br>3. Contextual practices<br>4. Cooperative activities |

As noted earlier, the purpose of this study is to examine the consistency in vocabulary beliefs between teachers and students. Two versions of the grid, the teacher and student versions of the element statements, were further developed. The main difference between the teacher and student version grids is the element

description. However, the statements in the student grid correspond to those in the teacher grid. For example, in *pronunciation-spelling correspondence* teaching/learning activities, the element description in the teacher grid is *Use pronunciation-spelling correspondence to help students remember vocabulary*. Corresponding to teacher version grid, the element description in student grid is *Use pronunciation-spelling correspondence to help me remember vocabulary*. To state more, in *pronunciation modeling* teaching/learning activities, the element description in the teacher grid is *Demonstrate correct pronunciation to help students remember vocabulary.* However, in the student grid, the element description is *Use correct pronunciation to help me remember vocabulary*. For further detail, a complete element description of teacher and student version grids is presented in Table 3.2.

**Table 3.2**

*Elements in Teacher Version and Student Version Grid*

| Teacher Version | Student Version |
|---|---|
| 1. Use pronunciation-spelling correspondence to help students remember vocabulary. | 1. Use pronunciation-spelling correspondence to help me remember vocabulary. |
| 2. Demonstrate correct pronunciation to help students remember vocabulary. | 2. Use correct pronunciation to help me remember vocabulary. |
| 3. Use "Keyword Method" to help students remember vocabulary. e.g., tongue sounds like 湯 *tang* in Chinese. | 3. Use "Keyword Method" to help me remember vocabulary. e.g., tongue sounds like 湯 *tang* in Chinese. |
| 4. Put vocabulary items that share similar parts in spelling (e.g., quiet/quite) or pronunciation together (e.g., great/grade) to help students remember vocabulary. | 4. Put vocabulary items that share similar parts in spelling (e.g., quiet/quite) or pronunciation together (e.g., great/grade) to help me remember vocabulary. |
| 5. Directly provide Chinese translation to help students remember vocabulary. | 5. Acquire Chinese translation from teachers to help me remember vocabulary. |
| 6. Use affixes, like suffix or prefix, to help students remember vocabulary. | 6. Use affixes, like suffix or prefix, to help me remember vocabulary. |
| 7. Ask students to use dictionary to check up meanings to help them remember vocabulary. | 7. Use dictionary to check up meanings to help me remember vocabulary. |
| 8. Use synonyms and antonyms to help students remember vocabulary. | 8. Use synonyms and antonyms to help me remember vocabulary. |
| 9. Use visual aids like pictures, objects or slides to help students remember vocabulary. | 9. Use visual aids like pictures, objects or slides to help me remember vocabulary. |
| 10. Use semantic map to help students remember vocabulary. | 10. Use semantic map to help me remember vocabulary. |
| 11. Use actions like mime or gesture to help students remember vocabulary. | 11. Use actions like mime or gesture to help me remember vocabulary. |
| 12. Use contextual usages, like phrasal context, sentential context and situational context to help students remember vocabulary. | 12. Use contextual usages, like phrasal context, sentential context and situational context to help me remember vocabulary. |
| 13. Teach grammatical rules and usages like part of speech or verb tenses to help students remember vocabulary. | 13. Use grammatical rules and usages like part of speech or verb tenses to help me remember vocabulary. |
| 14. Ask students to read a lot to help them to remember vocabulary. | 14. To read a lot to help me remember vocabulary. |
| 15. Apply mechanical practices, such as to read silently or copy the meanings repeatedly to students to help them remember vocabulary. | 15. Do mechanical practices, such as to read silently or copy the meanings repeatedly to help me remember vocabulary. |
| 16. Ask students to do a lot of contextual practices like cloze or "filling the vocabulary" exercise to help them remember vocabulary. | 16. Do contextual practices like cloze or "filling the vocabulary" exercise to help me remember vocabulary. |
| 17. Adopt cooperative activities, like games or puzzles to help students remember vocabulary. | 17. Engage in cooperative activities, like games or puzzles to help me remember vocabulary. |

To yield relevant results, the elements in an RGT must be appropriate for the purpose of the study investigated. Essentially, the constructs are the terms in which the elements are judged as similar or different. The constructs are the bipolar construction system used by the participants when considering certain elements in the grid. To illustrate more specifically, if the element is using rote repetition to learn vocabulary, possible constructs that used to consider the elements would be "I believe it is a/an in/effective method" or "I believe it could/not motivate me to participate in learning". Castle (1988) observed that a repertory grid has often been modified to meet the requirements of a particular study. Such a modification is sometimes implemented by providing constructs instead of eliciting information from participants or by using the grid as a rating grid. The current research instrument includes seven constructs that incorporate the most frequently mentioned characteristics related to vocabulary teaching and learning practices in previous studies. In the following sections, the researcher will label the seven constructs the seven *sub-beliefs* teachers and students hold toward certain vocabulary teaching/learning activities. Furthermore, rating techniques are adopted to reflect participants' positions on each construct. By using a four-point scale (4 = strongly agree, 3 = fairly agree, 2 = fairly disagree, 1 = strongly disagree), the participants will have the freedom to express their degree of agreement/disagreement with the elements

among the various rating constructs. The seven characteristics that represent the seven sub-beliefs in teacher grid include whether the teaching activities were efficient, motivated students to learn vocabulary, were given high teaching priority, bore relevancy, encouraged critical thinking, increased vocabulary size, and motivated students to participate in vocabulary learning activities. Corresponding to teacher grid, items on student's version were modified (Table 3.3). Modified items include whether the learning activities were efficient, motivated me to learn vocabulary, were given high learning priority, bore relevancy, encouraged critical thinking, increased vocabulary size, and motivated me to participate in vocabulary learning activities.

**Table 3.3**

*Constructs (Sub-beliefs) in Teacher and Student Versions of the Grid*

| Teacher | | Student | |
|---|---|---|---|
| **The activity--** | | | |
| 1. | is effective for vocabulary retention | 1. | is effective for vocabulary retention |
| 2. | motivates students to learn vocabulary | 2. | motivates me to learn vocabulary |
| 3. | is a prior teaching approach | 3. | is a prior learning activity |
| 4. | is relevant to students' general English learning needs | 4. | is relevant to my general English learning needs |
| 5. | can promote students' thinking and judging ability | 5. | can promote my thinking and judging ability |
| 6. | helps build students' vocabulary size | 6. | helps build my vocabulary size |
| 7. | motivates students to participate in vocabulary learning activities | 7. | motivates me to participate in vocabulary learning activities |

The compilation of the grid represents the relationships between the mappings of the elements onto constructs. This rating method is an efficient measurement strategy that examines the participants' beliefs on vocabulary teaching/learning activities at-large. In sum, for the first research question, *(What are senior high school EFL teachers' beliefs about English vocabulary teaching approaches?)*, the researcher used the teacher grid to explore teachers' vocabulary teaching beliefs. For the second research question, *(What are senior high school EFL students' beliefs concerning vocabulary learning activities?)*, the student version of repertory grid was used to explore students' vocabulary learning beliefs. As for the third research question,

*(What are, if any, significant differences between senior high school EFL teachers' and senior high school EFL students' beliefs about vocabulary teaching and learning?)*, the researcher compared the mean scores in the teacher and student grids (Table 3.4).

**Table 3.4**

*Instruments Used in Data Collection*

| Research Questions | Instruments |
|---|---|
| 1. What are senior high school EFL teachers' beliefs about English vocabulary teaching approaches? | The teacher repertory grid. |
| 2. What are senior high school EFL students' beliefs concerning vocabulary learning activities? | The student repertory grid. |
| 3. What are, if any, significant differences between senior high school EFL teachers' and senior high school EFL students' beliefs about vocabulary teaching and learning? | Mean score comparisons and Independent Samples *t*-test from the teacher and the student versions of grids. |

### 3.3 Data Collection Procedure

First, the researcher contacted four senior high schools in northern Taiwan, two senior high schools in central Taiwan, and one senior high school in southern Taiwan to ask for their cooperation in conducting the study. Among these schools, all of the teachers and students were willing to complete the grids, except for the students from northern Taiwan. After the participants were identified, a set of grids, including a

teacher version and student version, were released to the 7 senior high schools. The participants were informed the purpose of the study by the researcher in advance so that they would know what was required of them. Following the researcher's introduction, a further explanation of the rating method was added to prevent misunderstandings. The questions that comprised the grid were administered on a single page, in which the 17 vocabulary teaching/learning activities and the 7 sub-beliefs were presented. The participants were asked to rate each vocabulary teaching/learning activity according to each sub-belief by using the rating scales to represent their degree of agreement/disagreement accordingly. Over the period of approximately one month, the teacher and student questionnaires were all collected by ordinary post.

### 3.4 Data Analysis Procedure

The quantitative data was processed and analyzed using SPSS statistics package for Windows 16.0. To answer the first research question, *(What are EFL teachers' beliefs in vocabulary teaching approaches?)*, the descriptive statistics of mean scores in the teacher version of repertory grids were calculated. To address the second research question, *(What are EFL students' beliefs in vocabulary learning activities?)*, the mean scores in the student version of repertory grids for all the items were

presented. Concerning research question three, *(What are, if any, significant differences between teachers' and students' beliefs in vocabulary teaching and learning?)*, the teacher participants' and the student participants' mean score differences in each teaching and learning activity were operated. Further, an Independent Samples *T*-test was computed between the two groups' mean values for each item. An acceptable significance level was set at .05 (two-tailed) for this study

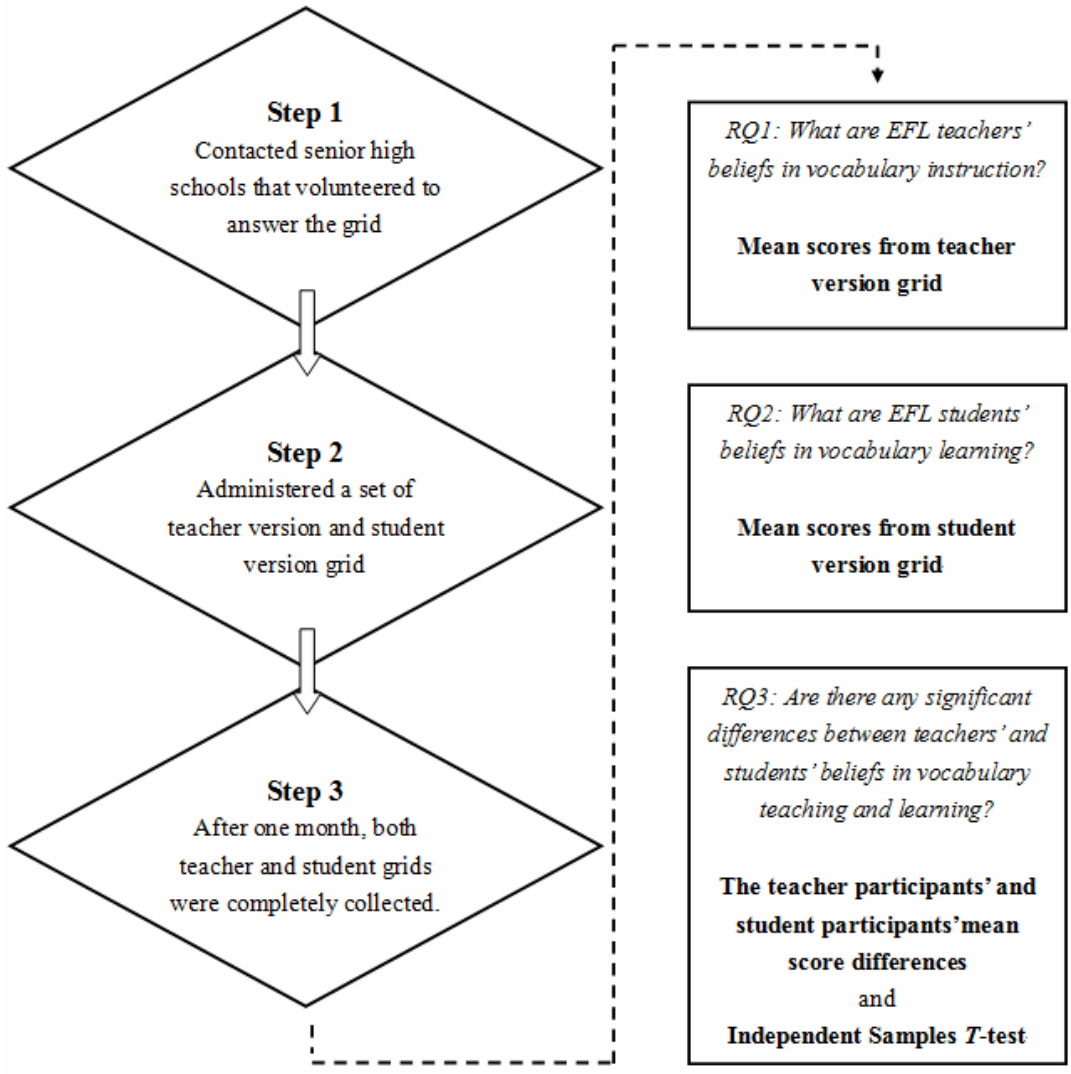


*Figure 3.1* Illustration of data collection procedure and data analysis techniques

## 3.5 Pilot Study

To ensure the reliability of the grid and the feasibility of the data collection and analysis procedure, the researcher launched a pilot study from July to September, 2009. The pilot study mainly served the following purposes: First, it aimed to validate the reliability of the aforementioned grid. Second, the pilot study evaluated the practical application of the instruments. This also provided the researcher an opportunity to examine whether the wording of the descriptions was misunderstood. The following sections describe the participants of the pilot study, the grid implementation procedures, the results of the pilot study, and the modifications made for the actual study.

### *3.5.1 Participants of the Pilot Study*

Two descriptions are included in the following section: an introduction to the teacher participants, followed by a background description of the student participants. The teacher participants included 20 English teachers who currently teach in senior high schools, vocational high schools, and cram schools throughout central Taiwan. Although this group of teacher participants had a diversity of teacher qualifications student English proficiency levels, these qualified teacher participants have had years of English teaching experience, giving them sufficient time to develop their own

belief systems.

The other group of participants included 112 high school students in central Taiwan. All of the student participants were EFL learners and had been learning English for at least three years. According to their English teachers, the English proficiency level of these students ranged from novice-high to intermediate-high. Since they all had studied English for at least three years and they were studying English for academic purposes, the researcher assumed that the student pilot group had constructed their own belief systems.

### *3.5.2 Grid Implementation Procedures*

Due to geographic limitations and time constraint, the data collecting procedure, which lasted for 3 months, from July to September, 2009, was completed through both ordinary post and e-mail. The researcher first contacted the teachers who volunteered to complete the grids through e-mails and phone calls in July. Following their responses, the researcher administered the grids to those teacher participants through e-mails according to their convenience. This whole process lasted for nearly three months during which 20 grids from teacher participants were collected.

While collecting teacher participants' grids, the researcher also contacted two high school teachers who were eager to let their students take part in this study in

August. After illustrating the purpose of this pilot study, the researcher then carefully instructed the grid answering procedures to these teachers. Over a hundred grids were then mailed by ordinary post to the teachers with instructions to distribute them to the students in their classes. A week later, the 112 completed grids from these student participants were collected.

### *3.5.3 The Preliminary Results of the Pilot Study*

As stated previously, one of the purposes of this pilot study was to measure the reliability of the grid. To pursue this pilot study's main purpose, reliability results were performed with the statistical software package SPSS 16.0 for Windows. The overall internal-consistency reliability analysis of the whole grid with 119 items was performed and tabulated. As seen in Table 3.5, the overall reliability coefficient of the teacher and student grids achieved values of .88 and .97, respectively. Furthermore, the researcher divided the items in the questionnaires into five categories and estimated the internal consistency reliability. Both versions of grids gained values ranging from .69~.96, which were considered convincingly reliable.

**Table 3.5**

*Internal-Consistency Reliability Coefficients of the Grid Items*

| Main Categories | Vocabulary Teaching/Learning Activities | Cronbach's Alpha |
|---|---|---|
| Overall **(119)** | | T[1]: .88<br>S[1]: .97 |
| Pronunciation and spelling **(28)** | 1. Pronunciation-spelling correspondence<br>2. Pronunciation modeling<br>3. Keyword method<br>4. Association | T: .69<br>S: .89 |
| Meaning conveyance **(49)** | 1. Definition in L1<br>2. Word affixes<br>3. Dictionary look-up<br>4. Synonyms/antonyms<br>5. Visual aids<br>6. Semantic map<br>7. Demonstration | T: .78<br>S: .93 |
| Usage **(14)** | 1. Contextual usage<br>2. Grammatical usage | T: .83<br>S: .96 |
| Activities **(21)** | 1. Extensive reading<br>2. Repeated drills<br>3. Cooperative activities | T: .81<br>S: .91 |
| Strategies **(7)** | 1. Strategies to learn vocabulary | T: .91<br>S: .93 |

*Note*[1]. "T" represents the teacher version grid; "S" represents the student version grid.
*Note*[2]. The numbers in parentheses indicate the total number of questions in each category

In order to increase instrument validity, the teacher grid was sent to two professors, Mei-Hui Liu and Su-Huei Wu, experts in the area of teacher beliefs, to verify its validity. According to their feedback, items in teacher grid were confirmed to be valuable.

In order to answer Research Question 1 and 2, *(What are senior high school EFL*

*teachers' beliefs about English vocabulary teaching approaches?)* and *(What are senior high school EFL students' beliefs concerning vocabulary learning activities?)*, the researcher calculated the frequency distribution and mean scores for both the teacher and student grids. To discuss the results in greater detail, the mean scores in each teaching and learning activity are tabulated in Table 3.6. The teacher participants' beliefs in the four main categories ranged from 3.25 to 3.05 while the student participants' ranged from 2.85 to 2.76. In particular, under the first main category, *pronunciation and spelling*, (*pronunciation-spelling correspondence*, *pronunciation modeling*, *keyword method* and *association*), the teacher participants gave the highest score to *pronunciation-spelling correspondence* (M = 3.37) and *pronunciation modeling* (M = 3.37) while the lowest score was *keyword method* (M = 2.35). Interestingly, the student participants under the first main category, *pronunciation and spelling*, showed a greater preference for *keyword method* (M = 2.83) and presented the lowest score in *association* (M = 2.68). Under the second main category, *meaning conveyance*, (*definition/translation in Chinese*, *word affixes*, *dictionary look-up*, *synonyms/antonyms*, *visual aids*, *semantic map* and *demonstration*), the teacher participants displayed particular partiality for *word affixes* (M = 3.50) and laid the lowest score on *dictionary look-up* (M = 2.74). Yet the student participants exhibited the highest score for *definition in L1* (M = 3.03) and the lowest

score for *semantic map* (M = 2.58). Under the third main category, *word usage*, (*contextual usage* and *grammatical usage*), results indicated that the teacher participants' mean score of *grammatical usage* (M = 3.28) was slightly higher than *contextual usage* (M = 3.21) while the student participants ranked *contextual usage* (M = 2.94) higher than *grammatical usage* (M = 2.76). According to the results of the fourth main category, *activity*, (*extensive reading*, *repeated drills*, and *cooperative activities*), the teacher participants preferred *extensive reading* (M = 3.31) while disliking *repeated drills* (M = 2.88). Similarly, the student participants ranked *repeated drills* (M = 2.74) lower than *cooperative activities* (M = 2.84) when learning vocabulary. Ultimately, the teacher participants expressed positive beliefs about the last main category, *vocabulary learning strategies* (M = 3.28), whereas the student participants generally disapproved of using other *vocabulary learning strategies* (M = 2.90). Further, as Table 3.6 shows, the teacher participants manifested somewhat positive beliefs among the seven constructs; namely, the seven sub-beliefs (mean scores ranged from 3.25 to 3.05); whereas, the student participants showed comparatively lower scores (mean scores ranged from 2.92 to 2.63) among the seven sub-beliefs.

**Table 3.6**

*Teachers' and Students' Mean Scores for Each Teaching/Learning Activity*

| | | | vocabulary retention | motivates ss (me) to learn | prior teaching (learning) method | relevant to ss' (my) Eng learning needs | thinking and judging ability | vocab size | motivates ss to participate | **Element Means** |
|---|---|---|---|---|---|---|---|---|---|---|
| **Pronunciation & Spelling** T: 3.05 S: 2.84 | 1. Pronunciation-spelling correspondence | T | 3.50 | 3.10 | 3.60 | 3.55 | 3.45 | 3.40 | 3.00 | 3.37 |
| | | S | 3.15 | 2.58 | 3.09 | 3.04 | 2.85 | 2.93 | 2.41 | 2.86 |
| | 2. Pronunciation modeling | T | 3.50 | 3.35 | 3.70 | 3.75 | 3.05 | 3.30 | 2.95 | 3.37 |
| | | S | 3.30 | 2.70 | 3.16 | 3.14 | 2.91 | 3.03 | 2.56 | 2.97 |
| | 3. Keyword method | T | 2.55 | 2.70 | 2.15 | 2.20 | 2.15 | 2.30 | 2.40 | 2.35 |
| | | S | 3.00 | 2.90 | 2.75 | 2.97 | 2.68 | 2.83 | 2.71 | 2.83 |
| | 4. Association | T | 3.10 | 2.85 | 2.85 | 3.20 | 3.35 | 3.35 | 3.00 | 3.10 |
| | | S | 2.79 | 2.58 | 2.63 | 2.70 | 2.73 | 2.84 | 2.50 | 2.68 |
| **Meaning Conveyance** T: 3.13 S: 2.76 | 1. Definition in L1 | T | 2.85 | 2.70 | 2.85 | 2.85 | 2.70 | 2.75 | 3.20 | 2.84 |
| | | S | 3.20 | 2.97 | 3.03 | 3.11 | 3.09 | 2.98 | 2.81 | 3.03 |
| | 2. Word affixes | T | 3.42 | 3.27 | 3.37 | 3.47 | 3.72 | 3.82 | 3.42 | 3.50 |
| | | S | 2.97 | 2.89 | 2.89 | 2.94 | 2.89 | 2.79 | 2.70 | 2.87 |
| | 3. Dictionary look-up | T | 2.85 | 2.70 | 2.50 | 2.85 | 2.70 | 2.90 | 2.70 | 2.74 |
| | | S | 2.78 | 2.67 | 2.67 | 2.80 | 2.68 | 2.66 | 2.57 | 2.69 |
| | 4. Synonyms/antonyms | T | 3.20 | 3.05 | 3.05 | 3.25 | 3.40 | 3.30 | 3.25 | 3.21 |
| | | S | 2.82 | 2.75 | 2.75 | 2.77 | 2.83 | 2.82 | 2.60 | 2.76 |
| | 5. Visual aids | T | 3.27 | 3.57 | 3.42 | 3.57 | 3.27 | 3.22 | 3.37 | 3.38 |
| | | S | 2.88 | 2.79 | 2.79 | 2.78 | 2.76 | 2.75 | 2.72 | 2.78 |
| | 6. Semantic map | T | 3.00 | 2.95 | 2.70 | 2.95 | 2.95 | 3.00 | 2.90 | 2.92 |
| | | S | 2.62 | 2.57 | 2.58 | 2.61 | 2.60 | 2.54 | 2.53 | 2.58 |
| | 7. Demonstration | T | 3.25 | 3.55 | 3.25 | 3.50 | 3.20 | 3.05 | 3.30 | 3.30 |
| | | S | 2.67 | 2.68 | 2.56 | 2.59 | 2.62 | 2.58 | 2.59 | 2.61 |
| **Usage** T: 3.25 S: 2.85 | 1. Contextual usage | T | 3.10 | 3.15 | 3.10 | 3.20 | 3.35 | 3.35 | 3.25 | 3.21 |
| | | S | 3.06 | 2.93 | 2.90 | 2.99 | 3.10 | 2.88 | 2.75 | 2.94 |
| | 2. Grammatical usage | T | 3.00 | 3.07 | 3.32 | 3.57 | 3.52 | 3.47 | 3.02 | 3.28 |
| | | S | 2.78 | 2.67 | 2.75 | 2.88 | 2.87 | 2.78 | 2.57 | 2.76 |
| **Activities** T: 3.12 S: 2.80 | 1. Extensive reading | T | 3.15 | 3.35 | 3.30 | 3.55 | 3.45 | 3.35 | 3.05 | 3.31 |
| | | S | 2.91 | 2.80 | 2.79 | 2.86 | 2.86 | 2.84 | 2.67 | 2.82 |
| | 2. Repeated drills | T | 2.85 | 2.85 | 2.80 | 3.05 | 2.85 | 2.95 | 2.80 | 2.88 |
| | | S | 2.86 | 2.66 | 2.73 | 2.84 | 2.75 | 2.78 | 2.54 | 2.74 |
| | 3. Cooperative activities | T | 3.02 | 3.50 | 3.15 | 3.20 | 3.15 | 3.00 | 3.15 | 3.17 |
| | | S | 2.97 | 2.90 | 2.76 | 2.79 | 2.87 | 2.82 | 2.79 | 2.84 |
| **Strategies** T: 3.28/S: 2.90 | Strategies to learn vocabulary | T | 3.35 | 3.20 | 3.15 | 3.35 | 3.35 | 3.30 | 3.25 | 3.28 |
| | | S | 3.03 | 2.90 | 2.83 | 2.97 | 2.88 | 2.94 | 2.76 | 2.90 |
| | **Construct Means** | T | 3.10 | 3.12 | 3.08 | 3.25 | 3.16 | 3.17 | 3.05 | 3.13 |
| | | S | 2.92 | 2.76 | 2.80 | 2.86 | 2.82 | 2.81 | 2.63 | 2.80 |

In order to analyze the data for the third research question, *(What are, if any, significant differences between senior high school EFL teachers' and senior high school EFL students' beliefs about vocabulary teaching and learning?)*, an independent samples *T*-test was performed. Specifically, the researcher calculated the *p* value of Independent Samples *T*-test for each of the vocabulary teaching/learning activities (Table 3.7). As indicated in Table 3.7, the beliefs of teacher participants and student participants exhibited significant differences across all of the different vocabulary teaching/learning activities ($p < .05$). However, under the main category of *meaning conveyance*, the teacher participants and the student participants did not display significant differences in *definition in L1* and *dictionary look-up*, and also for *repeated drills* in the main category of *activities*. Moreover, as indicated in Tables 3.8 and 3.9, it is obvious that the beliefs of the teacher participants and student participants displayed significant differences across the five main categories of beliefs on vocabulary teaching/learning activities ($p < .05$) and the seven sub-beliefs ($p < .05$).

**Table 3.7**

*p Value of Independent Samples T-test for Each Teaching/Learning Activity*

| | | vocabulary retention | motivates ss (me) to learn | prior teaching (learning) method | relevant to ss' (my) Eng learning needs | thinking and judging ability | vocab size | motivates ss to participate | **p value in each *element*** | **p value in each *Category*** |
|---|---|---|---|---|---|---|---|---|---|---|
| **Pronunciation & Spelling** | 1. Pronunciation-spelling correspondence | .51 | .00* | .00* | .00* | .00* | .01* | .00* | .00* | .00* |
| | 2. Pronunciation modeling | .26 | .00* | .00* | .00* | .51 | .14 | .06 | .00* | |
| | 3. Keyword method | .00* | .19 | .00* | .00* | .00* | .00* | .05 | .00* | |
| | 4. Association | .08 | .07 | .20 | .00* | .00* | .00* | .00* | .00* | |
| **Meaning Conveyance** | 1. Definition in L1 | .05 | .14 | .30 | .15 | .02* | .19 | .77 | .09 | .00* |
| | 2. Word affixes | .01* | .00* | .00* | .00* | .00* | .00* | .00* | .00* | |
| | 3. Dictionary look-up | .67 | .57 | .22 | .75 | .94 | .11 | .41 | .66 | |
| | 4. Synonyms/antonyms | .03* | .08 | .08 | .00* | .00* | .00* | .00* | .00* | |
| | 5. Visual aids | .01* | .00* | .00* | .00* | .00* | .00* | .00* | .00* | |
| | 6. Semantic map | .00* | .00* | .34 | .00* | .00* | .00* | .00* | .00* | |
| | 7. Demonstration | .00* | .00* | .00* | .00* | .00* | .00* | .00* | .00* | |
| **Usage** | 1. Contextual usage | .67 | .02* | .03* | .00* | .05 | .01* | .13 | .02* | .00* |
| | 2. Grammatical usage | .06 | .02* | .00* | .00* | .00* | .00* | .16 | .00* | |
| **Activities** | 1. Extensive reading | .66 | .07 | .08 | .05 | .00* | .02* | .00* | .02* | .00* |
| | 2. Repeated drills | .94 | .33 | .71 | .22 | .62 | .34 | .18 | .36 | |
| | 3. Cooperative activities | .52 | .00* | .01* | .00* | .07 | .27 | .03* | .01* | |
| **Strategies** | Strategies to learn vocabulary | .05 | .06 | .05 | .01* | .00* | .02* | .00* | .00* | .00* |
| **p value in each *Construct*** | | .00* | .04* | .00* | .00* | .00* | .00* | .00* | | |

**Table 3.8**

*Results of Independent Samples T-test Analysis of Vocabulary Teaching/Learning Activities (Variables: Teachers & Students)*

| Main Concepts | Vocabulary Teaching/Learning Activities | Sig. (two-tailed) |
|---|---|---|
| Overall **(119)** | | $p$= 0.000* |
| Pronunciation and spelling **(28)** | 1. Pronunciation-spelling correspondence<br>2. Pronunciation modeling<br>3. Keyword method<br>4. Association | $p$= 0.000* |
| Meaning conveyance **(49)** | 1. Definition in L1<br>2. Word affixes<br>3. Dictionary look-up<br>4. Synonyms/antonyms<br>5. Visual aids<br>6. Semantic map<br>7. Demonstration | $p$= 0.000* |
| Usage **(14)** | 5. Contextual usage<br>6. Grammatical usage | $p$= 0.000* |
| Activities **(21)** | 1. Extensive reading<br>2. Repeated drills<br>3. Cooperative activities | $p$= 0.007* |
| Strategies **(7)** | 1. Strategies to learn vocabulary | $p$= 0.000* |

*Note.*
a. The numbers in parentheses indicate the total number of questions in each category.
b. An asterisk (*) indicates the significant difference between two variables at $p < .05$.

**Table 3.9**

*Results of Independent Samples T-test Analysis of Sub-beliefs (Variables: Teachers & Students)*

| Sub-belief Description | Sig. (two-tailed) |
|---|---|
| Overall **(119)** | *p*= 0.000* |
| is effective for word retention **(17)** | *p*= 0.044* |
| motivates students (me) to learn vocabulary **(17)** | *p*= 0.000* |
| is a prior teaching (learning) approach/activity **(17)** | *p*= 0.001* |
| is relevant to students' (my) general English learning needs **(17)** | *p*= 0.000* |
| cam promote students' (my) thinking and judging ability **(17)** | *p*= 0.001* |
| helps build students' (my) vocabulary size **(17)** | *p*= 0.002* |
| motivates students (me) to participate in vocabulary learning activity **(17)** | *p*= 0.000* |

*Note.*
a. The numbers in parentheses indicate the total number of questions in each category.
b. An asterisk (*) indicates the significant difference between two variables at $p < .05$.

### *3.5.4 Problems and Modifications*

Although several problems were encountered in this pilot study, they can also be prevented in the actual study. First, the teacher participants in this pilot study are from a variety of teaching backgrounds. Teacher participants included pre-service teachers, senior high school teachers, and cram school teachers. The researcher thus considered that the diversity of the teachers may impair effective comparison of the differences between teachers' and students' beliefs. Hence, the target teacher group in the actual study should have more similar teaching backgrounds, as mentioned in section 3.1.

Second, in order to pursue the purposes of the pilot study, the researcher verified that the descriptions in the grids did not lead to any misunderstandings. As a result, *element* descriptions in the teacher and student grids were revised. In addition, the researcher divided item 15 into "*mechanical practices,*" to read silently or copy the meanings repeatedly, and "*contextual practices,*" to do cloze or "filling the vocabulary" exercises in order to clarify the concept of "*repeated drills*".

Aside from the aforementioned issues, the biggest obstacle encountered in the pilot study was the analysis method. Originally, the participants were asked not to rate the scale if they had never used a teaching/learning activity before. The intention was if participants had never used that teaching/learning activity before, they might not perceive the effectiveness of certain teaching/learning activities. However, when

analyzing this feedback, it was found that given the amount of missing data, the results could not be calculated using SPSS. Based on the suggestion of a statistics expert, the researcher replaced the missing data with the middle option, 2.5 (four-point scale was used in the questionnaire) since it refers to "no opinion" or "neither agree nor disagree." Inasmuch as the student participants in this pilot study were discouraged to rate the scale if they had not used the vocabulary learning activity before, and the researcher decided to replace these missing data with the 2.5 option, some of the learning activities had a high frequency of 2.5 scores due to this requirement. For example, most of the student participants in the pilot study might not have used *semantic map* and *demonstration* before, so the frequency distribution of 2.5 middle option was 81.3% and 75.9%, respectively. In the real study, the participants will be required to rate the four-point scale whether or not they have experience with the teaching/learning activities. To do so, the researcher deleted the column of "Have you ever used this teaching approach" in the teacher questionnaire, and "Has your current English teacher ever used this teaching approach?" and "Had your previous English teachers ever used this teaching approach" in the student questionnaire in order to avoid the aforementioned situation. For example, the first column of the grid used in the real study will be the 17 vocabulary teaching/learning activities (Figure 3.1). Followed by the 17 vocabulary teaching/learning activities are

the 7 sub-beliefs that aim to understand participants' teaching and learning beliefs.

| | | Sub-belief 1 | Sub-belief 2 | Sub-belief 3 | Sub-belief 4 | Sub-belief 5 | Sub-belief 6 | Sub-belief 7 |
|---|---|---|---|---|---|---|---|---|
| Activity 1 | I think this… | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| Activity 2 | I think this… | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| Activity 3 | I think this… | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| ⋮ | | | | | | | | |
| Activity 16 | I think this… | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| Activity 17 | I think this… | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |

*Figure 3.2* An abbreviated example of the grid used in the real study

Ultimately, Professor Wu (Su-Huei Wu), who is an expert the area of teachers' beliefs, suggested that the concept of the last main category, *strategies*, was too vague to elucidate the participants' specific opinions. Since the range of this category was so wide that it failed to show how effective the certain strategy was, the researcher decided to delete it in order to avoid ambiguity. Accordingly, 4 main categories (*pronunciation and spelling*, *meaning conveyance*, *usage*, and *activities*) that include 17 vocabulary teaching/learning activities will be presented in the questionnaires in the real study (Table 3.1).

### 3.6 Validating the Research Instruments

Validating the teachers' and students' questionnaires is fundamental to this study since the formal data were collected principally using the research instruments. To verify the credibility of the two versions of questionnaires used in this study, reliability analysis and expert validity were conducted.

The results of the reliability analysis are reported in three ways. First, the overall internal-consistency reliability analysis of the 119-item research instrument (17 beliefs on vocabulary teaching/learning activities × 7 sub-beliefs) resulted in .97 (the teacher grid) and .96 (the student grid). Second, the four main categories also reached high values ranging from .89 to .96 (Table 3.10). Third, the estimated reliability for each value of the 7 sub-beliefs exceeded .70, ranging from .76 to .87 (Table 3.11). As the results of Cronbah's α indicates, both questionnaires exhibited acceptable reliability.

Moreover, in order to establish expert validity, a panel of experts, Professor Mei-Hui Liu and Professor Su-Huei Wu, who had conducted research on beliefs, were invited to review to see if the questionnaires reflected teachers' beliefs. As mentioned in the *Pilot Study* section, both experts had confirmed that the two versions of questionnaires were valuable research tools.

**Table 3.10**

*Internal-Consistency Reliability Coefficients for Each Category*

| Main Categories | Vocabulary Teaching/Learning Activities | Cronbach's Alpha |
|---|---|---|
| Overall **(119)** | | T: .97<br>S: .96 |
| Pronunciation and spelling **(28)** | 1. Pronunciation-spelling correspondence<br>2. Pronunciation modeling<br>3. Keyword method<br>4. Association | T: .90<br>S: .90 |
| Meaning conveyance **(49)** | 1. Definition in L1<br>2. Word affixes<br>3. Dictionary look-up<br>4. Synonyms/antonyms<br>5. Visual aids<br>6. Semantic map<br>7. Demonstration | T: .96<br>S: .94 |
| Usage **(14)** | 1. Contextual usage<br>2. Grammatical usage | T: .93<br>S: .92 |
| Activities **(28)** | 1. Extensive reading<br>2. Repeated drills<br>3. Contextual practices<br>4. Cooperative activities | T: .89<br>S: .91 |

**Table 3.11**

*Internal-Consistency Reliability Coefficients for Each Sub-belief*

| Sub-belief Description | Cronbach's Alpha |
|---|---|
| Overall **(119)** | T: .97<br>S: .96 |
| **The activity--** | |
| is effective for word retention **(17)** | T: .86<br>S: .80 |
| motivates students (me) to learn vocabulary **(17)** | T: .84<br>S: .80 |
| is a prior teaching (learning) approach/activity **(17)** | T: .76<br>S: .76 |
| is relevant to students' (my) general English learning needs **(17)** | T: .85<br>S: .82 |
| can promote students' (my) thinking and judging ability **(17)** | T: .86<br>S: .81 |
| helps build students' (my) vocabulary size **(17)** | T: .86<br>S: .82 |
| motivates students (me) to participate in vocabulary learning activity **(17)** | T: .87<br>S: .84 |

# CHAPTER FOUR

# RESULTS AND DISCUSSIONS

This chapter reports statistics and further interpretations of the research findings. Elaborations on the results from the three research questions introduced in Chapter One will be discussed: (a) teachers' vocabulary teaching beliefs; (b) students' vocabulary learning beliefs, and (c) the differences between the teachers' vocabulary teaching beliefs and students' vocabulary learning beliefs. Following the first section's results of the research instruments, findings presented in detail by the sequence of the research questions comprise the second section of this chapter.

## 4.1 Results of the Study

This study incorporated two questionnaires as research instruments. They served as the means to investigate teachers' and students' vocabulary teaching and learning beliefs. Results from the teacher and student grids are reported in the following sections. In addition, the differences between the teachers' and students' beliefs will be displayed using the *t*-test analysis.

### *4.1.1 Results of the Teacher Questionnaire*

To answer the first research question (*What are senior high school EFL teachers' beliefs about English vocabulary teaching approaches?*) the researcher calculated the mean scores in order to describe the teacher participants' general tendencies. To obtain a better understanding of the results, other descriptive statistics, including frequencies of distribution and standard deviations of each item, are presented in Appendices A and B.

The score for teacher participants' beliefs on different teaching approaches was 2.89. The means of the seven sub-beliefs ranged from 2.78 to 3.02, higher than the midpoint (2.5) of the 1 to 4 Likert-scales. The mean score of the teacher participants' beliefs on the first category of vocabulary teaching approach (which requires teachers to use techniques that involved pronunciation and/or spelling as their vocabulary teaching activities) was 2.76 (Table 4.1). Under *pronunciation and spelling* category, the mean scores of the four teaching approaches, (*pronunciation-spelling correspondence*, *pronunciation modeling*, *keyword method* and *association*), were 2.94, 3.14, 2.27, and 2.72, respectively.

**Table 4.1**

*Means Scores in Four Teaching Approaches in Pronunciation and Spelling Category*

| Main Category | Vocabulary Teaching Approaches | Means in Each Vocabulary Teaching Approach |
|---|---|---|
| **Pronunciation & Spelling** | Pronunciation-spelling correspondence | **2.94** |
| | Pronunciation modeling | **3.14** |
| | Keyword method | **2.27** |
| | Association | **2.72** |
| | **Overall Mean Score** | **2.76** |

The values of the 7 sub-beliefs in *pronunciation and spelling* (P&S) category ranged from 2.56 to 3.03. The teacher participants' sub-beliefs on each P&S individual teaching approach ranged from 1.90 to 3.39. Most of the means were between 2.5 to 3; only 5 out of the 28 means were lower than median 2.5 (Table 4.2).

**Table 4.2**

*Means Scores in Pronunciation and Spelling Category in the Teacher Questionnaire*

| Main Category | Vocabulary Teaching Approaches | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Teaching Approach |
|---|---|---|---|---|---|---|---|---|---|
| **Pronunciation & Spelling** | P&S-1[a] | 3.27 | 2.82 | 2.96 | 3.21 | 2.64 | 3.09 | 2.62 | **2.94** |
| | P&S-2 | 3.39 | 2.88 | 3.39 | 3.37 | 2.78 | 3.23 | 2.98 | **3.14** |
| | P&S-3 | 2.58 | 2.82 | 1.96 | 1.92 | 1.90 | 2.19 | 2.58 | **2.27** |
| | P&S-4 | 2.88 | 2.60 | 2.80 | 2.98 | 2.92 | 2.19 | 2.68 | **2.72** |
| | **Overall Means** | 3.03 | 2.78 | 2.77 | 2.87 | 2.56 | 2.67 | 2.71 | **2.76** |

*Note.*

a. P&S-1 represents "Pronunciation-spelling Correspondence", E2 represents "Pronunciation Modeling", E3 represents "Keyword Method", E4 represents "Association".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

The second category of vocabulary teaching approaches, *meaning conveyance*, refers to the ways in which teachers provide word knowledge. The statistics showed that the teacher participants' belief on *meaning conveyance*-related teaching approach was 2.85 (Table 4.3). The presentation of mean results embraces seven teaching approaches in this category, which were *definition in L1* (M = 2.35), *word affixes* (M = 3.27), *dictionary look-up* (M = 2.75), *synonyms/antonyms* (M = 3.18), *visual aids* (M = 2.96), *semantic map* (M = 2.84), and *demonstration* (M = 2.63).

**Table 4.3**

*Means Scores in Seven Teaching Approaches in Meaning Conveyance Category*

| Main Category | Vocabulary Teaching Approaches | Means in Each Vocabulary Teaching Approach |
|---|---|---|
| **Meaning Conveyance** | Definition in L1 | **2.35** |
| | Word affixes | **3.27** |
| | Dictionary look-up | **2.75** |
| | Synonyms/antonyms | **3.18** |
| | Visual aids | **2.96** |
| | Semantic map | **2.84** |
| | Demonstration | **2.63** |
| | **Overall Mean Score** | **2.85** |

The values of the 7 sub-beliefs in the *meaning conveyance* (MC) category ranged from 2.73 to 2.95 (Table 4.4). The highest mean of all the sub-beliefs on each MC category individual teaching approach was 3.45 and the lowest was 2.13. Half of the means were higher than the median of 2.5 with a range of 2.9 to 3.4.

**Table 4.4**

*Means Scores in Meaning Conveyance Category in the Teacher Questionnaire*

| Main Category | Vocabulary Teaching Approaches | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Teaching Approach |
|---|---|---|---|---|---|---|---|---|---|
| Meaning Conveyance | MC-1[a] | 2.54 | 2.23 | 2.45 | 2.52 | 2.13 | 2.41 | 2.23 | **2.35** |
| | MC-2 | 3.37 | 3.07 | 3.25 | 3.31 | 3.31 | 3.45 | 3.19 | **3.27** |
| | MC-3 | 2.84 | 2.52 | 2.45 | 3.03 | 2.90 | 2.94 | 2.60 | **2.75** |
| | MC-4 | 3.19 | 3.01 | 3.19 | 3.29 | 3.25 | 3.35 | 3.03 | **3.18** |
| | MC-5 | 3.11 | 3.19 | 2.74 | 2.92 | 2.72 | 2.92 | 3.15 | **2.96** |
| | MC-6 | 2.92 | 2.90 | 2.58 | 2.90 | 2.86 | 2.92 | 2.80 | **2.84** |
| | MC-7 | 2.72 | 2.98 | 2.49 | 2.45 | 2.37 | 2.52 | 2.90 | **2.63** |
| | **Overall Means** | 2.95 | 2.84 | 2.73 | 2.91 | 2.79 | 2.93 | 2.84 | **2.85** |

*Note.*

a. MC-1 represents "Definition in L1", MC-2 represents "Word Affixes", MC-3 represents "Dictionary Look-up", MC-4 represents "Synonyms/Antonyms", MC-5 represents "Visual Aids", MC-6 represents "Semantic Map", MC-7 represents "Demonstration".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

Teacher beliefs on the third category of vocabulary teaching approaches, *usage* (U), refers to the approaches that teachers adopt in order to assist students in constructing grammatically correct and contextually appropriate sentences. The statistics reported a mean score of 3.12 in this category (Table 4.5). Additionally, the means of the two U category teaching approaches, *contextual usage* and *grammatical usage*, were 3.32 and 2.92.

**Table 4.5**

*Means Scores in Two Teaching Approaches in Usage Category*

| Main Category | Vocabulary Teaching Approaches | Means in Each Vocabulary Teaching Approach |
|---|---|---|
| **Usage** | Contextual usage | **3.32** |
| | Grammatical usage | **2.92** |
| | **Overall Mean Score** | **3.12** |

The values of the 7 sub-beliefs in *usage* category ranged from 2.90 to 3.31. Most of the sub-beliefs on each individual teaching approach were between 2.70 to 3.52, and none of them were lower than the median score of 2.5 (Table 4.6).

**Table 4.6**

*Means Scores in Usage Category in the Teacher Questionnaire*

| Main Category | Vocabulary Teaching Approaches | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Teaching Approach |
|---|---|---|---|---|---|---|---|---|---|
| **Usage** | U-1[a] | 3.35 | 3.11 | 3.37 | 3.52 | 3.45 | 3.33 | 3.17 | **3.32** |
| | U-2 | 3.00 | 2.70 | 2.96 | 3.11 | 2.94 | 3.00 | 2.74 | **2.92** |
| | **Overall Means** | 3.17 | 2.90 | 3.16 | 3.31 | 3.19 | 3.16 | 2.95 | **3.12** |

*Note.*

a. U-1 represents "Contextual Usage", U-2 represents "Grammatical Usage".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

The last category of beliefs on vocabulary teaching approaches, *activities* (A), represents the practices that teachers offer to assist students in processing their word knowledge and further stimulating their long-term memory. Under this category, the four teaching approaches: (*extensive reading*, *repeated drills*, *contextual practices*, and *cooperative activities*) yielded means of 3.26, 2.23, 2.89, and 3.04, respectively

(Table 4.7).

**Table 4.7**

*Means Scores in Four Teaching Approaches in Activities Category*

| Main Category | Vocabulary Teaching Approaches | Means in Each Vocabulary Teaching Approach |
|---|---|---|
| **Activities** | Extensive reading | **3.26** |
| | Repeated drills | **2.23** |
| | Contextual practices | **2.89** |
| | Cooperative activities | **3.04** |
| | **Overall Mean Score** | **2.85** |

The overall mean score of this category was 2.85 with the means of the 7 sub-beliefs ranging between 2.70 to 3.0 (Table 4.8). Further, values of sub-beliefs on each individual teaching approach ranged from 2.03 to 3.47, concentrating between 2.7 to 3.1. Only 6 of the 28 means were lower than the median score of 2.5.

**Table 4.8**

*Means Scores in Activities Category in the Teacher Questionnaire*

| Main Category | Vocabulary Teaching Approaches | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Teaching Approach |
|---|---|---|---|---|---|---|---|---|---|
| **Activities** | A-1[a] | 3.31 | 3.13 | 2.96 | 3.45 | 3.47 | 3.41 | 3.11 | **3.26** |
| | A-2 | 2.70 | 2.05 | 2.19 | 2.29 | 2.09 | 2.31 | 2.03 | **2.23** |
| | A-3 | 3.03 | 2.62 | 2.94 | 2.98 | 3.01 | 2.96 | 2.74 | **2.89** |
| | A-4 | 3.15 | 3.35 | 2.72 | 2.74 | 3.11 | 2.82 | 3.39 | **3.04** |
| | **Overall Means** | 3.04 | 2.78 | 2.70 | 2.86 | 2.92 | 2.87 | 2.81 | **2.85** |

*Note.*

a. A-1 represents "Extensive Reading", A-2 represents "Repeated Drills", A-3 represents "Contextual Practices", A-4 represents "Cooperative Activities".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

A complete table for all the means in the four categories of beliefs about

vocabulary teaching approaches for the Teacher's questionnaire has been compiled for a quick overview in Table 4.9.

**Table 4.9**

*Complete Mean Scores for the Teacher Questionnaire (N = 51)*

| Main Categories | Vocabulary Teaching Approaches | Sub-beliefs | | | | | | | Means in Each Vocabulry Teaching Approach | Means in Each Category |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Vocabulary retention | Motivates ss to learn | Prior teaching method | Relevant to ss' Eng learning needs | Thinking and judging ability | Vocab size | Motivates ss to participate | | |
| **Category P&S** **Pronunciation & Spelling** | 1. Pronunciation-spelling correspondence | 3.27 | 2.82 | 2.96 | 3.21 | 2.64 | 3.09 | 2.62 | **2.94** | **2.76** |
| | 2. Pronunciation modeling | 3.39 | 2.88 | 3.39 | 3.37 | 2.78 | 3.23 | 2.98 | **3.14** | |
| | 3. Keyword method | 2.58 | 2.82 | 1.96 | 1.92 | 1.90 | 2.19 | 2.58 | **2.27** | |
| | 4. Association | 2.88 | 2.60 | 2.80 | 2.98 | 2.92 | 2.19 | 2.68 | **2.72** | |
| **Category MC** **Meaning Conveyance** | 1. Definition in L1 | 2.54 | 2.23 | 2.45 | 2.52 | 2.13 | 2.41 | 2.23 | **2.35** | **2.85** |
| | 2. Word affixes | 3.37 | 3.07 | 3.25 | 3.31 | 3.31 | 3.45 | 3.19 | **3.27** | |
| | 3. Dictionary look-up | 2.84 | 2.52 | 2.45 | 3.03 | 2.90 | 2.94 | 2.60 | **2.75** | |
| | 4. Synonyms/antonyms | 3.19 | 3.01 | 3.19 | 3.29 | 3.25 | 3.35 | 3.03 | **3.18** | |
| | 5. Visual aids | 3.11 | 3.19 | 2.74 | 2.92 | 2.72 | 2.92 | 3.15 | **2.96** | |
| | 6. Semantic map | 2.92 | 2.90 | 2.58 | 2.90 | 2.86 | 2.92 | 2.80 | **2.84** | |
| | 7. Demonstration | 2.72 | 2.98 | 2.49 | 2.45 | 2.37 | 2.52 | 2.90 | **2.63** | |
| **Category U** **Usage** | 1. Contextual usage | 3.35 | 3.11 | 3.37 | 3.52 | 3.45 | 3.33 | 3.17 | **3.32** | **3.12** |
| | 2. Grammatical usage | 3.00 | 2.70 | 2.96 | 3.11 | 2.94 | 3.00 | 2.74 | **2.92** | |
| **Category A** **Activities** | 1. Extensive reading | 3.31 | 3.13 | 2.96 | 3.45 | 3.47 | 3.41 | 3.11 | **3.26** | **2.85** |
| | 2. Repeated drills | 2.70 | 2.05 | 2.19 | 2.29 | 2.09 | 2.31 | 2.03 | **2.23** | |
| | 3. Contextual practices | 3.03 | 2.62 | 2.94 | 2.98 | 3.01 | 2.96 | 2.74 | **2.89** | |
| | 4. Cooperative activities | 3.15 | 3.35 | 2.72 | 2.74 | 3.11 | 2.82 | 3.39 | **3.04** | |
| | **Overall Means** | **3.02** | **2.82** | **2.78** | **2.94** | **2.81** | **2.88** | **2.82** | | **2.89** |

### *4.1.2 Results of the Student Questionnaire*

This section intends to address the second research question (*What are senior high school EFL students' beliefs concerning vocabulary learning activities?*) by providing mean scores for the student questionnaires. Other statistics such as the frequencies of distribution and standard deviations are exhibited in Appendices A and B.

The overall mean score for student participants' beliefs about different vocabulary learning activities was 2.77. The values of the seven sub-beliefs were higher but close to the median of 2.5, ranging from 2.62 to 2.89 (Table 4.10). The mean score of the first category of beliefs on vocabulary learning activities, *pronunciation and spelling,* was 2.77. Under P&S category, the four vocabulary learning activities were *pronunciation-spelling correspondence* (M = 2.86), *pronunciation modeling* (M = 3.10), *keyword method* (M = 2.53) and *association* (M = 2.61).

**Table 4.10**

*Means Scores in Four Learning Activities in Pronunciation and Spelling Category*

| Main Category | Vocabulary Learning Activities | Means in Each Vocabulary Learning Activity |
|---|---|---|
| **Pronunciation & Spelling** | Pronunciation-spelling correspondence | **2.86** |
| | Pronunciation modeling | **3.10** |
| | Keyword method | **2.53** |
| | Association | **2.61** |
| | **Overall Mean** | **2.77** |

The values of the 7 sub-beliefs in *pronunciation and spelling* category ranged between 2.61 and 3.10 (Table 4.11). The means in each sub-belief on each individual learning activity ranged from 2.26 to 3.34, with more than half of them exceeding 2.5 to 3.0. However, only 7 out of 28 mean scores were higher than 3.0.

**Table 4.11**

*Means Scores in Pronunciation and Spelling Category in the Student Questionnaire*

| Main Category | Vocabulary Learning Activities | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Learning Activity |
|---|---|---|---|---|---|---|---|---|---|
| **Pronunciation & Spelling** | P&S-1[a] | 3.08 | 2.65 | 2.85 | 2.96 | 2.88 | 2.94 | 2.66 | **2.86** |
| | P&S-2 | 3.34 | 2.90 | 3.19 | 3.27 | 3.05 | 3.13 | 2.89 | **3.10** |
| | P&S-3 | 3.34 | 2.55 | 2.30 | 2.26 | 2.38 | 2.49 | 2.45 | **2.53** |
| | P&S-4 | 2.65 | 2.47 | 2.44 | 2.71 | 2.78 | 2.76 | 2.47 | **2.61** |
| | **Overall Means** | 3.10 | 2.64 | 2.69 | 2.80 | 2.77 | 2.83 | 2.61 | **2.77** |

*Note.*

a. P&S-1 represents "Pronunciation-spelling Correspondence", E2 represents "Pronunciation Modeling", E3 represents "Keyword Method", E4 represents "Association".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

As for the second category of beliefs on vocabulary learning activities, *meaning conveyance*, for processing new vocabulary in an attempt to consolidate word definitions, the statistics exhibited a mean score of 2.63 (Table 4.12). Under this category, the seven vocabulary learning activities (*definition in L1*, *word affixes*, *dictionary look-up*, *synonyms/antonyms*, *visual aids*, *semantic map*, and *demonstration*) had means of 2.57, 2.70, 2.64, 2.83, 2.68, 2.51, and 2.52, respectively.

**Table 4.12**

*Means Scores in Seven Learning Activities in Meaning Conveyance Category*

| Main Category | Vocabulary Learning Activities | Means in Each Vocabulary Learning Activity |
|---|---|---|
| **Meaning Conveyance** | Definition in L1 | **2.57** |
| | Word affixes | **2.70** |
| | Dictionary look-up | **2.64** |
| | Synonyms/antonyms | **2.83** |
| | Visual aids | **2.68** |
| | Semantic map | **2.51** |
| | Demonstration | **2.52** |
| | **Overall Mean Score** | **2.63** |

The means of the 7 sub-beliefs in the MC category ranged from 2.49 to 2.72 (Table 4.13). The sub-belief on each individual learning activity had means ranging from 2.33 to 2.97. Most of the means were close to the median score of 2.5, (between 2.45 to 2.60); however, none of the means were higher than 3.0.

**Table 4.13**

*Means Scores in Meaning Conveyance Category in the Student Questionnaire*

| Main Category | Vocabulary Learning Activities | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in each Vocabulary Learning Activity |
|---|---|---|---|---|---|---|---|---|---|
| Meaning Conveyance | MC-1[a] | 2.61 | 2.48 | 2.53 | 2.73 | 2.54 | 2.65 | 2.48 | **2.57** |
| | MC-2 | 2.81 | 2.55 | 2.59 | 2.79 | 2.82 | 2.80 | 2.58 | **2.70** |
| | MC-3 | 2.75 | 2.50 | 2.48 | 2.76 | 2.69 | 2.78 | 2.53 | **2.64** |
| | MC-4 | 2.92 | 2.69 | 2.66 | 2.93 | 2.97 | 2.96 | 2.73 | **2.83** |
| | MC-5 | 2.79 | 2.75 | 2.50 | 2.59 | 2.74 | 2.72 | 2.72 | **2.68** |
| | MC-6 | 2.57 | 2.48 | 2.33 | 2.48 | 2.64 | 2.60 | 2.50 | **2.51** |
| | MC-7 | 2.60 | 2.62 | 2.37 | 2.41 | 2.58 | 2.54 | 2.58 | **2.52** |
| | **Overall Means** | 2.72 | 2.58 | 2.49 | 2.67 | 2.71 | 2.72 | 2.58 | **2.63** |

*Note.*

a. MC-1 represents "Definition in L1", MC-2 represents "Word Affixes", MC-3 represents "Dictionary Look-up", MC-4 represents "Synonyms/Antonyms", MC-5 represents "Visual Aids", MC-6 represents "Semantic Map", MC-7 represents "Demonstration".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

Regarding the third category of beliefs on vocabulary learning activities, *usage*, students need to know how and when to use words properly by learning contextual grammatical knowledge. This category had a mean of 2.86 (Table 4.14). Under this category, two vocabulary learning activities, *contextual usage* and *grammatical usage*, received a value of 2.98 and 2.75, respectively.

**Table 4.14**

*Means Scores in Two Learning Activities in Usage Category*

| Main Category | Vocabulary Learning Activities | Means in Each Vocabulary Learning Activity |
|---|---|---|
| **Usage** | Contextual usage | **2.98** |
| | Grammatical usage | **2.75** |
| | **Overall Mean Score** | **2.86** |

The values of the 7 sub-beliefs in *usage* category ranged from 2.71 to 2.99 (Table 4.15). Overall, the means of each sub-belief for each individual learning activity fell between 2.57 to 3.08, and nearly half of them were between 2.8 to 2.9, yet none were lower than the median score of 2.5.

**Table 4.15**

*Means Scores in Usage Category in the Student Questionnaire*

| Main Category | Vocabulary Learning Activities | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Learning Activity |
|---|---|---|---|---|---|---|---|---|---|
| **Usage** | U-1[a] | 3.07 | 2.85 | 2.88 | 3.07 | 3.08 | 3.03 | 2.89 | **2.98** |
| | U-2 | 2.82 | 2.57 | 2.66 | 2.91 | 2.87 | 2.82 | 2.65 | **2.75** |
| | **Overall Means** | 2.94 | 2.71 | 2.77 | 2.99 | 2.97 | 2.92 | 2.77 | **2.86** |

*Note.*

a. U-1 represents Element one, "Contextual Usage", U-2 represents Element two, "Grammatical Usage".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

Finally, student beliefs for the last category of learning activities, *activities*, which involves students actively practicing how to process and analyze words in class, presented a mean score of 2.84 (Table 4.16). The four vocabulary learning activities under this category comprise *extensive reading, repeated drills, contextual*

*practices*, and *cooperative activities,* and had means of 2.89, 2.76, 2.81, and 2.90, respectively.

**Table 4.16**

*Means Scores in Four Learning Activities in Activities Category*

| Main Category | Vocabulary Learning Activities | Means in Each Vocabulary Learning Activity |
|---|---|---|
| **Activities** | Extensive reading | **2.89** |
| | Repeated drills | **2.76** |
| | Contextual practices | **2.81** |
| | Cooperative activities | **2.90** |
| | **Overall Mean Score** | **2.84** |

In general, the values of the 7 sub-beliefs in *activities* category ranged from 2.72 to 2.94 (Table 4.17). Moreover, the means of each sub-belief in each individual learning activity ranged from 2.57 to 3.07. Over half of the means were between 2.7 to 3.0, and none of them were lower than the median score of 2.5.

**Table 4.17**

*Means Scores in Activities Category in the Student Questionnaire*

| Main Category | Vocabulary Learning Activities | Sb-1[b] | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means in Each Vocabulary Learning Activity |
|---|---|---|---|---|---|---|---|---|---|
| **Activities** | A-1[a] | 2.93 | 2.77 | 2.71 | 3.00 | 3.00 | 3.02 | 2.80 | **2.89** |
| | A-2 | 2.98 | 2.58 | 2.79 | 2.88 | 2.64 | 2.90 | 2.57 | **2.76** |
| | A-3 | 2.90 | 2.64 | 2.66 | 2.95 | 2.95 | 2.91 | 2.69 | **2.81** |
| | A-4 | 2.97 | 3.07 | 2.72 | 2.76 | 2.92 | 2.88 | 3.00 | **2.90** |
| | **Overall Means** | 2.94 | 2.76 | 2.72 | 2.89 | 2.87 | 2.92 | 2.76 | **2.84** |

*Note.*

a. A-1 represents "Extensive Reading", A-2 represents "Repeated Drills", A-3 represents "Contextual Practices", A-4 represents "Cooperative Activities".

b. Sb-1 represents "vocabulary retention", Sb-2 represents "motivates students to learn", Sb-3 represents "prior teaching method", Sb-4 represents "relevant to students' English learning needs", Sb-5 represents "thinking and judging ability", Sb-6 represents "vocabulary size", Sb-7 represents "motivates students to participate".

All the mean scores in the four categories of beliefs on vocabulary learning activities in the Student's questionnaire are present in Table 4.18 to offer a complete overview.

**Table 4.18**

*Complete Mean Scores in the Student Version Questionnaire (N = 982)*

| Main Categories | Vocabulary Learning Activities | Sub-beliefs | | | | | | | Means in Each Vocabulary Learning Activity | Means in Each Category |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Vocabulary retention | Motivates me to learn | Prior learning method | Relevant to my Eng learning needs | Thinking and judging ability | Vocab size | Motivates me to participate | | |
| **Category P&S** **Pronunciation & Spelling** | 1. Pronunciation-spelling correspondence | 3.08 | 2.65 | 2.85 | 2.96 | 2.88 | 2.94 | 2.66 | **2.86** | **2.77** |
| | 2. Pronunciation modeling | 3.34 | 2.90 | 3.19 | 3.27 | 3.05 | 3.13 | 2.89 | **3.10** | |
| | 3. Keyword method | 3.34 | 2.55 | 2.30 | 2.26 | 2.38 | 2.49 | 2.45 | **2.53** | |
| | 4. Association | 2.65 | 2.47 | 2.44 | 2.71 | 2.78 | 2.76 | 2.47 | **2.61** | |
| **Category MC** **Meaning Conveyance** | 1. Definition in L1 | 2.61 | 2.48 | 2.53 | 2.73 | 2.54 | 2.65 | 2.48 | **2.57** | **2.63** |
| | 2. Word affixes | 2.81 | 2.55 | 2.59 | 2.79 | 2.82 | 2.80 | 2.58 | **2.70** | |
| | 3. Dictionary look-up | 2.75 | 2.50 | 2.48 | 2.76 | 2.69 | 2.78 | 2.53 | **2.64** | |
| | 4. Synonyms/antonyms | 2.92 | 2.69 | 2.66 | 2.93 | 2.97 | 2.96 | 2.73 | **2.83** | |
| | 5. Visual aids | 2.79 | 2.75 | 2.50 | 2.59 | 2.74 | 2.72 | 2.72 | **2.68** | |
| | 6. Semantic map | 2.57 | 2.48 | 2.33 | 2.48 | 2.64 | 2.60 | 2.50 | **2.51** | |
| | 7. Demonstration | 2.60 | 2.62 | 2.37 | 2.41 | 2.58 | 2.54 | 2.58 | **2.52** | |
| **Category U** **Usage** | 1. Contextual usage | 3.07 | 2.85 | 2.88 | 3.07 | 3.08 | 3.03 | 2.89 | **2.98** | **2.86** |
| | 2. Grammatical usage | 2.82 | 2.57 | 2.66 | 2.91 | 2.87 | 2.82 | 2.65 | **2.75** | |
| **Category A** **Activities** | 1. Extensive reading | 2.93 | 2.77 | 2.71 | 3.00 | 3.00 | 3.02 | 2.80 | **2.89** | **2.84** |
| | 2. Repeated drills | 2.98 | 2.58 | 2.79 | 2.88 | 2.64 | 2.90 | 2.57 | **2.76** | |
| | 3. Contextual practices | 2.90 | 2.64 | 2.66 | 2.95 | 2.95 | 2.91 | 2.69 | **2.81** | |
| | 4. Cooperative activities | 2.97 | 3.07 | 2.72 | 2.76 | 2.92 | 2.88 | 3.00 | **2.90** | |
| | **Overall Means** | **2.89** | **2.65** | **2.62** | **2.79** | **2.79** | **2.81** | **2.65** | | **2.77** |

### *4.1.3 Results of the Differences between the Teacher and the Student Questionnaires*

The researcher used two data analytical procedures to investigate the third research question, *What are, if any, significant differences between senior high school EFL teachers' and senior high school EFL students' beliefs about vocabulary teaching and learning?* First, the mean score differences between teacher participants' and student participants' were compared and analyzed. It's note worthy that student participants' mean scores were subtracted from teachers participants' mean scores. Second, a *t*-test was conducted to search for significant differences between the beliefs of the teacher participants' and student participants' beliefs. The researcher examined the scatter plots on the Quantile-Quantile Plot (Q-Q plot) and the results from the Kolmogorov-Smirnov test among the 119 items in both the teacher and student questionnaires to see whether the frequency data were normally distributed. Most of the scatter graphs among the 119 items in both teacher and student questionnaires presented straight lines; moreover, most of the *p* values among the 119 items in teacher and student questionnaires from the Kolmogorov-Smirnov test exceeded 0.05, which indicated normal distributions. Therefore, the researcher confirmed the frequency data in both the teacher and student questionnaires were close to normal distribution so that the results from the

independent *t*-test would be potentially valid. The complete results of the difference in the means between the two groups in this study and *p* values from *t*-test analysis from the two versions of questionnaires are provided in Table 4.21. The asterisks in Table 4.19 indicate significant differences ($p < .05$, two-tailed) between the teacher participants' and the student participants' mean scores.

**Table 4.19**

*Mean Score Differences between the Teacher and the Student Scores*

| Main Categories | Vocabulary Teaching/Learning Activities | Sub-beliefs | | | | | | | Means Score Differences in Each Activity | Means Score Differences in Each Category |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Vocabulary retention | Motivates ss(me) to learn | Prior teaching/ learning method | Relevant to ss'(my) Eng learning needs | Thinking and judging ability | Vocab size | Motivates ss(me) to participate | | |
| **Category P&S** Pronunciation & Spelling | 1. Pronunciation-spelling correspondence | -0.19* | -0.17* | -0.11* | -0.25* | -0.24* | -0.15* | -0.04* | **-0.08*** | **0.01** |
| | 2. Pronunciation modeling | -0.05* | -0.02* | -0.20* | -0.10* | -0.27* | -0.10* | -0.09* | **-0.04*** | |
| | 3. Keyword method | -0.76* | -0.27* | -0.34* | -0.34* | -0.48* | -0.30* | -0.13* | **-0.26*** | |
| | 4. Association | -0.23* | -0.13* | -0.36* | -0.27* | -0.14* | -0.57* | -0.21- | **-0.11*** | |
| **Category MC** Meaning Conveyance | 1. Definition in L1 | -0.07* | -0.25* | -0.08* | -0.21* | -0.41* | -0.24* | -0.25* | **-0.22*** | **0.22*** |
| | 2. Word affixes | -0.56* | -0.52* | -0.66* | -0.52* | -0.49* | -0.65* | -0.61* | **-0.57*** | |
| | 3. Dictionary look-up | -0.09* | -0.02* | -0.03* | -0.27* | -0.21* | -0.16* | -0.07* | **-0.11*** | |
| | 4. Synonyms/antonyms | -0.27* | -0.32* | -0.53* | -0.36* | -0.28* | -0.39* | -0.30* | **-0.35*** | |
| | 5. Visual aids | -0.32* | -0.44* | -0.24* | -0.33* | -0.02* | -0.20* | -0.43* | **-0.28*** | |
| | 6. Semantic map | -0.35* | -0.42* | -0.25* | -0.42* | -0.22* | -0.32* | -0.30* | **-0.33*** | |
| | 7. Demonstration | -0.12* | -0.36* | -0.12* | -0.04* | -0.21* | -0.02* | -0.32* | **-0.11*** | |
| **Category U** Usage | 1. Contextual usage | -0.28* | -0.26* | -0.49* | -0.45* | -0.37* | -0.30* | -0.28* | **-0.34*** | **0.26*** |
| | 2. Grammatical usage | -0.18* | -0.13* | -0.30* | -0.20* | -0.07* | -0.18* | -0.09* | **-0.17*** | |
| **Category A** Activities | 1. Extensive reading | -0.38* | -0.36* | -0.25* | -0.45* | -0.47* | -0.39* | -0.31* | **-0.37*** | **0.01** |
| | 2. Repeated drills | -0.28* | -0.53* | -0.60* | -0.59* | -0.55* | -0.59* | -0.54* | **-0.53*** | |
| | 3. Contextual practices | -0.13* | -0.02* | -0.28* | -0.03* | -0.06* | -0.05* | -0.05* | **-0.08*** | |
| | 4. Cooperative activities | -0.18* | -0.28* | -0.00* | -0.02* | -0.19* | -0.06* | -0.39* | **-0.14*** | |
| | **Mean Differences** | **0.13*** | **0.17*** | **0.16*** | **0.15*** | **0.02** | **0.07** | **0.17*** | | **0.12*** |

*Note.*

1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

Calculations of the differences in the means from the four categories of beliefs on vocabulary teaching/learning activities and the seven sub-beliefs yielded 0.12 (Table 4.19). By and large, significant differences were found between teacher participants' and student participants' beliefs ($p$ = .02*). The differences in the means between the teachers and students for the seven sub-beliefs are presented below. Five significant differences were found in the seven sub-beliefs; they were *word retention*, 0.13 ($p$ = .04*), *motivated to learn*, 0.17 ($p$ = .00*), *priority*, 0.16 ($p$ = .00*), *relevance*, 0.15 ($p$ = .02*), and *motivated to participate*, 0.17 ($p$ = .01*). The two non-significant comparisons were *thinking and judging ability*, 0.02 ($p$ = .79) and *vocabulary size*, 0.07 ($p$ = .35).

Among the four categories of beliefs on vocabulary teaching/learning activities, for the first category, P&S, the difference between the means was 0.01 (Table 4.20), showing no significant difference between the two groups in this study ($p$ = .44). Under this category, the differences in the means of the four vocabulary teaching/learning activities were: 1) 0.08 ($p$ = .35), 2) 0.04 ($p$ = .70), 3) -0.26 ($p$ = .01*), and 4) 0.11 ($p$ = .02*), respectively. Significant differences were found in two of the four vocabulary teaching/learning activities.

**Table 4.20**

*Means Score Differences in Four Teaching/Learning Activities in Pronunciation and Spelling Category*

| Main Category | Vocabulary Teaching/Learning Activities | Means Score Differences |
|---|---|---|
| **Pronunciation & Spelling** | Pronunciation-spelling correspondence | **0.08** |
| | Pronunciation modeling | **0.04** |
| | Keyword method | **- 0.26*** |
| | Association | **0.11*** |
| | **Category result** | **0.01** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

The differences in the means of the 7 sub-beliefs in the P&S category ranged from 0.07 to 0.21 with only one sub-belief, *thinking and judging ability*, show significant differences between the teacher and student participants (Table 4.21). The differences in the means of the teacher and student participants' sub-beliefs on each individual teaching/learning activity in this category ranged from 0.02 to 0.76, and the *p* values had a range of .83 to .00*.

**Table 4.21**

*Means Score Differences in Pronunciation and Spelling Category*

| Main Category | Vocabulary Teaching/Learning Activities | Sb-1 | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means Score Differences |
|---|---|---|---|---|---|---|---|---|---|
| Pronunciation & Spelling | P&S-1 | -0.19* | -0.17* | -0.11* | -0.25* | -0.24* | -0.15* | -0.04* | **0.08** |
| | P&S-2 | -0.05* | -0.02* | -0.20* | -0.10* | -0.27* | -0.10* | -0.09* | **0.04** |
| | P&S-3 | -0.76* | -0.27* | -0.34* | -0.34* | -0.48* | -0.30* | -0.13* | **- 0.26*** |
| | P&S-4 | -0.23* | -0.13* | -0.36* | -0.27* | -0.14* | -0.57* | -0.21- | **0.11*** |
| | | -0.07 | 0.14 | 0.08 | 0.07 | -0.21* | -0.16 | 0.10 | **0.01** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

For the second category of beliefs about vocabulary teaching/learning activities, *meaning conveyance*, the differences in the means reached a value of 0.22 (Table 4.22) and was significantly different ($p$ = .00*). For the seven teaching/learning activities under *meaning conveyance* category, *definition in L1* the difference in the means was -0.22. For *word affixes* it was 0.57; for *dictionary look-up*, 0.11; for *synonyms/antonyms*, 0.35, for *visual aids*, 0.28; for *semantic map*, 0.33, and for *demonstration*, 0.11. Aside from the aforementioned results, the $p$ values exhibited significant differences across all sub-categories, except for the two exceptions, *dictionary look-up* ($p$ = .25) and *demonstration* ($p$ = .36).

**Table 4.22**

*Means Score Differences in Seven Teaching/Learning Activities in Meaning Conveyance Category*

| Main Category | Vocabulary Teaching/Learning Activities | Means Score Differences |
|---|---|---|
| Meaning Conveyance | Definition in L1 | **- 0.22*** |
| | Word affixes | **0.57*** |
| | Dictionary look-up | **0.11*** |
| | Synonyms/antonyms | **0.35*** |
| | Visual aids | **0.28*** |
| | Semantic map | **0.33*** |
| | Demonstration | **0.11*** |
| | **Category result** | **0.22*** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

The differences in the means for the 7 sub-beliefs in the *meaning conveyance* category ranged from 0.08 to 0.26 (Table 4.23). Except for the sub-beliefs about *thinking and judging ability*, the other 6 sub-beliefs exhibited significant differences between the teacher and student participants. Further, the sub-beliefs for each individual teaching/learning activity in the *meaning conveyance* category revealed differences in the means that ranged from 0.02 to 0.66, and the *p* values that ranged from .76 to .00*.

**Table 4.23**

*Means Score Differences in Meaning Conveyance Category*

| Main Category | Vocabulary Teaching/Learning Activities | Sb-1 | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means Score Differences |
|---|---|---|---|---|---|---|---|---|---|
| Meaning Conveyance | MC-1 | -0.07* | -0.25* | -0.08* | -0.21* | -0.41* | -0.24* | -0.25* | **- 0.22*** |
| | MC-2 | -0.56* | -0.52* | -0.66* | -0.52* | -0.49* | -0.65* | -0.61* | **0.57*** |
| | MC-3 | -0.09* | -0.02* | -0.03* | -0.27* | -0.21* | -0.16* | -0.07* | **0.11** |
| | MC-4 | -0.27* | -0.32* | -0.53* | -0.36* | -0.28* | -0.39* | -0.30* | **0.35*** |
| | MC-5 | -0.32* | -0.44* | -0.24* | -0.33* | -0.02* | -0.20* | -0.43* | **0.28*** |
| | MC-6 | -0.35* | -0.42* | -0.25* | -0.42* | -0.22* | -0.32* | -0.30* | **0.33*** |
| | MC-7 | -0.12* | -0.36* | -0.12* | -0.04* | -0.21* | -0.02* | -0.32* | **0.11** |
| | | 0.23* | 0.26* | 0.24* | 0.24* | 0.08 | 0.21* | 0.26* | **0.22*** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

The difference in the means of the third category of beliefs about vocabulary teaching/learning activities, *usage*, was 0.26 (Table 4.24). The teacher participants and the student participants exhibited diverse beliefs in this category ($p$ = .00*). Under *usage* category, the teacher participants' and the student participants' the differences in the means in *contextual usage* was 0.34 and also indicated a significant difference value ($p$ = .00*). On the other hand, the means for the teacher participants' and the student participants in *grammatical usage* differed by 0.17. No significant difference was found ($p$ = .11).

**Table 4.24**

*Means Score Differences in Two Teaching/Learning Activities in Usage Category*

| Main Category | Vocabulary Teaching/Learning Activities | Means Score Differences |
|---|---|---|
| **Usage** | Contextual usage | **0.34*** |
| | Grammatical usage | **0.17** |
| | **Category result** | **0.26*** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

The differences in the means in the 7 sub-beliefs of the *usage* category ranged between 0.18 and 0.39 (Table 4.25). Significant differences were demonstrated for 5 out of 7 sub-beliefs. A total of fourteen sub-beliefs on each individual teaching/learning activities showed differences in the means ranging from 0.07 to 0.49; with the *p* values ranging from .58 to .00*.

**Table 4.25**

*Means Score Differences in Usage Category*

| Main Category | Vocabulary Teaching/Learning Activities | Sb-1 | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means Score Differences |
|---|---|---|---|---|---|---|---|---|---|
| **Usage** | U-1 | -0.28* | -0.26* | -0.49* | -0.45* | -0.37* | -0.30* | -0.28* | **0.34*** |
| | U-2 | -0.18* | -0.13* | -0.30* | -0.20* | -0.07* | -0.18* | -0.09* | **0.17** |
| | | 0.23* | 0.19 | 0.39* | 0.32* | 0.22* | 0.24* | 0.18 | **0.26*** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

The difference in the means in the fourth category of beliefs for vocabulary teaching/learning activities, *activities*, was 0.01 (Table 4.26). However, the teacher and student participants' mean scores in this category did not reach the specified .05

significance level ($p$ = .76). The four teaching/learning activities under *activities* category included *extensive reading*, *repeated drills*, *contextual practices*, and *cooperative activities*, which received differences and the $p$ values of 0.39 ($p$ = .00*), -0.53 ($p$ = .00*), 0.08 ($p$ = .32), and 0.14 ($p$ = .10), respectively.

**Table 4.26**

*Means Score Differences in Four Teaching/Learning Activities in Activities Category*

| Main Category | Vocabulary Teaching/Learning Activities | Means Score Differences |
|---|---|---|
| **Activities** | Extensive reading | **0.37*** |
| | Repeated drills | **- 0.53*** |
| | Contextual practices | **0.08** |
| | Cooperative activities | **0.14** |
| | **Category result** | **0.01** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

The differences in the means of the 7 sub-beliefs in *activities* category ranged from 0.02 to 0.10 (Table 4.27). None of the 7 sub-beliefs showed significant differences between the teacher and student participants. The differences in the means of the sub-beliefs for each individual teaching/learning activity in this category were between 0.00 and 0.60.

**Table 4.27**

*Means Score Differences in Activities Category*

| Main Category | Vocabulary Teaching/Learning Activities | Sb-1 | Sb-2 | Sb-3 | Sb-4 | Sb-5 | Sb-6 | Sb-7 | Means Score Differences |
|---|---|---|---|---|---|---|---|---|---|
| Activities | A-1 | -0.38* | -0.36* | -0.25* | -0.45* | -0.47* | -0.39* | -0.31* | **0.37*** |
| | A-2 | -0.28* | -0.53* | -0.60* | -0.59* | -0.55* | -0.59* | -0.54* | **- 0.53*** |
| | A-3 | -0.13* | -0.02* | -0.28* | -0.03* | -0.06* | -0.05* | -0.05* | **0.08** |
| | A-4 | -0.18* | -0.28* | -0.00* | -0.02* | -0.19* | -0.06* | -0.39* | **0.14** |
| | | 0.10 | 0.02 | -0.02 | -0.03 | 0.05 | -0.05 | 0.05 | **0.01** |

*Note.*
1. An asterisk (*) represents the significant difference between the teacher and student participants.
2. Student participants' mean scores were subtracted from teacher participants' mean scores.

To identify whether the level of significance found in the *t*-test truly reflected differences between the two groups (teachers and students), an effect size test was performed. Effect size is a statistical concept that measures the strength of the relationship between the scores of the two groups (teachers and students). Statistical effect size helps us determine if the differences are real or if they are due to a change in some factor such as a demographic characteristic of the participants. Hence, the greater the effect size, the greater the differences between two variables will be. One of the ways to interpret effect sizes is to adopt what Cohen (1969, as cited in Coe, 2002) proposed: if Cohen's *d* value is between 0.2 to 0.5, the differences between the two variables is a *small* effect. Conversely, if Cohen's *d* value is between 0.5 to 0.8, the differences between the two variables is a *medium* effect, and "is large enough to be visible to the naked eye" (Cohen 1969, p23, as cited in Coe, 2002), which means the effect size is strong enough to demonstrate the level of significance that *t*-test

estimated. Last, if Cohen's *d* value exceeds 0.8, it is defined as a *large* effect and illustrated as a "grossly perceptible and therefore large effect" (Cohen 1969, p23, as cited in Coe, 2002).

To determine the strength of the effect found in the analyses of the differences in the means of the teacher participants' and the student participants' mean differences, Cohen's *d* values for the overall items, the four main categories of beliefs on vocabulary teaching and learning activities, and the seven sub-beliefs, were computed. The overall Cohen's *d* of the entire grid composed of 119 items, as seen in Table 4.28, was 0.62, a medium effect. Additionally, the *pronunciation and spelling* category was a borderline small effect with a value of 0.20; the *meaning conveyance* category was a large effect, 0.90; the *usage* category yielded medium effect, 0.79; while the *activities* category had only a very small effect, 0.07.

**Table 4.28**

*Cohen's d Value, Overall and in each of the Four Main Category*

| Main Categories | Vocabulary Teaching/Learning Activities | D Value |
|---|---|---|
| Overall **(119)** | | 0.62 |
| Pronunciation and spelling **(28)** | 1. Pronunciation-spelling correspondence<br>2. Pronunciation modeling<br>3. Keyword method<br>4. Association | 0.20 |
| Meaning conveyance **(49)** | 1. Definition in L1<br>2. Word affixes<br>3. Dictionary look-up<br>4. Synonyms/antonyms<br>5. Visual aids<br>6. Semantic map<br>7. Demonstration | 0.90 |
| Usage **(14)** | 1. Contextual usage<br>2. Grammatical usage | 0.79 |
| Activities **(28)** | 1. Extensive reading<br>2. Repeated drills<br>3. Contextual practices<br>4. Cooperative activities | 0.07 |

As a final step to the second phase of this study, the effect sizes in each sub-belief were also calculated. Five out of seven sub-beliefs, *word retention*, *motivates students to learn*, *prior approach*, *relevance*, and *motivates students to participate*, exhibited medium effects of 0.56, 0.72, 0.75, 0.64, and 0.65, respectively (Table 4.29). However, the other 2 sub-beliefs, *thinking and judging ability* and *vocabulary size*, demonstrated only a small effect with *d* values of 0.06

and 0.25.

**Table 4.29**

*Cohen's d Value, Overall Item and in Each Sub-belief*

| Sub-belief Description | D Value |
|---|---|
| Overall **(119)** | 0.62 |
| **The activity--** | |
| is effective for word retention **(17)** | 0.56 |
| motivates students (me) to learn vocabulary **(17)** | 0.72 |
| is a prior teaching (learning) approach/activity **(17)** | 0.75 |
| is relevant to students' (my) general English learning needs **(17)** | 0.64 |
| can promote students' (my) thinking and judging ability **(17)** | 0.06 |
| helps build students' (my) vocabulary size **(17)** | 0.25 |
| motivates students (me) to participate in vocabulary learning activity **(17)** | 0.65 |

## 4.2 Discussion on Findings

The following section discusses the three research questions directing this study. The first question explores teachers' beliefs about effective vocabulary approaches, while the second investigates student beliefs about effective vocabulary learning activities. Finally, the two groups' beliefs were compared based on the results of the two versions of questionnaires conducted in the present study.

In the discussion section that follows, the mean scores of beliefs on specific teaching approaches and learning activities that are higher than 3 are qualified as *agree* and those lower than the median score of 2.5 are discussed in detail. The rationale is that if the mean score is higher than 3, the participants' beliefs about the particular instruction or learning activity are positive. Conversely, if the mean score is lower than the median, the belief is deemed negative. Instead of the mean score of 2.25 to 2.75, representing the true median of the 4 point scale, the researcher raises the median to 2.5 to 3, which will be defined as having moderate to somewhat positive beliefs since very few participants have rated their positions as 1 (Figure 4.1).

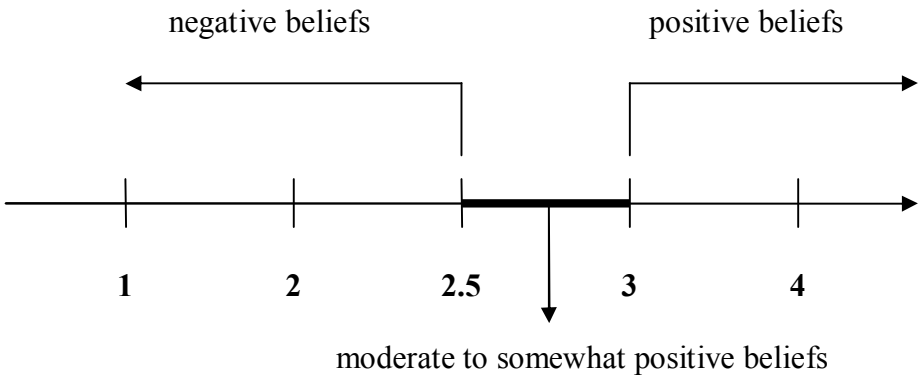


*Figure 4.1* The rationale of belief interpretation

### *4.2.1 Discussion on the Teacher Questionnaire*

The first research question concerns analysis of the teacher questionnaire. According to the results, the teacher participants' beliefs on different teaching approaches fell into the range of moderate to positive (M = 2.89). This indicates that a majority of teachers in this study considered most of the teaching approaches were somewhat useful for vocabulary learning. They also expressed their faith in the effectiveness of these vocabulary instructions (Table 4.11).

The main category that warranted the strongest preferences from the teacher participants is *usage* (M = 3.12). This category concerns two teaching approaches, *contextual usage* and *grammatical usage*. Under *usage* category, the teacher participants appeared to have a significant partiality to the teaching approach of *contextual usage* (M = 3.32). A majority of teachers in this study adhered to the belief

that by using *contextual usage* instruction, students can prolong their vocabulary retention (Sb-1, M = 3.35) and gain a great quantity of vocabulary (Sb-6, M = 3.33). Moreover, this motivates students to learn vocabulary (Sb-2, M = 3.11) and to participate in class (Sb-7, M = 3.17). Further, it is relevant to students' English learning needs (Sb-4, M = 3.52), and can promote students' thinking and judging ability (Sb-5, M = 3.45). It thus comprises the majority of teachers' prior teaching methods (Sb-3, M = 3.37). The use of context does remarkably affect the vocabulary-learning outcome. Some researchers assure that vocabulary must be presented using examples so that it could be helpful for increasing comprehension (Hu, 2002; Lee, 1994). To be more specific, teacher participants' beliefs in this study are highly reflective of the findings reported in Chen's (2005) research. The four teacher participants in Chen's study all argued that *contextual usage* is an effective and essential teaching instruction. They said that constructing phrasal and situational contexts provides examples of practical applications for students to use in their daily lives or on tests. Moreover, by teaching sentential usage, teachers can provide more encounters with vocabulary to be learned, so students can increase their vocabulary size (Sb-6, M = 3.33).

The next inclination manifested by the teacher participants were the two main categories, *meaning conveyance* (M = 2.85) and *activities* (M = 2.85). Of the seven

teaching approaches (*definition/translation in Chinese, word affixes, dictionary look-up, synonyms/antonyms, visual aids, semantic map and demonstration*) in the *meaning conveyance* category, the teacher participants were more positive about *word affixes* (M = 3.27) and *synonyms/antonyms* (M = 3.18), and least positive about *definition in L1* (M = 2.35). The teachers in this study revealed a strong predilection for *word affix* and agreed with the seven sub-beliefs (mean scores ranged form 3.07 to 3.45). It is understandable why the teacher participants expressed positive beliefs on *word affix* instruction. A number of researchers (Blachowicz, et. al, 2006; Castle, 1988; Hong, 1988; Liu, 1997) suggested that teaching how to analyze word structures is a recommended vocabulary teaching method. Teachers in some empirical studies (Chen, 2005; Hu, 2002) also espoused the belief that instructions which focus on morphology can be generative in learning new words, broadening students' vocabulary knowledge, and increasing comprehension, especially for advanced level students (Hong, 1988). Knowledge of affixes can both help students decode new words by relating them to words that they have already learned or help students check whether the meanings of new words they guess from the context are correct. Hence, with the aforementioned characteristics, it is not surprising to find that the teacher participants laid a certain predilection toward word affix instruction.

Another choice that the teacher participants favored under the *meaning*

*conveyance* category is *synonyms/antonyms*. The teachers in this study were also supportive of the 7 sub-beliefs *synonyms/antonyms* (mean scores ranged from 3.01 to 3.35). These sub-beliefs mostly corresponded to the findings presented in previous research. Hu's (2002) found that *synonyms/antonyms* was the second most frequently used vocabulary teaching method in senior high school classes. Likewise, teachers in Chen (2005) also said that they believed by teaching synonyms and antonyms, students can increase their vocabulary size, strengthen vocabulary retention, and promote their thinking and judging ability.

By the same token, a striking finding in this study was the *meaning conveyance* category: the teacher participants did not approve of *definition in L1*. The teacher participants strongly believed that such instruction decreases students' motivation to learn vocabulary (Sb-2, M = 2.23) and to participate in class (Sb-7, M = 2.23). Further, the teachers believed this method fails to promote students' thinking and judging ability (Sb-5, M = 2.13), and decreases their vocabulary size (Sb-6, M = 2.41). Therefore, *definition in L1* is not a teaching approach the teachers use in their classes (Sb-3, M = 2.45). However, *definition in L1* is undoubtedly the most commonly used instruction in the classroom. Studies (Liu, 1997; Hu, 2002; Blachowicz, et. al, 2006) supported the notion that providing information about definitions can result in great learning, and it is the most convenient and useful way to enhance vocabulary

comprehension.

There are several possible explanations for the conflicting results between this study and those of previous research. First, although *definition in L1* is a common and necessary instruction, teachers may not put great emphasis on it since it is an isolated activity that is teacher-centered. The researcher thus assumed that the teachers in this study believed *definition in L1* fails to motivate or promote independent thinking in students. Second, Chan and Hsieh (2007) suggested that *definition in L1* is more suitable for lower level students because knowing an equivalent in the students' native language of target words is always the threshold of vocabulary learning. For more advanced students, like senior high school students in this study, teachers may stress other meaningful activities, or combine it with more active processing in order to engage students using multiple approaches. Therefore, in accordance with the students' level and their learning needs, these appear to be the reasons that the teachers in this study gave *definition in L1* the lowest priority in their teaching.

Another category that is given equal importance by the teacher participants is the *activities* category. Under this category, there are four teaching approaches: *extensive reading*, *repeated drills*, *contextual practices*, and *cooperative activities*. The teachers who responded in this category affirmed the teaching approaches of *extensive reading* (M = 3.26) and *cooperative activities* (M = 3.04). However, they did not feel

confident about using *repeated drills* (M = 2.35).

Examining the sub-beliefs of the first teaching approach of the *activities* category, the researcher found the teacher participants believed *extensive reading* is helpful for vocabulary retention (Sb-1, M = 3.31) and size (Sb-6, M = 3.41). Further, it is motivational for students' learning (Sb-2 and Sb-7, M = 3.13 and 3.11), and it is relevant to their English learning needs (Sb-4, M = 3.45), thus promoting students' thinking and judging ability (Sb-5, M = 3.47). Similar to *extensive reading*, the teachers in this study deemed *cooperative activities* to be highly profitable means for students to sustain vocabulary retention (Sb-1, M = 3.15). In addition, the teacher participants believed that by executing *cooperative activities*, students may raise their willingness to learn and to participate in class (Sb-2 and Sb-7, M = 3.35 and 3.39), and through cooperation, students may advance their critical thinking skills (Sb-5, M = 3.11) since this method was largely described as a pupil-centered activity by a majority of teachers (Castle, 1988).

Unlike *extensive reading* and *cooperative activities*, *repeated drills* received low values in six out of seven sub-beliefs by the teacher participants (all the mean scores are lower than 2.5). The teacher participants responded that this method involves low-level thinking because such instruction isolates words from meaningful contexts. Even worse from the teacher perspective, *repeated drills* was often labeled as the least

enjoyable activity in class, meaning that it is difficult for this approach to trigger students' learning motivation. Yet it is surprising to find that although the teacher participants did not accept most of the effective characteristics of *repeated drills*, they did not denigrate its function of vocabulary retention (Sb-1, M = 2.70). Identically, the teacher participants in Castle (1988) described *repeated drills* as a "non-purposeful" and "non-relevant" teaching approach (p. 175), but some teacher participants in Castle's study stated that *repeated drills* remain constant and regular activities for them.

The last preference exhibited by the teacher participants was the category of *pronunciation and spelling* (M = 2.76). Among the four teaching approaches in this category, the teachers participants had more faith in *pronunciation modeling* (M = 3.14), but felt disappointed with the *keyword method* (M = 2.27). The teacher participants held the idea that *pronunciation modeling* aids students' retention (Sb-1, M = 3.39) and enlarges their vocabulary base (Sb-6, M = 3.23). The teacher participants said *pronunciation modeling* is a highly relevant method (Sb-4, M = 3.37) since it is capable of building students' speaking and listening skills, and therefore chose it as their priority teaching method (Sb-3, M = 3.39).

The teachers in this study were uncertain about the *keyword method* (M = 2.27). *Keyword method* is a controversial approach in vocabulary teaching. Some teachers

find it to be a facilitating tool that can strengthen students' long-term retention by associating the sounds similar to the target words in L1 and an acoustic image of the keyword linked to students' L2 so that it can be easily recalled from vocabulary they have already learned (Richards, 1976; Li, 1990; Hu, 2002). Apart from strengthening students' retention, teachers who approve of *keyword method* believe it to be profitable for increasing students' learning motivation since it is more fun to teach.

Nonetheless, teachers who resist this approach believe that the superiority of *keyword method* may differ according to the verbal ability of the students. Evidence shows that students with lower abilities consider the *keyword method* to be more useful than students with higher ability (Brown & Perry, 1991). Because of the level constraint, teachers are not willing to use this approach. Further, some teachers point out that the *keyword method* may result in mispronunciations or misspellings of the vocabulary (Chen, 2005). Such negative effects may weaken students' judging skills and further diminish their speaking and spelling abilities. In this study, the teacher participants were likely to adopt the latter stance (Sb-4, M = 1.92) and did not think highly of its effect of improving thinking and judging abilities (Sb-5, M = 1.90). They further indicated that it is the least important of all teaching approaches (Sb-3, M = 1.96) and an inadequate means to increase students' vocabulary size (Sb-6, M = 2.19).

Teacher participants in this study considered the category of *usage* to be the most

effective vocabulary teaching approach. Under *usage* category, the teacher participants believed that *contextual usage* is the most useful method. When conveying meanings, the teacher participants believed that *word affixes* and *synonyms/antonyms* were more beneficial than other approaches, yet disliked providing definitions in students' native language the most. Furthermore, when adopting activities in class, the teacher participants preferred the teaching approaches of *extensive reading* and *cooperative activities,* but did not support the use of *repeat drills*. Finally, under the category of *pronunciation and spelling*, the teacher participants believed the teaching approach of *pronunciation modeling* can be productive in learning though took *keyword method* as a problematic method in vocabulary teaching.

### *4.2.2 Discussion on the Student Questionnaire*

The second research question to be discussed concerns the results of the analysis of the student questionnaires. Table 4.20 shows that the mean score for student beliefs about different learning activities was 2.77. This result indicates that the student participants were neutral to somewhat positive towards vocabulary learning.

As presented in Table 4.20, the generality of mean scores in each category of learning activities and in each sub-belief were medium high. A possible explanation is

that students are prone to express a moderate opinion about topics so that they do not have extreme preferences or fierce opposition towards vocabulary-learning activities. Although the degree of preference is not as obvious as with the teachers, analysis may still bring it to light.

The highest mean score of the four main categories was found for *usage* (M = 2.86). Under the *usage* category, the student participants showed that for the two learning activities, *contextual usage* and *grammatical usage*, they favored the former vocabulary learning activity (M = 2.98). The student participants believed that *contextual usage* can not only sustain memory (Sb-1, M = 3.07), but may also extend vocabulary size (Sb-6, M = 3.03). The students in this study also thought that *contextual usage* is relevant to their English learning needs (Sb-4, M = 3.07) and thought it is a practical activity that trains their thinking and judging abilities (Sb-5, M = 3.08). However, the researcher found a discrepancy between students' beliefs and practices. Shi (2004) reported that half of the students (51.9%) never use new learned English words in contexts. In other words, the student participants in Shi's study did not tend to use *contextual usage* to help them memorize words. One possible reason for this may be that senior high school students do not use many methods to assist their learning (Shi, 2004). They take vocabulary learning seriously and use rote memorization instead of practical application. Therefore, although students believe in

the usefulness of *contextual usage*, they do not apply it in vocabulary learning.

Among the four categories, it was *activities* that stood out next (M = 2.84). The student participants under this category favored the learning activity of *cooperative activities* (M = 2.90) over the other three learning activities. *Cooperative activities* are largely designed with the belief that competition and cooperation can positively influence learning. If the cooperative activities are properly practiced, which means as long as the competitiveness does not shatter student's confidence and motivation, such learning activities can enhance students' vocabulary learning. The student participants' beliefs in this study are consistent with the findings of Min (1995). Min held that activities are an endless source of enjoyment and that students can be highly motivated if they find learning fun. Therefore, it was reasonable to find that students in this study viewed *cooperative activities* as an immensely motivational learning activities. More specifically, the student participants believed that *cooperative activities* can successfully engage them in word learning (Sb-2, M = 3.07) and encourage them to participate in class (Sb-7, M = 3.00).

The third trend emerging from the student questionnaire results was *pronunciation and spelling* category (M = 2.77). Under this category, the student participants gave credit to *pronunciation modeling* (M = 3.10) and identified it as the most preferable approach among the four learning activities. The student participants'

extraordinary attention toward *pronunciation modeling* was consistent with the beliefs of the students described in Shi (2004), who believed that good pronunciation is one of the important factors in learning English. More than half of the students (77.7%) Shi surveyed wanted to speak English well because they think excellent pronunciation is the condition of high English proficiency (Shi, 2004). It can be seen that pronunciation is always a concern when learning vocabulary. Therefore, it was reasonable to find *pronunciation modeling* was an important learning method (Sb-3, M = 3.19) and is relevant to their English learning needs (Sb-4, M = 3.27). Moreover, the student participants also believed that *pronunciation modeling* is useful for word retention (Sb-1, M = 3.34) and to increase vocabulary size (Sb-6, M = 3.13). More importantly, it can train their thinking and judging ability through demonstration by others (Sb-5, M = 3.05).

With the lowest mean score, the category of learning activity, *meaning conveyance*, received the least support from the student participants (M = 2.63). Among the seven learning activities in *meaning conveyance*, the student participants gave lukewarm support to using *synonyms/antonyms* to interpret meanings (M = 2.83). By examining the seven sub-beliefs, the student participants suggested that *synonyms/antonyms* is able to strengthen their vocabulary retention somewhat (Sb-1, M = 2.92) and extend their vocabulary (Sb-6, M = 2.96). More than one third of the

students (37%) surveyed in Shi (2004) stated that if they cannot think of English words when communicating with others, they will use a word that has a similar meaning to express their thoughts. Based on these findings, it is plausible that student participants in this study also thought *synonyms/antonyms* is somewhat relevant to their English learning needs (Sb-4, M = 2.93) and is also a slightly supportive method to their thinking and judging ability (Sb-5, M = 2.97).

To conclude, although the student participants did not reveal a sharply defined point of view toward most of the vocabulary learning activities, the researcher still brought to light their marginal tendencies and was able to report students' beliefs about activities and approaches they deemed useful. First, under the *usage* category, the student participants seemed to support *contextual usage* because they described it as a productive method to memorize words and enlarge their vocabulary base. Moreover, it is relevant to their learning needs and can further stimulate their thinking and judging abilities. Second, for the four learning activities in the *activities* category, the student participants were quite interested in *cooperative activities* since they believed they were without a doubt a motivational learning activity. Third, the student participants characterized the learning activity of *pronunciation modeling* in the *pronunciation and spelling* category as an effective mean for building vocabulary size and for word retention. Additionally, it can provide practice for their thinking and

judging abilities and is thus relevant to their learning needs. Hence, the student participants saw it as an important learning method. Finally, the student participants to some extent selected *synonyms/antonyms* as their preferred learning activity in the *meaning conveyance* category. They believed this learning activity is more or less helpful for their retention, vocabulary size and thinking and judging abilities. Further, they considered it to be moderately relevant to their learning needs.

### *4.2.3 Discussion on the Differences between the Teacher and the Student Questionnaires*

In addition to examining what implicit beliefs teachers and students held, this study also compared teachers' beliefs with students' beliefs concerning effective vocabulary instruction and learning activities. The purpose of the comparison was to determine the level of compatibility or discrepancy between the beliefs espoused by the two groups.

It is apparent that there were significant differences in the beliefs of the teacher participants and the student participants about the 17 different teaching/learning activities and the 7 sub-beliefs ($p < .05$) explored in this study. Overall, the teacher participants were more positive towards the 17 teaching/learning activities than the student participants. Further, when compared to the student participants (M = 2.74),

the teacher participants were more confident about how the 17 teaching approaches may facilitate vocabulary learning in different ways, which was reflected in the higher mean score of the 7 sub-beliefs of the teacher participants (M = 2.86). The results of the *p* values and D values both suggest that it is the two main categories, *meaning conveyance* ($p < .05$, D = 0.90) and *usage* ($p < .05$, D = 0.79), that are the major causes of the differences between the two groups who participated in this study, while the other two main categories (*pronunciation and spelling* and *activities*) failed to show such marked disparities (Table 4.21). As a result, the following discussion will focus on *meaning conveyance* and *usage* in particular since these two main categories are the area of difference between the two groups (marked by asterisks in Table 4.21).

First, in the *meaning conveyance* category, five dissimilarities of teaching/learning activities were identified. They were *definition in L1*, *word affixes*, *synonyms/antonyms*, *visual aids*, and *semantic map* (all the *p* values are < .05). With regard to the first category, *definition in L1*, the student participants revealed that they were preferred to rely on L1 definitions yet the teacher participants had the opposite attitude (Mean Difference = -0.22). Exploring *definition in L1* more deeply, the researcher found that the teacher and student participants exhibited diverse beliefs on motivational characteristics ($p < .05$) and its capability to promote students' thinking and judging abilities ($p < .05$). Unlike the teacher participants' overwhelming

disapproval, the student respondents unveiled a moderate to slightly positive view for its motivational functions and its utility in independent skills promotion even though the degree of preference was not strong. The main reason for the conflict is probably the passive learning style of the students. For most students, L1 makes English easy to learn. They tend to believe that there is always a one to one transfer between L1 and English vocabulary (Ding, 1987). In addition, L1 helps to communicate with and to understand English native speakers thoroughly. Therefore, approximately 80% of students believe that L1 is important in EFL learning (Chen, 2006).

However, as mentioned in the discussion of the teacher questionnaire, teachers generally mark this vocabulary teaching approach as a common but non-meaningful activity. Though teachers generally appear to use multiple student-centered learning activities in classes in the hope of lead students to superior word learning, students seem to believe that *definition in L1* is a direct and time-saving way to know what a word means, which motivates them to learn vocabulary and to participate in classes. Furthermore, the student participants' supportive attitudes indicate that they believe that this learning activity can train their thinking and judging skills, whereas the teacher participants hardly agreed. Student passivity probably prohibits them from understanding the actual meaning of a word. Consequently, when conveying meanings, teachers should pay more attention to the fact that students are likely to rely

on the teachers' provisions of L1 definitions and will not work on their own to understand word meanings.

Concerning the second disagreement, *word affixes* saw the most marked differences between the two groups participated in this study (MD = 0.57). Both groups in this study showed distinct beliefs, with the teacher participants favorable to all seven sub-beliefs (all $p$ values are $< .05$). It is noteworthy that students in this study did not deny the productivity of this teaching/learning activity, but the degree of preference was not as strong as among the teacher participants. Two reasons may explain the differences between the two groups: first, teachers' overvaluation of students' learning autonomy and second, students' proficiency level. As discussed earlier, the teachers' ideal is that when students learn, they need to know how to analyze word parts so that when encountering unfamiliar words while reading, they can make intelligent guesses and are able to extend their vocabulary knowledge on their own in the future (Chen, 2005). However, teachers overestimate students' learning autonomy. The students themselves believe that learning English is mostly about memorizing vocabulary. For EFL students, memorizing words on lists is their priority learning activity (Bernat, 2007; Davis, 2003; Shiue & Roebl, 2007). The researcher also found a majority of EFL students (77%) do not read English for pleasure nor do they (70%) divide words into parts when finding meaning of an

English word because guessing through context without knowing an exact meaning does not necessarily facilitate vocabulary acquisition (Hong, 1988; Shi, 2004). Thus, students are not willing to nurture their independent learning skills. Their lack of learning autonomy do not meet teachers' high hopes, hence the students in this study were not as enthusiastic as the teacher participants about *word affixes*. Another reason for the student participants' attitude is that this method is probably challenging for students at the intermediate proficiency level. The teachers in this study thus appear to be somewhat ambitious in putting faith in this teaching approach. Hong (1988) and Chen (2005) both suggest that *word affixes* is more suitable for advanced level students since it requires a deeper level of word processing. The process of relating new information (suffixes) to knowledge already learned (word roots) requires a deep understanding. EFL senior high school students at the intermediate level are still struggling to develop their word pools using approaches such as word roots, meaning that *word affixes*, which requires decoding techniques, may be difficult for them. Students need more time and more methods of practice to experience its effectiveness. Bellomo (2009) argued that student perceptions of the helpfulness of *word affixes* increases noticeably as their proficiency rises. Therefore, teachers should adjust their teaching preferences according to students' learning autonomy and their proficiency level and reduce their expectations for *word affixes*.

The third discrepancy is in the area of *synonyms/antonyms* (MD = 0.35). The teachers and students in this study exhibited diverse perspectives on the seven sub-beliefs ($p < .05$) with an exception of the sub-belief on vocabulary retention. The teachers and students in this study both agreed that *synonyms/antonyms* is useful to vocabulary retention. As for the other six sub-beliefs, the teacher participants were favorable towards them but the student participants were only marginally positive. The student participants did not neglect *synonyms/antonyms*, but the extent of affinity with the teachers in this study to this method was low. One reason for this difference may be that the students are not willing to accept a heavy load of semantically related words. The teachers and the students who participated in this study had the most distinct beliefs about the priority of *synonyms/antonyms* (MD = 0.53, $p < .05$). The results of the teacher questionnaires indicated that *synonyms/antonyms* is a common teaching approach. Research also shows that *synonyms/antonyms* is one of the most frequently used teaching approaches in class (Ho, 2002; Chen, 2006). Teachers' instruction using this method generates the interference effect in their students and may diminish students' thinking and judging abilities. Adverse consequences may result, decreasing students' vocabulary size (Hong, 1988; Hu, 2002). Researchers have also found that students say that the necessity of learning so many new words reduces their interest in learning English (Shi, 2004). Accordingly, teachers should be

aware of student aversion to this method. In fact, studies have suggested that usually one pair of synonyms or antonyms is easier for intermediate level students to process (Hong, 1988; Liu, 1997). The greatest effectiveness of *synonyms/antonyms* can be exploited when student's knowledge of vocabulary has already been well established. Only then can extensive use of *synonyms/antonyms* help students interpret differences in word meanings as well as strengthen semantic associations.

*Visual aids* is the fourth area of inconsistency in the *meaning conveyance* category (MD = 0.28). The two groups participated in this study had dissimilar perspectives for retention, motivational traits, priority and its relevancy (all $p$ values are < .05) with the teacher participants disposed to take a more favorable view of these sub-beliefs. It is understandable that the teachers in this study preferred this form of instruction. Any form of visual aid not only enriches teaching quality but may also convey more abstract, conceptual, and complex vocabulary to students by a simple glance. Teachers believe that by providing visual aids, students can turn the visual images into their mental picture and further recall their vocabulary easily. This is why the teachers in this study gave such a positive evaluation to its retention (M = 3.11) and motivational efficacy (M = 3.19 and 3.15). However, through examination of students' actual learning activities, researchers have explained why the student participants are neutral toward *visual aids*. Shi found that more than half of EFL

students (66%) do not use flashcards to learn new words and only 33% of students connect their words with pictures to learn new English words (Shi, 2004). As stated, EFL students associate learning English with memorizing vocabulary on word lists. This over-emphasis on vocabulary memorization likely explains why the students who participated in this study had only a moderate view of the learning priority (M = 2.50) and relevancy (M = 2.59) of *visual aids*.

Finally, *semantic map*, was the fifth area of conflict in the *meaning conveyance* category (MD = 0.33). The teachers and students in this study had opposing viewpoints across the seven sub-beliefs (all *p* values are < .05) except that both groups affirmed its capability to promote thinking and judging abilities. The teacher participants as usual were quite confident about the value of *semantic map* (M = 2.58). On the other hand, the students in this study gave low scores to *semantic map* (M = 2.33). It appears that *semantic map* is not common in vocabulary teaching and learning since both groups' priority values are relatively low. Hsiao (2008) also found that only 22% of students knew how to use the semantic map to learn vocabulary. The difference between the two groups in this probably lies in the teacher participants' greater openness to to new methods and more positive attitude toward vocabulary teaching. Even though the teachers in this study did not use this method very often in class, they still had positive expectations for it. Conversely, the student participants

were less welcoming because they had not used it before. This also speaks to the need for teachers to convince students *semantic map* is useful, and more generally, that unfamiliar methods can be useful.

The second category that contained major discrepancies between the teacher participants' and the student participants' beliefs was *usage* ($p < .05$). The teachers and students in this study disagreed on the teaching/learning activity, *contextual usage*, in this category (MD = 0.34, $p < .05$). The two groups in this study had different levels of approval across all seven sub-beliefs (all $p$ values are $< .05$). It is remarkable that the values of the differences in the means of priority (MD = 0.49) and learning relevancy (MD = 0.45) between the teachers and students in this study were larger than other means in this category. The teacher participants seemed to attach a strong sense of importance to practical usage of vocabulary while the student participants appear to believe that pronunciation and vocabulary memorization are more vital in English learning. Thus, *contextual usage* may not be able to significantly arouse the student motivation to learn because this method does not meet their beliefs in general English-learning and hence lowers their learning priority. Since it appears to be important for teachers prevent their students from becoming test-oriented learners, teachers should pro-actively inform students of the advantages of *contextual usage* and further put it in teaching practices so that students may realize how useful

vocabulary practical usages will be.

In sum, the teachers and students in this study exhibited significantly different beliefs in many areas of vocabulary teaching and learning. Among the four main categories of beliefs on vocabulary teaching/learning activities, it was *meaning conveyance* and *usage* that caused the largest divergence between the two groups in this study. Five dissimilarities in teaching/learning activities (*definition in L1*, *word affixes*, *synonyms/antonyms*, *visual aids*, and *semantic map*) in the former main category and one teaching/learning activity (*contextual usage*) in the latter main category were found. Most of the differences, except for the teaching/learning activity of *definition in L1*, were affected by the differences in instructional and learning preferences between the teacher and student participants. The teacher participants usually thought highly about the efficacy of most vocabulary instruction methods. Conversely, though the students in this study did not dispute the effectiveness of most learning activities, they still preferred to count on L1 by writing word lists and memorizing them. Accordingly, based on the student participants' passive learning styles and their general English-learning beliefs, the student respondents gave lower values to most learning activities than the teacher participants.

# CHAPTER FIVE

# CONCLUSIONS AND PEDAGOGICAL IMPLICATIONS

This study sought to explore EFL senior high school teachers' and students' vocabulary teaching and learning beliefs, as well as the discrepancies between the two groups. In the subsequent sections, the major findings are first briefly summarized in the order of the research questions. Next, pedagogical implications are presented. The third section is composed of the limitations and problems that were encountered in the present study. The researcher then makes some suggestions based on the limitations for the future study in the final section.

## 5.1 Summary of the Major Findings

The participants of the current study included 51 EFL senior high school teachers and 982 EFL senior high school students were included in the present study in order to understand their vocabulary teaching and learning beliefs. They responded to the questionnaires designed to measure their beliefs on vocabulary teaching approaches and learning activities. The major findings of the current study are presented in the order of the research questions.

In order to answer the first research question, the researcher found that the teacher respondents favored certain vocabulary teaching approaches over others. They believed that *contextual usage*, *extensive reading*, *word affixes*, *synonyms/antonyms*, *pronunciation modeling*, and *cooperative activities* were effective. On the contrary, they thought *definition in L1*, *repeated drills*, and *keyword method* were ineffective.

First, the teacher participants strongly believed that among the four main categories of beliefs of vocabulary teaching approaches, *usage* was the most efficient teaching approach. Under *usage* category, the teacher participants especially gave credit to the teaching approach of *contextual usage,* which they believed to be beneficial for students' vocabulary retention, growth in vocabulary size, and promotion of students' thinking and judging abilities. Furthermore, they believed *contextual usage* motivates students to participate in learning and is relevant to students' English learning needs. Therefore, it is understandable that teacher participants chose it as their primary teaching approach.

Second, the teacher participants believed the *meaning conveyance* category and *activities* category are of nearly equal importance in teaching vocabulary. Out of the seven teaching approaches in the *meaning conveyance* category, the teacher participants believed that *word affixes* and *synonyms/antonyms* conform to the seven sub-beliefs the literature proposed. On the other hand, the teacher participants failed

to believe *definition in L1* is an effective teaching approach. The teacher participants revealed that *definition in L1* neither motivates students to learn vocabulary or participate in class nor does it build students' vocabulary size. Moreover, the teacher participants strongly believed that *definition in L1* can not promote students' thinking and judging ability. As a result, this was not teachers' primary teaching approach when teaching vocabulary.

As for the *activities* category, the teacher participants believed that *extensive reading* facilitates vocabulary learning in 6 different ways except that it is not their teaching priority. They also believed *cooperative activities* not only can motivate students to participate in class and to learn vocabulary but also can train students' thinking and judging ability. Lastly, they believed that *cooperative activities* may prolong students' vocabulary retention. Yet, with the four teaching approaches in the *activities* category, the teacher participants denied the effectiveness of *repeated drills*.

Finally, the teacher participants believed *pronunciation and spelling* was the fourth effective teaching approach among the four main categories. The teachers in this study particularly believed that under the *pronunciation and spelling* category, the teaching approach of *pronunciation modeling* is effective for extending vocabulary retention and size, and is relevant to students' English learning needs. It is undoubtedly one of the teacher participants primary teaching approaches. Conversely,

the teacher participants did not believe *keyword method* is effective because they thought it is not relevant to students' English learning needs, fails to promote students' thinking and judging ability, and can not successfully increase students' vocabulary size. It is not a primary teaching approach in the teacher participants' classes.

In order to answer the second research question, the researcher found that the student participants generally exhibited a moderate to somewhat positive attitude toward most of the vocabulary learning activities. In other words, they did not exhibit strong dislike of any vocabulary learning activities. Among the 17 different vocabulary learning activities, the student participants were prone to believe that *pronunciation modeling, contextual usage*, *cooperative activities*, and *synonyms/antonyms* were more effective for vocabulary learning.

Among the four categories of beliefs of vocabulary learning activities, the student participants believed the *usage* category, especially *contextual usage,* was the most useful learning activity. They believed *contextual usage* was effective both to retain and increase vocabulary. Additionally, they greatly believed it is relevant to their English learning needs and helpful for training thinking and judging ability.

Among the four learning activities under the *activities* category, the student participants believed that *cooperative activities* can productively motivate them to participate in word learning and class. In other words, they strongly believed that

*cooperative activities* is a motivational learning activity that is able to arouse their interest and attention while learning vocabulary.

Moreover, the student participants displayed a significant positive belief in the effectiveness of *pronunciation modeling* under the *pronunciation and spelling* category. They displayed optimistic views that it can help students retain and increase their vocabulary. Also, it can develop students' thinking and judging ability and hence is relevant to their English learning needs. Therefore, this is one of the student participants' preferred learning methods.

Lastly, the student participants believed to a slight degree that *synonyms/antonyms* is effective among the seven activities under the *meaning conveyance* category. They believed to a small extent in its retention and vocabulary size enlargement function, its relevancy, and its ability to construct independent learning skills.

To answer the last research question, the researcher found the differences between the teacher participants' and the student participants' beliefs were found in the *meaning conveyance* and *usage* categories. To be more specific, five discrepancies were found under *meaning conveyance* category, which were *definition in L1*, *word affixes*, *synonyms/antonyms*, *visual aids*, and *semantic map*. One was found under *usage* category, which was *contextual usage*.

Except for *definition in L1*, the discrepancies in the other five teaching/learning activities (*word affixes*, *synonyms/antonyms*, *visual aids*, *semantic map, and contextual usage*.) were mainly caused by the extent of the discrepancies of the teacher participants' and the student participants' beliefs. The teacher participants intensively believed in the usefulness of the five teaching approaches while the student participants stood more neutral. It is necessary to remember that the student participants did not deny the effectiveness of the five learning activities but their standpoints were more conservative than the teacher participants. On the other hand, with regard to *definition in L1*, it was apparent that the student participants' beliefs were relatively favored it while the teacher participants held an opposite opinion.

## 5.2 Pedagogical Implications

The purpose of this study was to investigate teachers' and students' vocabulary teaching and learning beliefs as well as their disparities. Findings and conclusions arose from the study suggest three pedagogical implications for teachers, students, lesson developers and researchers.

First, some discrepancies were found in teachers' and students' vocabulary teaching and learning beliefs. The teachers in this study seemed to be much more optimistic about vocabulary learning than the student participants. It has been

suggested that consistency between teachers' and students' opinions is critically important in effective teaching and learning (Kern, 1995; Davis, 2003; Bernat, 2007). Once the gap between two groups is large, students' learning difficulties and the degree of anxiety or frustration may increase. Generally, with students' limited knowledge and learning experiences, students may have learning misconceptions, which are idealistic, incompatible and mismatched with teachers' teaching principles. To help students develop practical beliefs in vocabulary learning, teachers can start by constructing a positive attitude that does not regard vocabulary learning as a burden among students. Teachers can not only encourage students to explore as many learning means as possible in the hope of finding out which is the most suitable way for them to learn, but also aid students to clear up some misconceptions about vocabulary learning. Doing so can help teachers become more aware of their students' specific beliefs and further guide them to a more realistic learning path.

Second, three common reasons for the discrepancies was students' emphasis on pronunciation, memorization and their L1. The students in this study strongly believed that *pronunciation modeling* and *definition in L1* were effective methods to learn vocabulary. This conforms more or less to previous research that discovered students believe good pronunciation and translation are the most important part in learning English (Kern, 1995; Peacock, 1999; Shi, 2004; Chen, 2006; Bernat, 2007). In

addition, students consider learning English meant memorizing a lot of words, especially memorizing them on lists (Peacock, 1999). It is surprising to find out that nowadays students still have similar beliefs even in different learning contexts. Students usually enter classes with their preconceived ideas, so their beliefs and attitudes are not easily modified through interventions or influences (Kern, 1995). Therefore, teachers face a dilemma whether to resist students' learning preferences or to adjust their teaching orientation based on students' beliefs. In either case, teachers will be better equipped to engage in meaningful dialogue about vocabulary learning with students.

The last implication is that teachers should be aware of their overly-positive vocabulary teaching beliefs. The teachers in this study appeared to put much faith in the effectiveness of nearly all the vocabulary teaching approaches. Some practical factors such as students' English proficiency, students' learning style, limited teaching resources or class size should be taken into account when teachers bring their beliefs in their teaching practices. Therefore, how to control these factors in real classrooms is also an essential issue deserving consideration.

## 5.3 Limitations and Suggestions of the Study

Despite the size of the current study, a number of limitations are identified below.

Suggestions are then made in light of the limitations confronted in the present study. It is hoped that these suggestions can serve as basis for future research.

First, the number of teacher participants is fewer than ideal. The biggest obstacle encountered in the data collection procedure is teachers' unwillingness to fill out the questionnaires. It is worth noting that the teacher participants chosen in the present study may not be representative of all of the EFL senior high school teachers in Taiwan because of grouping limitations. Therefore, the generalizability of teachers' beliefs in this study deserves appropriate notice. But despite the limitation, the data gathered in this study remain highly suggestive, and also provide rich insights into EFL senior high school teachers' beliefs. For a more complete picture of teachers' vocabulary teaching beliefs, an increase in the number of teacher participants is suggested. It is also recommended that teacher selection be extended to different areas in Taiwan in order to generalize the beliefs senior high school teachers hold in vocabulary instruction.

Second, deeper investigation is needed to find out the reasons for discrepancies. The results of this study have shown some divergences between the two groups' beliefs. It is undeniable that teachers are generally more positive than students about vocabulary learning. Further interpretation of why and how participants hold certain views remain unsolved. The participants' perspectives must be well-grounded in their

own explanations. Thus, an inclusive exploration with techniques like interviews or open-ended questionnaires may be taken into consideration in order to unveil participants' reasons for their viewpoints.

The third limitation has to do with limited vocabulary teaching/learning activities and sub-beliefs listed in the questionnaire. Although the researcher had been trying to make the instrument as comprehensive as possible, it is possible that a thorough search may add to the original research instrument so that a holistic picture of teachers' and students' beliefs in vocabulary teaching and learning can be depicted. Similar additional activities and effective characteristics (sub-beliefs) may be included in future grids to elicit new-found information and hence piece together a broader picture of vocabulary teaching learning beliefs.

Finally, advanced data analysis techniques are suggested to detect more information in the questionnaires. It must be noted that *t*-test and the value of effect size were conducted in this study to examine the true differences between teachers' and students' beliefs. Higher-level analysis methods such as Structural Equation Modeling (SEM) or Item Response Theory (IRT) can also be utilized to survey group invariance or to systematically compare the differences in every item between two groups.

Although all the research questions about the beliefs between teachers and

students were answered, the above mentioned suggestions still await to reinforce the research quality of this type of study.

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# APPENDICES

## Appendix A

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "is effective for word retention"*

| Vocabulary Teaching/Learning Activities | | is effective for word retention | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | T | 0.0 | 0.0 | 72.5 | 27.5 | (.45) | (3.27) |
| | S | 3.2 | 12.7 | 56.5 | 27.5 | (.72) | (3.08) |
| 2. Pronunciation modeling | T | 3.9 | 5.9 | 37.3 | 52.9 | (.77) | (3.39) |
| | S | 3.1 | 8.7 | 39.5 | 48.8 | (.76) | (3.34) |
| 3. Keyword method | T | 19.6 | 19.6 | 43.1 | 17.6 | (1.00) | (2.58) |
| | S | 3.1 | 8.7 | 39.5 | 48.8 | (.76) | (3.34) |
| 4. Association | T | 7.8 | 17.6 | 52.9 | 21.6 | (.84) | (2.88) |
| | S | 10.9 | 31.0 | 39.8 | 18.3 | (.90) | (2.65) |
| 5. Definition in L1 | T | 5.9 | 41.2 | 45.1 | 7.8 | (.72) | (2.54) |
| | S | 8.9 | 32.6 | 46.5 | 12.0 | (.80) | (2.61) |
| 6. Word affixes | T | 3.9 | 5.9 | 39.2 | 51.0 | (.77) | (3.37) |
| | S | 7.9 | 25.5 | 44.0 | 22.6 | (.87) | (2.81) |
| 7. Dictionary look-up | T | 3.9 | 25.5 | 52.9 | 17.6 | (.75) | (2.84) |
| | S | 8.8 | 27.5 | 43.7 | 20.1 | (.87) | (2.75) |
| 8. Synonyms/antonyms | T | 5.9 | 3.9 | 54.9 | 35.3 | (.77) | (3.19) |
| | S | 4.6 | 20.2 | 53.5 | 21.8 | (.77) | (2.92) |
| 9. Visual aids | T | 2.0 | 13.7 | 54.9 | 29.4 | (.71) | (3.11) |
| | S | 9.1 | 25.4 | 43.0 | 22.6 | (.89) | (2.79) |
| 10. Semantic map | T | 3.9 | 21.6 | 52.9 | 21.6 | (.77) | (2.92) |
| | S | 12.4 | 33.0 | 39.6 | 15.0 | (.89) | (2.57) |
| 11. Demonstration | T | 9.8 | 27.5 | 43.1 | 19.6 | (.89) | (2.72) |
| | S | 12.5 | 32.2 | 37.3 | 18.0 | (.92) | (2.60) |
| 12. Contextual usage | T | 5.9 | 3.9 | 39.2 | 51.0 | (.82) | (3.35) |
| | S | 3.1 | 16.0 | 51.6 | 29.3 | (.75) | (3.07) |
| 13. Grammatical usage | T | 3.9 | 23.5 | 41.2 | 31.4 | (.84) | (3.00) |
| | S | 8.2 | 21.8 | 48.8 | 21.2 | (.85) | (2.82) |
| 14. Extensive reading | T | 3.9 | 9.8 | 37.3 | 49.0 | (.81) | (3.31) |
| | S | 6.4 | 20.8 | 45.7 | 27.1 | (.85) | (2.93) |
| 15. Repeated drills | T | 7.8 | 29.4 | 47.1 | 15.7 | (.83) | (2.70) |
| | S | 9.1 | 16.0 | 42.7 | 32.3 | (.91) | (2.98) |
| 16. Contexual practices | T | 0.0 | 21.6 | 52.9 | 25.5 | (.69) | (3.03) |
| | S | 5.0 | 21.0 | 52.7 | 21.3 | (.78) | (2.90) |
| 17. Cooperativ activities | T | 0.0 | 11.8 | 60.8 | 27.5 | (.61) | (3.15) |
| | S | 6.4 | 20.6 | 42.2 | 30.9 | (.87) | (2.97) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "motivates students (me) to learn vocabulary"*

| Vocabulary Teaching/Learning Activities | | motivates students (me) to learn vocabulary | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | **T** | 2.0 | 31.4 | 49.0 | 17.6 | (.74) | (2.82) |
| | **S** | 7.1 | 32.5 | 47.9 | 12.5 | (.78) | (2.65) |
| 2. Pronunciation modeling | **T** | 2.0 | 33.3 | 39.2 | 25.5 | (.81) | (2.88) |
| | **S** | 4.5 | 23.7 | 48.5 | 23.3 | (.80) | (2.90) |
| 3. Keyword method | **T** | 11.8 | 11.8 | 58.8 | 17.6 | (.86) | (2.82) |
| | **S** | 18.5 | 28.6 | 32.1 | 20.8 | (1.01) | (2.55) |
| 4. Association | **T** | 9.8 | 31.4 | 47.1 | 11.8 | (.82) | (2.60) |
| | **S** | 12.1 | 40.0 | 35.6 | 12.2 | (.85) | (2.47) |
| 5. Definition in L1 | **T** | 11.8 | 56.9 | 27.5 | 3.9 | (.70) | (2.23) |
| | **S** | 10.9 | 39.6 | 39.3 | 10.2 | (.81) | (2.48) |
| 6. Word affixes | **T** | 5.9 | 13.7 | 47.1 | 33.3 | (.84) | (3.07) |
| | **S** | 10.7 | 37.3 | 37.5 | 14.6 | (.86) | (2.55) |
| 7. Dictionary look-up | **T** | 11.8 | 35.3 | 41.2 | 11.8 | (.85) | (2.52) |
| | **S** | 14.2 | 35.8 | 35.6 | 14.4 | (.90) | (2.50) |
| 8. Synonyms/antonyms | **T** | 5.9 | 13.7 | 52.9 | 27.5 | (.81) | (3.01) |
| | **S** | 6.5 | 31.2 | 48.2 | 14.2 | (.79) | (2.69) |
| 9. Visual aids | **T** | 3.9 | 13.7 | 41.2 | 41.2 | (.82) | (3.19) |
| | **S** | 9.8 | 28.4 | 38.4 | 23.4 | (.92) | (2.75) |
| 10. Semantic map | **T** | 7.8 | 17.6 | 51.0 | 23.5 | (.85) | (2.90) |
| | **S** | 13.6 | 38.8 | 33.4 | 14.2 | (.89) | (2.48) |
| 11. Demonstration | **T** | 9.8 | 11.8 | 49.0 | 29.4 | (.90) | (2.98) |
| | **S** | 12.5 | 31.6 | 37.1 | 18.8 | (.92) | (2.62) |
| 12. Contextual usage | **T** | 3.9 | 15.7 | 45.1 | 35.3 | (.81) | (3.11) |
| | **S** | 4.9 | 25.4 | 48.7 | 21.1 | (.80) | (2.85) |
| 13. Grammatical usage | **T** | 2.0 | 43.1 | 37.3 | 17.6 | (.78) | (2.70) |
| | **S** | 10.6 | 33.4 | 43.5 | 12.5 | (.84) | (2.57) |
| 14. Extensive reading | **T** | 2.0 | 19.6 | 41.2 | 37.3 | (.80) | (3.13) |
| | **S** | 8.2 | 29.3 | 39.5 | 22.9 | (.89) | (2.77) |
| 15. Repeated drills | **T** | 19.6 | 62.7 | 9.8 | 7.8 | (.78) | (2.05) |
| | **S** | 16.0 | 28.9 | 35.8 | 19.2 | (.97) | (2.58) |
| 16. Contexual practices | **T** | 0.0 | 47.1 | 43.1 | 9.8 | (.66) | (2.62) |
| | **S** | 8.9 | 33.4 | 42.0 | 15.8 | (.84) | (2.64) |
| 17. Cooperativ activities | **T** | 2.0 | 43.1 | 35.3 | 19.6 | (.74) | (3.35) |
| | **S** | 5.8 | 17.3 | 40.3 | 36.6 | (.87) | (3.07) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "is a prior teaching (learning) method"*

| Vocabulary Teaching/Learning Activities | | is a prior teaching (learning) method | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | **T** | 2.9 | 25.5 | 35.3 | 33.3 | (.91) | (2.96) |
| | **S** | 7.0 | 24.1 | 45.6 | 23.2 | (.85) | (2.85) |
| 2. Pronunciation modeling | **T** | 2.0 | 9.8 | 35.3 | 52.9 | (.75) | (3.39) |
| | **S** | 3.9 | 14.1 | 41.2 | 40.8 | (.81) | (3.19) |
| 3. Keyword method | **T** | 37.3 | 39.2 | 13.7 | 9.8 | (.95) | (1.96) |
| | **S** | 25.5 | 34.5 | 24.4 | 15.6 | (1.01) | (2.30) |
| 4. Association | **T** | 7.8 | 27.5 | 41.2 | 23.5 | (.89) | (2.80) |
| | **S** | 15.1 | 37.5 | 35.6 | 12.1 | (.88) | (2.44) |
| 5. Definition in L1 | **T** | 15.7 | 33.3 | 41.2 | 9.8 | (.87) | (2.45) |
| | **S** | 11.5 | 35.0 | 41.6 | 11.8 | (.84) | (2.53) |
| 6. Word affixes | **T** | 5.9 | 13.7 | 29.4 | 51.0 | (.91) | (3.25) |
| | **S** | 10.8 | 34.2 | 39.6 | 15.4 | (.87) | (2.59) |
| 7. Dictionary look-up | **T** | 9.8 | 51.0 | 23.5 | 15.7 | (.87) | (2.45) |
| | **S** | 15.0 | 35.1 | 35.8 | 14.1 | (.91) | (2.48) |
| 8. Synonyms/antonyms | **T** | 5.9 | 9.8 | 43.1 | 41.2 | (.84) | (3.19) |
| | **S** | 7.0 | 34.5 | 43.0 | 15.5 | (.81) | (2.66) |
| 9. Visual aids | **T** | 2.0 | 41.2 | 37.3 | 19.6 | (.79) | (2.74) |
| | **S** | 12.7 | 39.2 | 33.1 | 15.0 | (.89) | (2.50) |
| 10. Semantic map | **T** | 3.9 | 47.1 | 35.3 | 13.7 | (.77) | (2.58) |
| | **S** | 17.2 | 43.6 | 27.5 | 11.7 | (.89) | (2.33) |
| 11. Demonstration | **T** | 13.7 | 43.1 | 23.5 | 19.6 | (.96) | (2.49) |
| | **S** | 18.0 | 39.7 | 29.1 | 13.1 | (.92) | (2.37) |
| 12. Contextual usage | **T** | 5.9 | 5.9 | 33.3 | 54.9 | (.84) | (3.37) |
| | **S** | 5.1 | 25.2 | 46.2 | 23.5 | (.82) | (2.88) |
| 13. Grammatical usage | **T** | 5.9 | 23.5 | 39.2 | 31.4 | (.89) | (2.96) |
| | **S** | 9.1 | 32.0 | 42.6 | 16.4 | (.85) | (2.66) |
| 14. Extensive reading | **T** | 2.0 | 27.5 | 43.1 | 27.5 | (.79) | (2.96) |
| | **S** | 8.8 | 31.8 | 38.5 | 21.0 | (.89) | (2.71) |
| 15. Repeated drills | **T** | 19.6 | 51.0 | 19.6 | 9.8 | (.87) | (2.19) |
| | **S** | 13.8 | 20.2 | 38.4 | 27.6 | (.99) | (2.79) |
| 16. Contexual practices | **T** | 2.0 | 29.4 | 41.2 | 27.5 | (.81) | (2.94) |
| | **S** | 9.5 | 31.0 | 43.1 | 16.5 | (.86) | (2.66) |
| 17. Cooperativ activities | **T** | 2.0 | 43.1 | 35.3 | 19.6 | (.80) | (2.72) |
| | **S** | 9.7 | 32.4 | 33.3 | 24.6 | (.94) | (2.72) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "is relevant for students (my) general English learning needs"*

| Vocabulary Teaching/Learning Activities | | is relevant for students (my) general English learning | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | **T** | 3.9 | 15.7 | 35.3 | 45.1 | (.85) | (3.21) |
| | **S** | 4.7 | 19.6 | 50.5 | 25.3 | (.79) | (2.96) |
| 2. Pronunciation modeling | **T** | 3.9 | 9.8 | 31.4 | 54.9 | (.82) | (3.37) |
| | **S** | 2.2 | 9.5 | 46.8 | 41.4 | (.72) | (3.27) |
| 3. Keyword method | **T** | 37.3 | 39.2 | 17.6 | 5.9 | (.89) | (1.92) |
| | **S** | 24.4 | 36.7 | 27.0 | 11.9 | (.96) | (2.26) |
| 4. Association | **T** | 3.9 | 19.6 | 51.0 | 25.5 | (.78) | (2.98) |
| | **S** | 9.5 | 28.1 | 43.8 | 18.6 | (.87) | (2.71) |
| 5. Definition in L1 | **T** | 11.8 | 33.3 | 45.1 | 9.8 | (.83) | (2.52) |
| | **S** | 7.3 | 28.5 | 47.4 | 16.8 | (.82) | (2.73) |
| 6. Word affixes | **T** | 3.9 | 7.8 | 41.2 | 47.1 | (.78) | (3.31) |
| | **S** | 7.1 | 26.7 | 46.2 | 20.0 | (.84) | (2.79) |
| 7. Dictionary look-up | **T** | 2.0 | 19.6 | 51.0 | 27.5 | (.74) | (3.03) |
| | **S** | 9.0 | 25.7 | 45.3 | 20.1 | (.87) | (2.76) |
| 8. Synonyms/antonyms | **T** | 3.9 | 7.8 | 43.1 | 45.1 | (.78) | (3.29) |
| | **S** | 4.8 | 19.8 | 52.9 | 22.6 | (.78) | (2.93) |
| 9. Visual aids | **T** | 0.0 | 27.5 | 52.9 | 19.6 | (.68) | (2.92) |
| | **S** | 10.8 | 34.6 | 39.3 | 15.3 | (.87) | (2.59) |
| 10. Semantic map | **T** | 3.9 | 23.5 | 51.0 | 21.6 | (.78) | (2.90) |
| | **S** | 14.1 | 36.4 | 36.9 | 12.7 | (.88) | (2.48) |
| 11. Demonstration | **T** | 11.8 | 41.2 | 37.3 | 9.8 | (.83) | (2.45) |
| | **S** | 16.3 | 38.4 | 32.8 | 12.5 | (.90) | (2.41) |
| 12. Contextual usage | **T** | 3.9 | 2.0 | 31.4 | 62.7 | (.73) | (3.52) |
| | **S** | 3.5 | 16.1 | 50.2 | 30.2 | (.77) | (3.07) |
| 13. Grammatical usage | **T** | 2.0 | 17.6 | 47.1 | 33.3 | (.76) | (3.11) |
| | **S** | 6.9 | 18.3 | 50.8 | 23.9 | (.83) | (2.91) |
| 14. Extensive reading | **T** | 2.0 | 5.9 | 37.3 | 54.9 | (.70) | (3.45) |
| | **S** | 5.2 | 18.2 | 47.9 | 28.7 | (.82) | (3.00) |
| 15. Repeated drills | **T** | 19.6 | 43.1 | 25.5 | 11.8 | (.92) | (2.29) |
| | **S** | 9.7 | 19.8 | 43.3 | 27.3 | (.91) | (2.88) |
| 16. Contexual practices | **T** | 2.0 | 25.5 | 45.1 | 27.5 | (.78) | (2.98) |
| | **S** | 5.5 | 17.5 | 53.3 | 23.7 | (.79) | (2.95) |
| 17. Cooperativ activities | **T** | 3.9 | 35.3 | 43.1 | 17.6 | (.79) | (2.74) |
| | **S** | 8.6 | 28.8 | 40.2 | 22.4 | (.89) | (2.76) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "can promote students' (my) thinking and judging ability"*

| Vocabulary Teaching/Learning Activities | | can promote students' (my) thinking and judging ability | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | **T** | 13.7 | 31.4 | 31.4 | 23.5 | (.99) | (2.64) |
| | **S** | 5.9 | 21.1 | 51.3 | 21.7 | (.80) | (2.88) |
| 2. Pronunciation modeling | **T** | 7.8 | 33.3 | 31.4 | 27.5 | (.94) | (2.78) |
| | **S** | 4.2 | 17.9 | 46.0 | 31.9 | (.81) | (3.05) |
| 3. Keyword method | **T** | 37.3 | 41.2 | 15.7 | 5.9 | (.87) | (1.90) |
| | **S** | 22.6 | 31.8 | 30.0 | 15.6 | (1.00) | (2.38) |
| 4. Association | **T** | 5.9 | 23.5 | 43.1 | 27.5 | (.86) | (2.92) |
| | **S** | 9.2 | 25.2 | 44.1 | 21.6 | (.88) | (2.78) |
| 5. Definition in L1 | **T** | 19.6 | 52.9 | 21.6 | 5.9 | (.80) | (2.13) |
| | **S** | 10.3 | 36.2 | 42.1 | 11.5 | (.82) | (2.54) |
| 6. Word affixes | **T** | 5.9 | 3.9 | 43.1 | 47.4 | (.81) | (3.31) |
| | **S** | 6.6 | 26.0 | 45.8 | 21.6 | (.84) | (2.82) |
| 7. Dictionary look-up | **T** | 7.8 | 21.6 | 43.1 | 27.5 | (.90) | (2.90) |
| | **S** | 10.6 | 27.3 | 44.4 | 17.7 | (.88) | (2.69) |
| 8. Synonyms/antonyms | **T** | 5.9 | 9.8 | 37.3 | 47.1 | (.86) | (3.25) |
| | **S** | 4.5 | 18.0 | 53.4 | 24.1 | (.77) | (2.97) |
| 9. Visual aids | **T** | 5.9 | 33.3 | 43.1 | 17.6 | (.82) | (2.72) |
| | **S** | 8.2 | 27.6 | 45.2 | 18.9 | (.85) | (2.74) |
| 10. Semantic map | **T** | 7.8 | 23.5 | 43.1 | 25.5 | (.89) | (2.86) |
| | **S** | 12.0 | 28.8 | 41.4 | 17.7 | (.90) | (2.64) |
| 11. Demonstration | **T** | 11.8 | 51.0 | 25.5 | 11.8 | (.84) | (2.37) |
| | **S** | 12.5 | 32.4 | 38.7 | 16.4 | (.90) | (2.58) |
| 12. Contextual usage | **T** | 5.9 | 5.9 | 25.5 | 62.7 | (.85) | (3.45) |
| | **S** | 3.6 | 15.5 | 50.0 | 31.0 | (.77) | (3.08) |
| 13. Grammatical usage | **T** | 3.9 | 25.5 | 43.1 | 27.5 | (.83) | (2.94) |
| | **S** | 6.8 | 21.0 | 50.1 | 22.1 | (.82) | (2.87) |
| 14. Extensive reading | **T** | 0.0 | 5.9 | 41.2 | 52.9 | (.61) | (3.47) |
| | **S** | 5.1 | 18.2 | 47.5 | 29.2 | (.82) | (3.00) |
| 15. Repeated drills | **T** | 21.6 | 54.9 | 15.7 | 7.8 | (.83) | (2.09) |
| | **S** | 14.3 | 27.9 | 37.4 | 20.5 | (.96) | (2.64) |
| 16. Contexual practices | **T** | 2.0 | 23.5 | 45.1 | 29.4 | (.78) | (3.01) |
| | **S** | 5.0 | 19.2 | 50.7 | 25.1 | (.80) | (2.95) |
| 17. Cooperativ activities | **T** | 2.0 | 9.8 | 62.7 | 25.5 | (.65) | (3.11) |
| | **S** | 6.7 | 22.0 | 43.0 | 28.3 | (.87) | (2.92) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "helps build students' (my) vocabulary size"*

| Vocabulary Teaching/Learning Activities | | helps build students' (my) vocabulary size | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | **T** | 5.9 | 17.6 | 37.3 | 39.2 | (.90) | (3.09) |
| | **S** | 5.5 | 20.2 | 49.0 | 25.4 | (.82) | (2.94) |
| 2. Pronunciation modeling | **T** | 2.0 | 17.6 | 35.3 | 45.1 | (.81) | (3.23) |
| | **S** | 3.6 | 15.0 | 46.2 | 35.2 | (.79) | (3.13) |
| 3. Keyword method | **T** | 21.6 | 45.1 | 25.5 | 7.8 | (.87) | (2.19) |
| | **S** | 20.5 | 29.4 | 30.7 | 19.5 | (1.02) | (2.49) |
| 4. Association | **T** | 21.6 | 45.1 | 25.5 | 7.8 | (.87) | (2.19) |
| | **S** | 9.7 | 25.6 | 43.1 | 21.7 | (.89) | (2.76) |
| 5. Definition in L1 | **T** | 17.6 | 33.3 | 39.2 | 9.8 | (.89) | (2.41) |
| | **S** | 8.5 | 31.3 | 46.1 | 14.2 | (.82) | (2.65) |
| 6. Word affixes | **T** | 5.9 | 2.0 | 33.3 | 58.8 | (.80) | (3.45) |
| | **S** | 7.3 | 26.1 | 44.9 | 2.7 | (.85) | (2.80) |
| 7. Dictionary look-up | **T** | 7.8 | 17.6 | 47.1 | 27.5 | (.88) | (2.94) |
| | **S** | 8.6 | 26.6 | 43.2 | 21.7 | (.88) | (2.78) |
| 8. Synonyms/antonyms | **T** | 5.9 | 5.9 | 35.3 | 52.9 | (.84) | (3.35) |
| | **S** | 5.7 | 17.6 | 50.7 | 26.0 | (.81) | (2.96) |
| 9. Visual aids | **T** | 5.9 | 21.6 | 47.1 | 25.5 | (.84) | (2.92) |
| | **S** | 9.1 | 28.8 | 43.0 | 19.1 | (.87) | (2.72) |
| 10. Semantic map | **T** | 9.8 | 15.7 | 47.1 | 27.5 | (.91) | (2.92) |
| | **S** | 11.1 | 33.3 | 39.2 | 16.4 | (.88) | (2.60) |
| 11. Demonstration | **T** | 11.8 | 35.3 | 41.2 | 11.8 | (.85) | (2.52) |
| | **S** | 14.0 | 33.8 | 36.0 | 16.2 | (.92) | (2.54) |
| 12. Contextual usage | **T** | 3.9 | 9.8 | 35.3 | 51.0 | (.81) | (3.33) |
| | **S** | 3.8 | 17.2 | 51.2 | 27.8 | (.77) | (3.03) |
| 13. Grammatical usage | **T** | 3.9 | 23.5 | 41.2 | 31.4 | (.84) | (3.00) |
| | **S** | 6.8 | 24.4 | 47. | 20.9 | (.83) | (2.82) |
| 14. Extensive reading | **T** | 0.0 | 13.7 | 31.4 | 54.9 | (.72) | (3.41) |
| | **S** | 4.9 | 19.8 | 43.0 | 32.4 | (.84) | (3.02) |
| 15. Repeated drills | **T** | 17.6 | 41.2 | 33.3 | 7.8 | (.86) | (2.31) |
| | **S** | 9.4 | 19.6 | 42.2 | 28.9 | (.92) | (2.90) |
| 16. Contexual practices | **T** | 2.0 | 21.6 | 54.9 | 21.6 | (.72) | (2.96) |
| | **S** | 5.9 | 20.2 | 50.5 | 23.4 | (.81) | (2.91) |
| 17. Cooperativ activities | **T** | 3.9 | 31.4 | 43.1 | 21.6 | (.81) | (2.82) |
| | **S** | 7.0 | 23.4 | 43.4 | 26.2 | (.87) | (2.88) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of the beliefs on whether the teaching/learning activity "motivates students (me) to participate in vocabulary learning activities"*

| Vocabulary Teaching/Learning Activities | | motivates students (me) to participate in vocabulary learning activities | | | | | |
|---|---|---|---|---|---|---|---|
| | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
| 1. Pronunciation-spelling correspondence | **T** | 9.8 | 29.4 | 49.3 | 11.8 | (.90) | (2.62) |
| | **S** | 7.5 | 33.9 | 43.4 | 15.2 | (.82) | (2.66) |
| 2. Pronunciation modeling | **T** | 3.9 | 23.5 | 43.1 | 29.4 | (.81) | (2.98) |
| | **S** | 5.9 | 24.2 | 44.8 | 25.1 | (.79) | (2.89) |
| 3. Keyword method | **T** | 15.7 | 25.5 | 43.1 | 15.7 | (.87) | (2.58) |
| | **S** | 21.4 | 29.8 | 30.8 | 18.0 | (1.02) | (2.45) |
| 4. Association | **T** | 3.9 | 35.3 | 49.0 | 11.8 | (.87) | (2.68) |
| | **S** | 14.9 | 35.7 | 36.3 | 13.1 | (.89) | (2.47) |
| 5. Definition in L1 | **T** | 17.6 | 45.1 | 33.3 | 3.9 | (.89) | (2.23) |
| | **S** | 11.9 | 38.2 | 39.4 | 10.5 | (.82) | (2.48) |
| 6. Word affixes | **T** | 2.0 | 15.7 | 43.1 | 39.2 | (.80) | (3.19) |
| | **S** | 10.3 | 36.4 | 38.1 | 15.3 | (.85) | (2.58) |
| 7. Dictionary look-up | **T** | 7.8 | 33.3 | 49.0 | 9.8 | (.88) | (2.60) |
| | **S** | 13.7 | 33.2 | 38.7 | 14.4 | (.88) | (2.53) |
| 8. Synonyms/antonyms | **T** | 5.9 | 13.7 | 51.0 | 29.4 | (.84) | (3.03) |
| | **S** | 7.2 | 29.5 | 45.6 | 17.6 | (.81) | (2.73) |
| 9. Visual aids | **T** | 5.9 | 11.8 | 43.1 | 39.2 | (.84) | (3.15) |
| | **S** | 10.0 | 29.7 | 38.2 | 22.1 | (.87) | (2.72) |
| 10. Semantic map | **T** | 9.8 | 21.6 | 47.1 | 21.6 | (.91) | (2.80) |
| | **S** | 13.6 | 36.5 | 36.2 | 13.7 | (.88) | (2.50) |
| 11. Demonstration | **T** | 9.8 | 17.6 | 45.1 | 27.5 | (.85) | (2.90) |
| | **S** | 14.2 | 31.1 | 37.2 | 17.6 | (.92) | (2.58) |
| 12. Contextual usage | **T** | 2.0 | 19.6 | 37.3 | 41.2 | (.81) | (3.17) |
| | **S** | 5.2 | 24.2 | 46.1 | 24.4 | (.77) | (2.89) |
| 13. Grammatical usage | **T** | 2.0 | 41.2 | 37.3 | 19.6 | (.84) | (2.74) |
| | **S** | 10.2 | 29.9 | 44.1 | 15.8 | (.83) | (2.65) |
| 14. Extensive reading | **T** | 2.0 | 15.7 | 51.0 | 31.4 | (.72) | (3.11) |
| | **S** | 9.5 | 24.3 | 42.1 | 24.1 | (.84) | (2.80) |
| 15. Repeated drills | **T** | 25.5 | 51.0 | 17.6 | 5.9 | (.86) | (2.03) |
| | **S** | 16.2 | 27.9 | 37.9 | 18.0 | (.92) | (2.57) |
| 16. Contexual practices | **T** | 2.0 | 33.3 | 51.0 | 13.7 | (.72) | (2.74) |
| | **S** | 9.1 | 29.2 | 44.9 | 16.8 | (.81) | (2.69) |
| 17. Cooperativ activities | **T** | 2.0 | 5.9 | 43.1 | 49.0 | (.81) | (3.39) |
| | **S** | 7.6 | 19.1 | 38.4 | 34.8 | (.87) | (3.00) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

# APPENDICES
## Appendix B

*Frequencies (in %) and Mean scores of Pronunciation-spelling Correspondence*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 0.00 | 0.00 | 72.5 | 27.5 | (.45) | (3.27) |
| | **S** | 3.2 | 12.7 | 56.5 | 27.5 | (.72) | (3.08) |
| motivates students (me) to learn vocabulary | **T** | 2.0 | 31.4 | 49.0 | 17.6 | (.74) | (2.82) |
| | **S** | 7.1 | 32.5 | 47.9 | 12.5 | (.78) | (2.65) |
| is a prior teaching (learning) approach/activity | **T** | 2.9 | 25.5 | 35.3 | 33.3 | (.91) | (2.96) |
| | **S** | 7.0 | 24.1 | 45.6 | 23.2 | (.85) | (2.85) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 15.7 | 35.3 | 45.1 | (.85) | (3.21) |
| | **S** | 4.7 | 19.6 | 50.5 | 25.3 | (.79) | (2.96) |
| can promote students' (my) thinking and judging ability | **T** | 13.7 | 31.4 | 31.4 | 23.5 | (.99) | (2.64) |
| | **S** | 5.9 | 21.1 | 51.3 | 21.7 | (.80) | (2.88) |
| helps build students' (my) vocabulary size | **T** | 5.9 | 17.6 | 37.3 | 39.2 | (.90) | (3.09) |
| | **S** | 5.5 | 20.2 | 49.0 | 25.4 | (.82) | (2.94) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 9.8 | 29.4 | 49.3 | 11.8 | (.85) | (2.62) |
| | **S** | 7.5 | 33.9 | 43.4 | 15.2 | (.82) | (2.66) |

*Note*. T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Pronunciation Modeling*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 3.9 | 5.9 | 37.3 | 52.9 | (.77) | (3.39) |
| | **S** | 3.1 | 8.7 | 39.5 | 48.8 | (.76) | (3.34) |
| motivates students (me) to learn vocabulary | **T** | 2.0 | 33.3 | 39.2 | 25.5 | (.81) | (2.88) |
| | **S** | 4.5 | 23.7 | 48.5 | 23.3 | (.80) | (2.90) |
| is a prior teaching (learning) approach/activity | **T** | 2.0 | 9.8 | 35.3 | 52.9 | (.75) | (3.39) |
| | **S** | 3.9 | 14.1 | 41.2 | 40.8 | (.81) | (3.19) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 9.8 | 31.4 | 54.9 | (.82) | (3.37) |
| | **S** | 2.2 | 9.5 | 46.8 | 41.4 | (.72) | (3.27) |
| can promote students' (my) thinking and judging ability | **T** | 7.8 | 33.3 | 31.4 | 27.5 | (.94) | (2.78) |
| | **S** | 4.2 | 17.9 | 46.0 | 31.9 | (.81) | (3.05) |
| helps build students' (my) vocabulary size | **T** | 2.0 | 17.6 | 35.3 | 45.1 | (.81) | (3.23) |
| | **S** | 3.6 | 15.0 | 46.2 | 35.2 | (.79) | (3.13) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 3.9 | 23.5 | 43.1 | 29.4 | (.83) | (2.98) |
| | **S** | 5.9 | 24.2 | 44.8 | 25.1 | (.84) | (2.89) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Keyword Method*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 19.6 | 19.6 | 43.1 | 17.6 | (1.00) | (2.58) |
| | **S** | 3.1 | 8.7 | 39.5 | 48.8 | (.76) | (3.34) |
| motivates students (me) to learn vocabulary | **T** | 11.8 | 11.8 | 58.8 | 17.6 | (.86) | (2.82) |
| | **S** | 18.5 | 28.6 | 32.1 | 20.8 | (1.01) | (2.55) |
| is a prior teaching (learning) approach/activity | **T** | 37.3 | 39.2 | 13.7 | 9.8 | (.95) | (1.96) |
| | **S** | 25.5 | 34.5 | 24.4 | 15.6 | (1.01) | (2.30) |
| is relevant to students' (my) general English learning needs | **T** | 37.3 | 39.2 | 17.6 | 5.9 | (.89) | (1.92) |
| | **S** | 24.4 | 36.7 | 27.0 | 11.9 | (.96) | (2.26) |
| can promote students' (my) thinking and judging ability | **T** | 37.3 | 41.2 | 15.7 | 5.9 | (.87) | (1.90) |
| | **S** | 22.6 | 31.8 | 30.0 | 15.6 | (1.00) | (2.38) |
| helps build students' (my) vocabulary size | **T** | 21.6 | 45.1 | 25.5 | 7.8 | (.87) | (2.19) |
| | **S** | 20.5 | 29.4 | 30.7 | 19.5 | (1.02) | (2.49) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 15.7 | 25.5 | 43.1 | 15.7 | (.94) | (2.58) |
| | **S** | 21.4 | 29.8 | 30.8 | 18.0 | (1.01) | (2.45) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Association*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 7.8 | 17.6 | 52.9 | 21.6 | (.84) | (2.88) |
| | **S** | 10.9 | 31.0 | 39.8 | 18.3 | (.90) | (2.65) |
| motivates students (me) to learn vocabulary | **T** | 9.8 | 31.4 | 47.1 | 11.8 | (.82) | (2.60) |
| | **S** | 12.1 | 40.0 | 35.6 | 12.2 | (.85) | (2.47) |
| is a prior teaching (learning) approach/activity | **T** | 7.8 | 27.5 | 41.2 | 23.5 | (.89) | (2.80) |
| | **S** | 15.1 | 37.5 | 35.6 | 12.1 | (.88) | (2.44) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 19.6 | 51.0 | 25.5 | (.78) | (2.98) |
| | **S** | 9.5 | 28.1 | 43.8 | 18.6 | (.87) | (2.71) |
| can promote students' (my) thinking and judging ability | **T** | 5.9 | 23.5 | 43.1 | 27.5 | (.86) | (2.92) |
| | **S** | 9.2 | 25.2 | 44.1 | 21.6 | (.88) | (2.78) |
| helps build students' (my) vocabulary size | **T** | 21.6 | 45.1 | 25.5 | 7.8 | (.87) | (2.19) |
| | **S** | 9.7 | 25.6 | 43.1 | 21.7 | (.89) | (2.76) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 3.9 | 35.3 | 49.0 | 11.8 | (.73) | (2.68) |
| | **S** | 14.9 | 35.7 | 36.3 | 13.1 | (.90) | (2.47) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Definition in L1*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 5.9 | 41.2 | 45.1 | 7.8 | (.72) | (2.54) |
| | **S** | 8.9 | 32.6 | 46.5 | 12.0 | (.80) | (2.61) |
| motivates students (me) to learn vocabulary | **T** | 11.8 | 56.9 | 27.5 | 3.9 | (.70) | (2.23) |
| | **S** | 10.9 | 39.6 | 39.3 | 10.2 | (.81) | (2.48) |
| is a prior teaching (learning) approach/activity | **T** | 15.7 | 33.3 | 41.2 | 9.8 | (.87) | (2.45) |
| | **S** | 11.5 | 35.0 | 41.6 | 11.8 | (.84) | (2.53) |
| is relevant to students' (my) general English learning needs | **T** | 11.8 | 33.3 | 45.1 | 9.8 | (.83) | (2.52) |
| | **S** | 7.3 | 28.5 | 47.4 | 16.8 | (.82) | (2.73) |
| can promote students' (my) thinking and judging ability | **T** | 19.6 | 52.9 | 21.6 | 5.9 | (.80) | (2.13) |
| | **S** | 10.3 | 36.2 | 42.1 | 11.5 | (.80) | (2.54) |
| helps build students' (my) vocabulary size | **T** | 17.6 | 33.3 | 39.2 | 9.8 | (.89) | (2.41) |
| | **S** | 8.5 | 31.3 | 46.1 | 14.2 | (.82) | (2.65) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 17.6 | 45.1 | 33.3 | 3.9 | (.78) | (2.23) |
| | **S** | 11.9 | 38.2 | 39.4 | 10.5 | (.83) | (2.48) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Word Affixes*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 3.9 | 5.9 | 39.2 | 51.0 | (.77) | (3.37) |
| | **S** | 7.9 | 25.5 | 44.0 | 22.6 | (.87) | (2.81) |
| motivates students (me) to learn vocabulary | **T** | 5.9 | 13.7 | 47.1 | 33.3 | (.84) | (3.07) |
| | **S** | 10.7 | 37.3 | 37.5 | 14.6 | (.86) | (2.55) |
| is a prior teaching (learning) approach/activity | **T** | 5.9 | 13.7 | 29.4 | 51.0 | (.91) | (3.25) |
| | **S** | 10.8 | 34.2 | 39.6 | 15.4 | (.87) | (2.59) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 7.8 | 41.2 | 47.1 | (.78) | (3.31) |
| | **S** | 7.1 | 26.7 | 46.2 | 20.0 | (.84) | (2.79) |
| can promote students' (my) thinking and judging ability | **T** | 5.9 | 3.9 | 43.1 | 47.4 | (.81) | (3.31) |
| | **S** | 6.6 | 26.0 | 45.8 | 21.6 | (.84) | (2.82) |
| helps build students' (my) vocabulary size | **T** | 5.9 | 2.0 | 33.3 | 58.8 | (.80) | (3.45) |
| | **S** | 7.3 | 26.1 | 44.9 | 2.7 | (.85) | (2.80) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 2.0 | 15.7 | 43.1 | 39.2 | (.77) | (3.19) |
| | **S** | 10.3 | 36.4 | 38.1 | 15.3 | (.86) | (2.58) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Dictionary Look-up*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 3.9 | 25.5 | 52.9 | 17.6 | (.75) | (2.84) |
| | **S** | 8.8 | 27.5 | 43.7 | 20.1 | (.87) | (2.75) |
| motivates students (me) to learn vocabulary | **T** | 11.8 | 35.3 | 41.2 | 11.8 | (.85) | (2.52) |
| | **S** | 14.2 | 35.8 | 35.6 | 14.4 | (.90) | (2.50) |
| is a prior teaching (learning) approach/activity | **T** | 9.8 | 51.0 | 23.5 | 15.7 | (.87) | (2.45) |
| | **S** | 15.0 | 35.1 | 35.8 | 14.1 | (.91) | (2.48) |
| is relevant to students' (my) general English learning needs | **T** | 2.0 | 19.6 | 51.0 | 27.5 | (.74) | (3.03) |
| | **S** | 9.0 | 25.7 | 45.3 | 20.1 | (.87) | (2.76) |
| can promote students' (my) thinking and judging ability | **T** | 7.8 | 21.6 | 43.1 | 27.5 | (.90) | (2.90) |
| | **S** | 10.6 | 27.3 | 44.4 | 17.7 | (.88) | (2.69) |
| helps build students' (my) vocabulary size | **T** | 7.8 | 17.6 | 47.1 | 27.5 | (.88) | (2.94) |
| | **S** | 8.6 | 26.6 | 43.2 | 21.7 | (.88) | (2.78) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 7.8 | 33.3 | 49.0 | 9.8 | (.77) | (2.60) |
| | **S** | 13.7 | 33.2 | 38.7 | 14.4 | (.90) | (2.53) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Synonyms/Antonyms*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 5.9 | 3.9 | 54.9 | 35.3 | (.77) | (3.19) |
| | **S** | 4.6 | 20.2 | 53.5 | 21.8 | (.77) | (2.92) |
| motivates students (me) to learn vocabulary | **T** | 5.9 | 13.7 | 52.9 | 27.5 | (.81) | (3.01) |
| | **S** | 6.5 | 31.2 | 48.2 | 14.2 | (.79) | (2.69) |
| is a prior teaching (learning) approach/activity | **T** | 5.9 | 9.8 | 43.1 | 41.2 | (.84) | (3.19) |
| | **S** | 7.0 | 34.5 | 43.0 | 15.5 | (.81) | (2.66) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 7.8 | 43.1 | 45.1 | (.78) | (3.29) |
| | **S** | 4.8 | 19.8 | 52.9 | 22.6 | (.78) | (2.93) |
| can promote students' (my) thinking and judging ability | **T** | 5.9 | 9.8 | 37.3 | 47.1 | (.86) | (3.25) |
| | **S** | 4.5 | 18.0 | 53.4 | 24.1 | (.77) | (2.97) |
| helps build students' (my) vocabulary size | **T** | 5.9 | 5.9 | 35.3 | 52.9 | (.84) | (3.35) |
| | **S** | 5.7 | 17.6 | 50.7 | 26.0 | (.81) | (2.96) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 5.9 | 13.7 | 51.0 | 29.4 | (.82) | (3.03) |
| | **S** | 7.2 | 29.5 | 45.6 | 17.6 | (.83) | (2.73) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Visual Aids*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 2.0 | 13.7 | 54.9 | 29.4 | (.71) | (3.11) |
| | **S** | 9.1 | 25.4 | 43.0 | 22.6 | (.89) | (2.79) |
| motivates students (me) to learn vocabulary | **T** | 3.9 | 13.7 | 41.2 | 41.2 | (.82) | (3.19) |
| | **S** | 9.8 | 28.4 | 38.4 | 23.4 | (.92) | (2.75) |
| is a prior teaching (learning) approach/activity | **T** | 2.0 | 41.2 | 37.3 | 19.6 | (.79) | (2.74) |
| | **S** | 12.7 | 39.2 | 33.1 | 15.0 | (.89) | (2.50) |
| is relevant to students' (my) general English learning needs | **T** | 0.0 | 27.5 | 52.9 | 19.6 | (.68) | (2.92) |
| | **S** | 10.8 | 34.6 | 39.3 | 15.3 | (.87) | (2.59) |
| can promote students' (my) thinking and judging ability | **T** | 5.9 | 33.3 | 43.1 | 17.6 | (.82) | (2.72) |
| | **S** | 8.2 | 27.6 | 45.2 | 18.9 | (.85) | (2.74) |
| helps build students' (my) vocabulary size | **T** | 5.9 | 21.6 | 47.1 | 25.5 | (.84) | (2.92) |
| | **S** | 9.1 | 28.8 | 43.0 | 19.1 | (.87) | (2.72) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 5.9 | 11.8 | 43.1 | 39.2 | (.85) | (3.15) |
| | **S** | 10.0 | 29.7 | 38.2 | 22.1 | (.91) | (2.72) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Semantic Map*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 3.9 | 21.6 | 52.9 | 21.6 | (.77) | (2.92) |
| | **S** | 12.4 | 33.0 | 39.6 | 15.0 | (.89) | (2.57) |
| motivates students (me) to learn vocabulary | **T** | 7.8 | 17.6 | 51.0 | 23.5 | (.85) | (2.90) |
| | **S** | 13.6 | 38.8 | 33.4 | 14.2 | (.89) | (2.48) |
| is a prior teaching (learning) approach/activity | **T** | 3.9 | 47.1 | 35.3 | 13.7 | (.77) | (2.58) |
| | **S** | 17.2 | 43.6 | 27.5 | 11.7 | (.89) | (2.33) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 23.5 | 51.0 | 21.6 | (.78) | (2.90) |
| | **S** | 14.1 | 36.4 | 36.9 | 12.7 | (.88) | (2.48) |
| can promote students' (my) thinking and judging ability | **T** | 7.8 | 23.5 | 43.1 | 25.5 | (.89) | (2.86) |
| | **S** | 12.0 | 28.8 | 41.4 | 17.7 | (.90) | (2.64) |
| helps build students' (my) vocabulary size | **T** | 9.8 | 15.7 | 47.1 | 27.5 | (.91) | (2.92) |
| | **S** | 11.1 | 33.3 | 39.2 | 16.4 | (.88) | (2.60) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 9.8 | 21.6 | 47.1 | 21.6 | (.89) | (2.80) |
| | **S** | 13.6 | 36.5 | 36.2 | 13.7 | (.89) | (2.50) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Demonstration*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 9.8 | 27.5 | 43.1 | 19.6 | (.89) | (2.72) |
| | **S** | 12.5 | 32.2 | 37.3 | 18.0 | (.92) | (2.60) |
| motivates students (me) to learn vocabulary | **T** | 9.8 | 11.8 | 49.0 | 29.4 | (.90) | (2.98) |
| | **S** | 12.5 | 31.6 | 37.1 | 18.8 | (.92) | (2.62) |
| is a prior teaching (learning) approach/activity | **T** | 13.7 | 43.1 | 23.5 | 19.6 | (.96) | (2.49) |
| | **S** | 18.0 | 39.7 | 29.1 | 13.1 | (.92) | (2.37) |
| is relevant to students' (my) general English learning needs | **T** | 11.8 | 41.2 | 37.3 | 9.8 | (.83) | (2.45) |
| | **S** | 16.3 | 38.4 | 32.8 | 12.5 | (.90) | (2.41) |
| can promote students' (my) thinking and judging ability | **T** | 7.8 | 23.5 | 43.1 | 25.5 | (.84) | (2.37) |
| | **S** | 12.0 | 28.8 | 41.4 | 17.7 | (.90) | (2.58) |
| helps build students' (my) vocabulary size | **T** | 11.8 | 35.3 | 41.2 | 11.8 | (.85) | (2.52) |
| | **S** | 14.0 | 33.8 | 36.0 | 16.2 | (.92) | (2.54) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 9.8 | 17.6 | 45.1 | 27.5 | (.92) | (2.90) |
| | **S** | 14.2 | 31.1 | 37.2 | 17.6 | (.93) | (2.58) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Contextual Usage*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 5.9 | 3.9 | 39.2 | 51.0 | (.82) | (3.35) |
| | **S** | 3.1 | 16.0 | 51.6 | 29.3 | (.75) | (3.07) |
| motivates students (me) to learn vocabulary | **T** | 3.9 | 15.7 | 45.1 | 35.3 | (.81) | (3.11) |
| | **S** | 4.9 | 25.4 | 48.7 | 21.1 | (.80) | (2.85) |
| is a prior teaching (learning) approach/activity | **T** | 5.9 | 5.9 | 33.3 | 54.9 | (.84) | (3.37) |
| | **S** | 5.1 | 25.2 | 46.2 | 23.5 | (.82) | (2.88) |
| is relevant to students' (my) general English learning needs | **T** | 11.8 | 41.2 | 37.3 | 9.8 | (.73) | (3.52) |
| | **S** | 16.3 | 38.4 | 32.8 | 12.5 | (.77) | (3.07) |
| can promote students' (my) thinking and judging ability | **T** | 11.8 | 51.0 | 25.5 | 11.8 | (.85) | (3.45) |
| | **S** | 12.5 | 32.4 | 38.7 | 16.4 | (.77) | (3.08) |
| helps build students' (my) vocabulary size | **T** | 11.8 | 35.3 | 41.2 | 11.8 | (.81) | (3.33) |
| | **S** | 14.0 | 33.8 | 36.0 | 16.2 | (.77) | (3.03) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 2.0 | 19.6 | 37.3 | 41.2 | (.81) | (3.17) |
| | **S** | 5.2 | 24.2 | 46.1 | 24.4 | (.82) | (2.89) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Grammatical Usage*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 3.9 | 23.5 | 41.2 | 31.4 | (.84) | (3.00) |
| | **S** | 8.2 | 21.8 | 48.8 | 21.2 | (.85) | (2.82) |
| motivates students (me) to learn vocabulary | **T** | 2.0 | 43.1 | 37.3 | 17.6 | (.78) | (2.70) |
| | **S** | 10.6 | 33.4 | 43.5 | 12.5 | (.84) | (2.57) |
| is a prior teaching (learning) approach/activity | **T** | 5.9 | 23.5 | 39.2 | 31.4 | (.89) | (2.96) |
| | **S** | 9.1 | 32.0 | 42.6 | 16.4 | (.85) | (2.66) |
| is relevant to students' (my) general English learning needs | **T** | 2.0 | 17.6 | 47.1 | 33.3 | (.76) | (3.11) |
| | **S** | 6.9 | 18.3 | 50.8 | 23.9 | (.83) | (2.91) |
| can promote students' (my) thinking and judging ability | **T** | 3.9 | 25.5 | 43.1 | 27.5 | (.83) | (2.94) |
| | **S** | 6.8 | 21.0 | 50.1 | 22.1 | (.82) | (2.87) |
| helps build students' (my) vocabulary size | **T** | 3.9 | 23.5 | 41.2 | 31.4 | (.84) | (3.00) |
| | **S** | 6.8 | 24.4 | 47.9 | 20.9 | (.83) | (2.82) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 2.0 | 41.2 | 37.3 | 19.6 | (.79) | (2.74) |
| | **S** | 10.2 | 29.9 | 44.1 | 15.8 | (.86) | (2.65) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Extensive Reading*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 3.9 | 9.8 | 37.3 | 49.0 | (.81) | (3.31) |
| | **S** | 6.4 | 20.8 | 45.7 | 27.1 | (.85) | (2.93) |
| motivates students (me) to learn vocabulary | **T** | 2.0 | 19.6 | 41.2 | 37.3 | (.80) | (3.13) |
| | **S** | 8.2 | 29.3 | 39.5 | 22.9 | (.89) | (2.77) |
| is a prior teaching (learning) approach/activity | **T** | 2.0 | 27.5 | 43.1 | 27.5 | (.79) | (2.96) |
| | **S** | 8.8 | 31.8 | 38.5 | 21.0 | (.89) | (2.71) |
| is relevant to students' (my) general English learning needs | **T** | 2.0 | 5.9 | 37.3 | 54.9 | (.70) | (3.45) |
| | **S** | 5.2 | 18.2 | 47.9 | 28.7 | (.82) | (3.00) |
| can promote students' (my) thinking and judging ability | **T** | 0.0 | 5.9 | 41.2 | 52.9 | (.61) | (3.47) |
| | **S** | 5.1 | 18.2 | 47.5 | 29.2 | (.82) | (3.00) |
| helps build students' (my) vocabulary size | **T** | 0.0 | 13.7 | 31.4 | 54.9 | (.72) | (3.41) |
| | **S** | 4.9 | 19.8 | 43.0 | 32.4 | (.84) | (3.02) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 2.0 | 15.7 | 51.0 | 31.4 | (.73) | (3.11) |
| | **S** | 9.5 | 24.3 | 42.1 | 24.1 | (.90) | (2.80) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Repeated Drills*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 7.8 | 29.4 | 47.1 | 15.7 | (.83) | (2.70) |
| | **S** | 9.1 | 16.0 | 42.7 | 32.6 | (.91) | (2.98) |
| motivates students (me) to learn vocabulary | **T** | 19.6 | 62.7 | 9.8 | 7.8 | (.78) | (2.05) |
| | **S** | 16.0 | 28.9 | 35.8 | 19.2 | (.97) | (2.58) |
| is a prior teaching (learning) approach/activity | **T** | 19.6 | 51.0 | 19.6 | 9.8 | (.87) | (2.19) |
| | **S** | 13.8 | 20.2 | 38.4 | 27.6 | (.99) | (2.79) |
| is relevant to students' (my) general English learning needs | **T** | 19.6 | 43.1 | 25.5 | 11.8 | (.92) | (2.29) |
| | **S** | 9.7 | 19.8 | 43.3 | 27.3 | (.91) | (2.88) |
| can promote students' (my) thinking and judging ability | **T** | 21.6 | 54.9 | 15.7 | 7.8 | (.83) | (2.09) |
| | **S** | 14.3 | 27.9 | 37.4 | 20.5 | (.96) | (2.64) |
| helps build students' (my) vocabulary size | **T** | 17.6 | 41.2 | 33.3 | 7.8 | (.86) | (2.31) |
| | **S** | 9.4 | 19.6 | 42.2 | 28.9 | (.92) | (2.90) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 25.5 | 51.0 | 17.6 | 5.9 | (.82) | (2.03) |
| | **S** | 16.2 | 27.9 | 37.9 | 18.0 | (.96) | (2.57) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Contextual Practices*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 0.0 | 21.6 | 52.9 | 25.5 | (.69) | (3.03) |
| | **S** | 5.0 | 21.0 | 52.7 | 21.3 | (.78) | (2.90) |
| motivates students (me) to learn vocabulary | **T** | 0.0 | 47.1 | 43.1 | 9.8 | (.66) | (2.62) |
| | **S** | 8.9 | 33.4 | 42.0 | 15.8 | (.84) | (2.64) |
| is a prior teaching (learning) approach/activity | **T** | 2.0 | 29.4 | 41.2 | 27.5 | (.81) | (2.94) |
| | **S** | 9.5 | 31.0 | 43.1 | 16.5 | (.86) | (2.66) |
| is relevant to students' (my) general English learning needs | **T** | 2.0 | 25.5 | 45.1 | 27.5 | (.78) | (2.98) |
| | **S** | 5.5 | 17.5 | 53.3 | 23.7 | (.79) | (2.95) |
| can promote students' (my) thinking and judging ability | **T** | 2.0 | 23.5 | 45.1 | 29.4 | (.78) | (3.01) |
| | **S** | 5.0 | 19.2 | 50.7 | 25.1 | (.80) | (2.95) |
| helps build students' (my) vocabulary size | **T** | 2.0 | 21.6 | 54.9 | 21.6 | (.72) | (2.96) |
| | **S** | 5.9 | 20.2 | 50.5 | 23.4 | (.81) | (2.91) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 2.0 | 33.3 | 51.0 | 13.7 | (.70) | (2.74) |
| | **S** | 9.1 | 29.2 | 44.9 | 16.8 | (.85) | (2.69) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

*Frequencies (in %) and Mean scores of Cooperative Activities*

| Sub-beliefs | | 1 (%) | 2 (%) | 3 (%) | 4 (%) | SD | M |
|---|---|---|---|---|---|---|---|
| is effective for word retention | **T** | 0.0 | 11.8 | 60.8 | 27.5 | (.51) | (3.15) |
| | **S** | 6.4 | 20.6 | 42.2 | 30.9 | (.87) | (2.97) |
| motivates students (me) to learn vocabulary | **T** | 2.0 | 43.1 | 35.3 | 19.6 | (.74) | (3.35) |
| | **S** | 5.8 | 17.3 | 40.3 | 36.6 | (.87) | (3.07) |
| is a prior teaching (learning) approach/activity | **T** | 2.0 | 43.1 | 35.3 | 19.6 | (.80) | (2.72) |
| | **S** | 9.7 | 32.4 | 33.3 | 24.6 | (.94) | (2.72) |
| is relevant to students' (my) general English learning needs | **T** | 3.9 | 35.3 | 43.1 | 17.6 | (.79) | (2.74) |
| | **S** | 8.6 | 28.8 | 40.2 | 22.4 | (.89) | (2.76) |
| can promote students' (my) thinking and judging ability | **T** | 2.0 | 9.8 | 62.7 | 25.5 | (.65) | (3.11) |
| | **S** | 6.7 | 22.0 | 43.0 | 28.3 | (.87) | (2.92) |
| helps build students' (my) vocabulary size | **T** | 3.9 | 31.4 | 43.1 | 21.6 | (.81) | (2.82) |
| | **S** | 7.0 | 23.4 | 43.4 | 26.2 | (.87) | (2.88) |
| motivates students (me) to participate in vocabulary learning activities | **T** | 2.0 | 5.9 | 43.1 | 49.0 | (.69) | (3.39) |
| | **S** | 7.6 | 19.1 | 38.4 | 34.8 | (.91) | (3.00) |

*Note.* T represents the abbreviation for Teachers (N=51); S represents the abbreviation for Students (N=982)

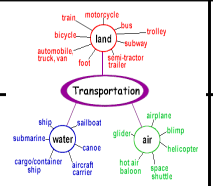
## Appendix C

### The *p* Values of Independent Samples *T*-test in Each Teaching/Learning Activity

| Main Categories | Vocabulary Teaching/Learning Approaches | Sub-beliefs | | | | | | | *p* Values in each teaching/ learning activities | *p* Values in each category |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Vocabulary retention | Motivates ss to learn | Prior teaching method | Relevant to ss' Eng learning needs | Thinking and judging ability | Vocab size | Motivates ss to participate | | |
| **Category P&S** **Pronunciation & Spelling** | 1. Pronunciation-spelling correspondence | .00* | .12 | .40 | .04* | .09 | .23 | .77 | **.35** | **.44** |
| | 2. Pronunciation modeling | .64 | .83 | .06 | .41 | .04* | .37 | .45 | **.70** | |
| | 3. Keyword method | .00* | .03* | .01* | .01* | .00* | .02* | .32 | **.01*** | |
| | 4. Association | .06 | .28 | .00* | .02* | .26 | .00* | .05 | **.02*** | |
| **Category MC** **Meaning Conveyance** | 1. Definition in L1 | .52 | .01* | .49 | .08 | .00* | .05 | .03* | **.02*** | **.00*** |
| | 2. Word affixes | .00* | .00* | .00* | .00* | .00* | .00* | .00* | **.00*** | |
| | 3. Dictionary look-up | .00* | .40 | .82 | .76 | .01* | .11 | .20 | **.25** | |
| | 4. Synonyms/antonyms | .52 | .01* | .00* | .00* | .00* | .02* | .00* | **.00*** | |
| | 5. Visual aids | .00* | .00* | .04* | .00* | .84 | .10 | .00* | **.00*** | |
| | 6. Semantic map | .00* | .00* | .03* | .00* | .10 | .02* | .02* | **.00*** | |
| | 7. Demonstration | .36 | .00* | .40 | .76 | .08 | .90 | .01* | **.36** | |
| **Category U** **Usage** | 1. Contextual usage | .02* | .03* | .00* | .00* | .00* | .01* | .02* | **.00*** | **.00*** |
| | 2. Grammatical usage | .16 | .26 | .02* | .07 | .58 | .16 | .43 | **.11** | |
| **Category A** **Activities** | 1. Extensive reading | .00* | .00* | .03* | .00* | .00* | .00* | .00* | **.00*** | **.76** |
| | 2. Repeated drills | .02* | .00* | .00* | .00* | .00* | .00* | .00* | **.00*** | |
| | 3. Contextual practices | .17 | .84 | .02* | .80 | .59 | .65 | .49 | **.32** | |
| | 4. Cooperative activities | .04* | .01* | .97 | .86 | .05 | .59 | .00* | **.10** | |
| | | **.04*** | **.00*** | **.00*** | **.02*** | **.79** | **.35** | **.01*** | | **.02*** |

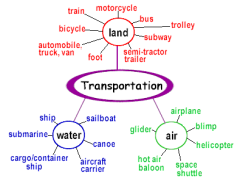
**APPENDICES**
**Appendix D**

*Teacher version grid --- English version*

| | | is effective for vocabulary retention | motivates students to learn vocabulary | is a prior teaching approach | is relevant to students' general English learning needs | can promote students' thinking and judging ability | helps build students' vocabulary size | motivates students to participate in vocabulary learning activities |
|---|---|---|---|---|---|---|---|---|
| 1 Use pronunciation-spelling correspondence to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 2 Demonstrate correct pronunciation to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 3 Use "Keyword Method" to help students remember vocabulary. (e.g., tongue sounds like "湯" *tang* in Chinese.) | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 4 Put vocabulary items that share similar parts in spelling (e.g., quiet/quite) or pronunciation together (e.g., great/grade) to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 5 Directly provide Chinese translation to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 6 Use affixes, like suffix or prefix, to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 7 Ask students to use dictionary to check up meanings to help them remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 8 Use synonyms and antonyms to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 9 Use visual aids like pictures, objects or slides to help students remember vocabulary.   | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 10 Use semantic map to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 11 Use actions like mime or gesture to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 12 Use contextual usages, like phrasal context, sentential context and situational context to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 13 Teach grammatical rules and usages like part of speech or verb tenses to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 14 Ask students to read a lot to help them to remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 15 Apply mechanical practices, such as to read silently or copy the meanings repeatedly to students to help them remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 16 Ask students to do a lot of contextual practices like cloze or "filling the vocabulary" exercise to help them remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 17 Adopt cooperative activities, like games or puzzles to help students remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |

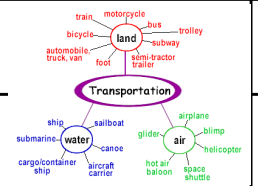
**APPENDICES**
**Appendix E**

*Teacher version grid --- Chinese version*

| | | 對於學生單字記憶很有效 | 能夠引起學生學習單字的動機 | 是我會優先使用的教學法 | 與學生的英文整體學習息息相關 | 能促進學生思考以及判斷能力 | 能有效增進學生的單字量 | 能提昇學生參與單字學習活動的動機 |
|---|---|---|---|---|---|---|---|---|
| 1 使用拼字和拼音之間的關係來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 2 使用單字的正確發音來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 3 使用中文諧音來幫助學生記住單字。例如用「湯」來記住tongue（舌）。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 4 把一些拼法相似或是發音相似的單字放一起，來幫助學生記住單字。前者如：quiet/quite，後者如：great/grade。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 5 直接告知單字的中文意義來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 6 利用字根、字首的觀念來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 7 要求學生使用字典查其字義來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 8 運用單字的同義字或反義字來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 9 使用視覺性輔助工具，例如圖片、實物、幻燈片等等來幫助學生記住單字。   | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 10 利用語意圖連結相關單字來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 11 運用肢體動作，例如比手畫腳或手勢來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 12 把單字用在文句中，例如使用該單字造片語、句子以及對話等等來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 13 利用單字的文法規則，例如把詞性、時式歸類等來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 14 要求學生利用大量閱讀的方式來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 15 利用反覆練習，例如重複默念或是重複抄寫字義，來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 16 要求學生利用寫練習題方式，例如克漏字練習或是字彙填充來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 17 透過合作學習，例如遊戲、猜謎等等，來幫助學生記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |

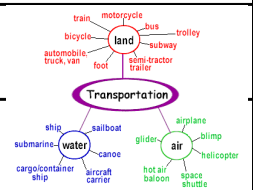
**APPENDICES**
**Appendix F**

*Student version grid --- English version*

| | | is effective for vocabulary retention | motivates me to learn vocabulary | is a prior learning activity | is relevant to my general English learning needs | can promote my thinking and judging ability | helps build my vocabulary size | motivates me to participate in vocabulary learning activities |
|---|---|---|---|---|---|---|---|---|
| 1 Use pronunciation-spelling correspondence to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 2 Use correct pronunciation to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 3 Use "Keyword Method" to help me remember vocabulary. (e.g., tongue sounds like "湯" *tang* in Chinese.) | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 4 Put vocabulary items that share similar parts in spelling (e.g., quiet/quite) or pronunciation together (e.g., great/grade) to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 5 Acquire Chinese translation from teachers to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 6 Use affixes, like suffix or prefix to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 7 Use dictionary to check up meanings to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 8 Use synonyms and antonyms to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 9 Use visual image to help me remember vocabulary.   | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 10 Use semantic map to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 11 Use actions like mime or gesture to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 12 Use contextual usages, like phrasal context, sentential context and situational context to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 13 Use grammatical rules and usages like part of speech or verb tenses to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 14 To read a lot to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 15 Do mechanical practices, such as to read silently or copy the meanings repeatedly to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 16 Do contextual practices like cloze or "filling the vocabulary" exercise to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 17 Engage in cooperative activities, like games or puzzles to help me remember vocabulary. | I think this | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |

**APPENDICES**
**Appendix G**

*Student version grid --- Chinese version*

| | | 對於我記憶單字很有效 | 能夠引起我學習單字的動機 | 是我會優先使用的學習法 | 與我的英文整體學習息息相關 | 能促進我思考以及判斷的能力 | 能有效增進我的單字量 | 能提昇我參與單字學習活動的動機 |
|---|---|---|---|---|---|---|---|---|
| 1 使用拼字和拼音之間的關係來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 2 使用單字的正確發音來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 3 使用中文譜音來幫助我記住單字。例如用「湯」來記住tongue（舌）。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 4 把一些拼法相似或是發音相似的單字放一起，來幫助我記住單字。前者如：quiet/quite，後者如：great/grade。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 5 老師直接告訴我中文意思來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 6 利用字根、字首的觀念來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 7 使用字典查其字義來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 8 運用單字的同義字或反義字來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 9 使用圖像來幫助我記住單字。   | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 10 利用語意圖連結相關單字來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 11 運用肢體動作，例如比手畫腳或手勢來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 12 把單字用在文句中，例如使用該單字造片語、句子以及對話等等來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 13 利用學習單字的文法規則，例如把詞性、時式歸類等來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 14 利用大量閱讀的方式來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 15 利用反覆練習，例如重複默念或是重複抄寫字義，來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 16 利用寫練習題方式，例如克漏字練習或是字彙填充來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |
| 17 透過參與合作學習，例如遊戲、猜謎等等，來幫助我記住單字。 | 我認為這 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 | 1 2 3 4 |