

A Study on the Relationship between Vocabulary Teaching Methods and Learning Attitudes Changes — The Case of Mei-ho Institute of Technology

Hsiao-Yu Chuang*, Chien-Hwa Tai**, Min-Fan Fu***

Abstract

The primary objective of this study is to conduct an empirical examination of the relationships between the freshmen's attitude changes toward English vocabulary and teaching methods. This study investigates how ESL junior college students improve their learning attitudes toward English vocabulary through a teaching project with several vocabulary teaching methods. The major findings of this study are as follows: 1. Overall speaking, the subjects perform relatively well in learning processes and learning habits but poor in learning methods. 2. Overall speaking, freshmen's leaning attitudes toward English vocabulary have improved after two-month instruction program. 3. Freshmen in day school have improved in learning processes more than those in night school. 4. The learning attitude of freshmen without interest in English originally is better then that of freshmen with interest in English.

Keywords: English vocabulary, teaching methods, learning attitude changes.

* Lecturer, Department of Applied Foreign Language, Meiho Institute of Technology

** Lecturer, Department of Applied Foreign Language, Meiho Institute of Technology

*** Lecturer, Department of Applied Foreign Language, Meiho Institute of Technology

I. Introduction

Students need more effective methods to help them learn vocabulary, especially for students of English as a second language (ESL). However, traditional vocabulary teaching often counts on mechanical memorization of lists of words and their definitions in Taiwan. Students should know more about vocabulary so that their learning effects last long. The knowledge about vocabulary generally includes word morphology, phonology, semantic features, and word's relationship with other associated words. Numerous studies have provided excellent vocabulary teaching methods. Some techniques are shown to be effective for native English speakers and others are considered to be proper for ESL students. For example, Johnson & Pearson (1978), followed by Dale, O'Rourke & Barbe (1986) and McCathy (1990), suggested analyzing a word by looking at suffixes, prefixes, or roots; Fromkin & Rodman (1993) suggested using semantic feature analysis; Stahl & Vancil (1986) and Brown & Perry indicated that the use of semantic mapping is a way of increasing vocabulary abilities; Johnson & Steele (1996) indicated students' use of context may be responsible for their vocabulary improvement; Atkinson (1975) and Hsia, Chung & Wong (1995) suggested memorizing vocabulary by association.

Teaching methods or learning strategies, students' achievements, and students' attitudes are generally connected in the literature, though such research on English vocabulary are not often seen. It is usually supported that excellent teaching methods or learning strategies may improve students' achievements (Bottomley, Truscott, Marinak, Henk & Melnick 1999; Pyle 1994; Lee 1998). As to the studies on the relationship between students' attitudes and academic achievements, most research support the positive relationship (Lai 1984; Chen 1984; Chang 1997; Shi 1997). In other words, if the students are motivated to be more aggressive toward English vocabulary learning, they are expected to be better in their vocabulary abilities.

However, the studies on students' attitude changes and English vocabulary teaching method or learning strategies are not often seen in the literature and such motivates this study.

Besides, we are also interested in examining if there is any significant difference in attitude changes between students, with different original interests toward English. In other words, we would like to know if freshmen students who were originally not interested in English improve more in learning attitudes than others. In addition, the primary education objective of Junior college is to teach students how to apply their knowledge for employment needs. Therefore, we are also interested in finding if freshmen students with different perceptions of the

importance of English toward employment exhibit significant difference in attitude changes.

Demographic variables, such as age, gender, occupation, income etc., are usually employed in the literature of attitude or achievement related studies. We also investigate if demographic characteristics, such as gender, education system (2-year school, 5-year school, day or night school), and residence area etc., affect attitude changes toward English vocabulary. Besides, if we regard entrance exam scores of English as a proxy of English achievement, we are also interested in seeing if freshmen students with different entrance scores show significant difference in attitude changes.

The primary objective of this study is to conduct an empirical examination of the relationships between the freshmen students' attitude changes toward English vocabulary and teaching methods. This study investigates how junior college students of English as a second language improve their learning attitudes toward English vocabulary through a teaching project including several vocabulary teaching methods. To be more specified, the purposes are:

1. To investigate the freshmen students' attitude changes after the self-designed vocabulary instruction program.
2. To investigate if there exists significant difference of the freshmen students' attitude changes between students with different demographic characteristics or with different perceptions toward English.
3. To divide the freshmen students into different attitude segments according to their original attitudes and / or attitude changes toward English vocabulary. The segments will then be profiled with respect to attitudes toward English vocabulary, interest toward English, recognition of the importance of English to employment, and demographic characteristics.

II. Literature Review

It is already well documented that through proper teaching methods, students or learners can improve their learning attitudes and performances. This study investigates how junior college students of English as a second language improve their learning attitudes toward English vocabulary through a teaching project including several vocabulary teaching methods. There are only a few studies on the relationship of English vocabulary teaching methods and student attitudes. In this section, we present a review of two kinds of literature. One is the literature of students or learners attitudes toward teaching methods, focusing on the English teaching methods. The other is the literature of English vocabulary teaching

methods.

1. Student attitudes or performances and teaching methods

Tan (1998) conducts a survey of Singaporean elementary-school students to discover the types of activities they wish to have in English lessons and make several suggestions for teachers in developing their teaching methods. Bottomley, Truscot, Marinak, Henk and Melnick (1999) conduct a comparison of whole language, literature-based, and basal reader literacy instruction in terms of the Elementary Reading Attitude Survey, the Reader Self-Perception Scale, and the Writer Self-Perception Scale. They conclude that a literature-based method seems to exhibit superior impact on Children's affective literacy orientations. Kucer (1998) studies engagement, conflict, and avoidance in a whole language classroom. Kucer investigates the different responses to a whole-language curriculum of two average third-grade students. Cravens (1996) conducts a study at Saint Louis Community College to determine the characters that students associated with excellence in teaching. The study has two phases. In the first one, 497 full-time students enrolled in English, Natural Science, etc. are asked in an open-ended questionnaire to list those teaching methods they feel resulting in teaching excellence. The 20 top characters are collected and make the second questionnaire to other 423 students in different fields to develop a point value score for each character. Though the results from two phases show little overall agreement among students regarding the characters of teaching excellence, the results imply that teaching methods really make difference in terms of students' attitudes.

Yang (1995) studies the effective awareness-raising in language learning strategy training. Yang shows how students of ESL improve their use of learning strategy through awareness-raising in group interviews and informal training. The subjects are 68 university students in two freshman English classes in Taiwan. Subjects are asked to respond to a questionnaire regarding English learning strategy both in the beginning (before the group interviews and training) and at the end (often the project) of the semester. The analysis of pre- and post-test project results reveal that the students significantly improve their learning strategies. The results imply that group interview provides students with different aspects of experience on English learning, not only on language itself but also the learning process. Yang also suggests teachers to deal with students' motivation and discover students' beliefs and strategies.

Bancroft (1996) compares different instruction methods in terms of students' language acquisition. Bancroft concludes that Shuster's Suggestive-Accelerative Learning Techniques (SALT) method, which combines Lazarus's Suggestopedia and Asher's Total Physical Response and Galvan's Confluent Education, is better than

others in terms of students' achievement scores and attitudes.

Jones (1995) investigates the responses of 60 Taiwanese graduate students in a business course to traditional and communicative language teaching (CLT) activities. Results show that although many students doubt the value of peer editing and student journals, most students prefer a combination of traditional, grammar-based instruction and CLT.

Pyle (1994) investigates the classroom opinions for teaching composition. Pyle suggests that a method using brainstorming, free writing, looping, and cubing can help students to find focus in their writing, while a grammar-based, error-correction method is at least partially responsible for students' perception as incompetent writers.

Lots of research related to student attitudes or performances and English teaching methods have been done in Taiwan. Most of them support the positive relationships between student attitudes or performances and English teaching methods. Lai (1984) investigates the relationship between learners' attitudes and English performances for high school students. The results show that the better the attitude the higher the effectiveness. Chang (1997) also conducts a study on English learning motivation and strategies in relation to the learning achievement of Junior high school students and finds a similar result with that of Lai (1984). Shi (1997) also has the similar result, though the subjects in Shi's study are military academy students. Lee (1998) conducts a survey on the effect of instruction with creative thinking strategies on elementary school students' English learning attitudes and concludes that the experiment group taking creative thinking strategies performs better than the controlled group. Lin (1997) investigates the effects of the whole language approach on elementary school students' English learning. Lin reports that the whole language approach makes ESL students become aggressive toward English learning.

Chang (1991) and Lin (1995) focus on the attitude changes of less skilled readers or low achievers in English. Chang argues that metacognitive training group is helpful in terms of students' reading effectiveness. However, there is no significant improvement in their learning attitudes. Lin also indicates that a designed teaching strategy increase the learning effectiveness of low achievers in English, but the learning attitudes have not improved significantly. That is to say, previous research report that the learning attitudes of students with low achievement in English seem to remain unchanged, even through designed teaching methods or strategies.

Demographic variables such as sex, age, etc., are often considered in the research. For example, Ladegaard (1998) studies the language attitudes and

linguistic behavior in a rural community in Denmark. The results show that traditional pattern of male speaking in a significantly more non-standard way than female is reproduced in present context. Male informants exhibit more genuinely positive attitudes to the language and culture of local community than do female informants in qualitative attitude-questionnaire. Chen (1984) investigates the learning attitudes and methods for high school students and compares the differences between male and female students. The results show, that females perform better in learning attitudes than those of males. The different responses toward various curriculum between males and females are also reported. Telese (1999) studies the Mexican American high school students' perceptions of mathematics and the results show that student attitudes toward mathematics are not very favorable, with female students' attitudes being more negative than those of males. Peplow (1998) also argues that females express more positively to discussion sessions and perform better in an active learning case-based programme in anatomy.

From the literature review, it seems reasonable to expect that we can improve learners' attitudes or performances through well designed teaching methods and strategies. Though there are few such studies on the relationships between learners' attitudes and English vocabulary teaching methods for ESL students, we believe it is worthwhile to conduct such a study for the references of ESL teachers for their vocabulary teaching to improve students' attitudes and motivations.

2. Vocabulary Teaching Methods

Students need effective methods to help them learn vocabulary, especially for ESL students. Several teaching techniques have been developed to help students learn vocabulary and can be roughly divided into five aspects: word structure, word meaning, word use, association and game. Some techniques are proved to be effective for native English speakers and some are considered to be better for ESL learners. We review several related words according to above-mentioned aspects in the following.

2.1. Word Structure Related Teaching Methods

Morphology and Phonics in linguistics can be used to help students learn new words more effectively. Johnson and Pearson (1978) indicate that we can understand new words by analyzing their suffixes, or roots. That is to say, linguistic elements, such as morphology and phonics, can be applied to help students learn vocabulary. For the morphemic analysis, Dale, O'Rourke, & Barbe (1986) suggest that readers can break up a word into prefix, root, and suffix and translates the fixed values of each meaningful unit into a literal meaning to infer the current meaning. Nation (1990) and McCarthy (1990) believe that this technique is especially useful for advanced ESL learners. However, sometimes it is not easy to see the connection

of the parts (of a word) and that of the word, such as 'went' and 'go' or 'gone'. McCarthy (1990) suggests that this kind of groups should be treated separately.

For the phonics analysis, Johnson and Peasson (1978), followed by Dale, O'Rourke, and Barbe (1986), and McCarthy, indicate that phonics instruction is important to vocabulary development. However, for ESL learners, the findings are not very consistent. Nation (1990) argues that the words with very similar sounds should not be taught early in second language course. The reason is that new ESL learners tend to memorize words by sounds so that the learners are easily confused because of the similarities.

2.2. Word Meaning Related Teaching Methods

Research indicates that we can use synonyms, antonyms, and semantic features to help learn and use new words more effectively in speech or in writing. Dale, O'Rourke, and Barbe (1986) suggest that the relative relations of sameness and oppositeness, synonymy and antonym, are most frequently used approaches in daily teaching. Synonymy means that a word has nearly the same meaning as another word; while antonym means the opposite of another word. Though it seems so nature to distinguish the meaning of words by their sameness or oppositeness, sometimes making fine distinctions is not easy. McCarthy (1990) argues that it would be misleading to say any two items are exact synonyms. Two words may be regarded as synonyms under some certain circumstances. However, they cannot be treated as the same for other situations. For example, 'start' and 'begin' sometimes are regarded as synonyms. However, we say 'she starts her car to leave', but we don't say 'she begins her car to leave.' Similar situations can be found for antonyms. For example, we say 'light or heavy bag', but we don't say 'light or heavy color'.

Semantic feature analysis is a method dealing most apparently with relationships among word meanings. The reason is that most vocabulary generally belongs to a certain "family". For example, "Human" is a semantic feature of "man, woman, parents, baby, etc.," Both Fromkin & Rodman (1993) and Nagy (1988) believe that semantic feature analysis can help students extend their vocabulary learning.

Stahl & Vancil (1986) and Brown and Perry (1991) indicate that there has been increasing interests in the use of semantic mapping as a method to help vocabulary learning. Stahl & Vancil argue that the semantic mapping should be the way of building up diagrammatic maps, relating vocabulary words, by teacher and students together. The semantic mapping is effective because it involves not only the great deal of discussion between teacher and students, but also the connection of new words with the existed knowledge of students through the use of the map. However, semantic mapping is not without question. Semantic mapping has the

same limits as synonyms and antonyms. As Nation (1990) points out, some associative relations help learning, some interfere.

2.3. Word Use Related Teaching Methods

Previous studies indicate that the use of context is helpful for students' vocabulary improvement. Gipe (1980) shows that using context to learn new vocabulary is more useful than using the dictionary for students. Dupuy & Krashen (1993) and Zimmerman (1997) also demonstrate that reading is also an effective method to acquire new vocabulary for ESL students. Generally speaking, the use of context can help learn vocabulary through either vocabulary guessing in context or vocabulary acquisition through reading. Dale, O'Rourke & Barbe (1986), Ryder (1986) and Johnson & Steele show that the use of context clues help learners to familiar with new words without checking their dictionary. This is especially good for ESL students, who generally ignore the whole context and structure. Seal (1990) also argues that learners can improve their guessing skills by looking for context clues. Nation (1990) indicates that it is particularly effective to guess words, low-frequently used, in context.

Dole, Sloan & Trathen (1995) believe an effective vocabulary teaching method should be the one that improves comprehension. Dupuy & Krashen (1993), and Cho & Krashen (1994) support that ESL students can improve their vocabulary ability by reading. From the literature, it is obvious that reading is an excellent vocabulary instruction tool to help students' vocabulary building.

2.4. Association Related Teaching Methods

It has been well documented about the idea that memory processes material image. Psycholinguists call the representation of words in permanent memory as the internal lexicon. The associated properties of a word may include its spelling, pronunciation or any relationship with other words.

Atkinson (1975), followed by Crow & Ougley (1985), and Brown & Perry (1991) believe that the keyword method is good for students learning vocabulary. Keyword method is a technique that learner links new words with existing words (or phrase) by visual similarity. Johnson & Steele (1996) indicate that learners recall more when they recreate their own images.

Sound is a frequently used associated property, especially for new learners. However, Hsia, Chung, & Wong (1995) show that beginners generally use sound associations, while advanced learners prefer meaningful associations, such as semantic features.

2.5. Games Related Teaching Methods

Traditional vocabulary teaching often counts on the mechanical memorization of lists of words and their definitions in Taiwan. Students are generally asked to be

quiet, and listening to the instructor with concentration. In other words, the interactions between students and teachers are few. Evidences from literature show that giving interactions in the classroom help students learn more effectively. Rinvoluceri (1980), Schur (1980), Horner (1980) all indicate that games can increase students' ability in listening, speaking, reading, and writing. Related research in Taiwan, such as Chuang & Lee (1996), also support that games related teaching methods are helpful to students to extend and memorize vocabulary.

III. Methodology

In this section, we describe the methodology used in this paper, including questionnaire design, survey design, hypotheses, data analysis methods and research limitations.

1. Questionnaire Design

The questionnaires used in this paper are designed mainly by referring to the learning attitudes related literature, and the items are developed according to the topics of vocabulary learning attitudes of junior college freshmen. The questionnaire includes three parts. The first part is the valuation items of learning attitudes, including learning methods, learning customs, learning desire, learning process and preparing for exams. All the items are in the form of questions, either positive or negative. The subjects are asked to choose one answer to the three optional items, namely 'usually', 'sometimes' and 'seldom'. For the convenience of comparison, we assume the subjects to rate their attitudes to 3-point interval scale. For the positive questions, the answers of 'usually', 'sometimes' and 'seldom' are given 3, 2, or 1 points, respectively; while for the negative questions, the answers of 'usually', 'sometimes', and 'seldom' are given 1, 2, or 3 point, respectively. In other words, subjects with high scores are assumed to be more aggressive in learning attitudes than those with low scores. The second part describes the demographic items, including sex, education system (2-year or 5-year college, day or night school), entrance exam score of English, resident area. The final part is the perceptions toward English, including the interests and the importance of English toward future employment.

2. Survey Design

We take Mei-Ho College (Pingtung County, Taiwan) as a case to conduct an empirical study on the relationship of learning attitude changes toward English Vocabulary of Junior College freshmen and teaching methods. The focus of this study is to see the attitude changes of Junior College freshmen after they receive several vocabulary instruction methods. For the convenience of the process of

experiment, six freshmen classes (approximately 45 students each one class the author teaches) are included in the sample set. The procedures of the survey are as follows: (1) All the subjects are asked to fill the first survey questionnaire (pre-test) in English lesson in the first month after their entering the school. The results of the attitude scores for each subject are recorded as their original attitude toward English vocabulary. (2) Each class is given several author self-designed vocabulary lessons (in around 2 months), including the uses of pictures, games, physical stuff, classification, and life information (such as commodity advertisements or commercials). The uses of pictures, physical stuff and life information can be regarded as kinds of association related teaching methods, while the use of classification of words can be regarded as semantic feature analysis. (3) The second questionnaire (post-test) is given to the subjects after the experiment is finished and the post-test attitude scores are collected. The total effective samples are 249.

3. Hypotheses

We construct several testable null hypotheses according to research purposes.

Hypothesis I: There is no significant change in learning attitudes.

Hypotheses II: There is no significant difference in learning attitude changes between students with different demographic characteristics.

2.1: There is no significant difference in learning attitude changes between male and female students.

2.2: There is no significant difference in learning attitudes changes between students with different entrance exam scores.

2.3: There is no significant difference in learning attitude changes between students of different education systems.

2.4: There is no significant difference in learning attitude changes between students living in different regions.

Hypotheses III: Learning attitude changes grouping and demographic item classifications are independent.

3.1: Learning attitude changes grouping and sex are independent.

3.2: Learning attitude changes grouping and entrance exam scores grouping are independent.

3.3: Learning attitude changes grouping and education system classification are independent.

3.4: Learning attitude changes grouping and resident area are independent.

Hypotheses IV: Learning attitude changes grouping and perceptions grouping toward English are independent.

4.1: Learning attitude changes grouping and interest toward English

grouping are independent.

4.2: Learning attitude changes grouping and employment importance recognition toward English grouping are independent.

Hypotheses V: There is no significant difference in learning attitude changes between students with different perceptions toward English.

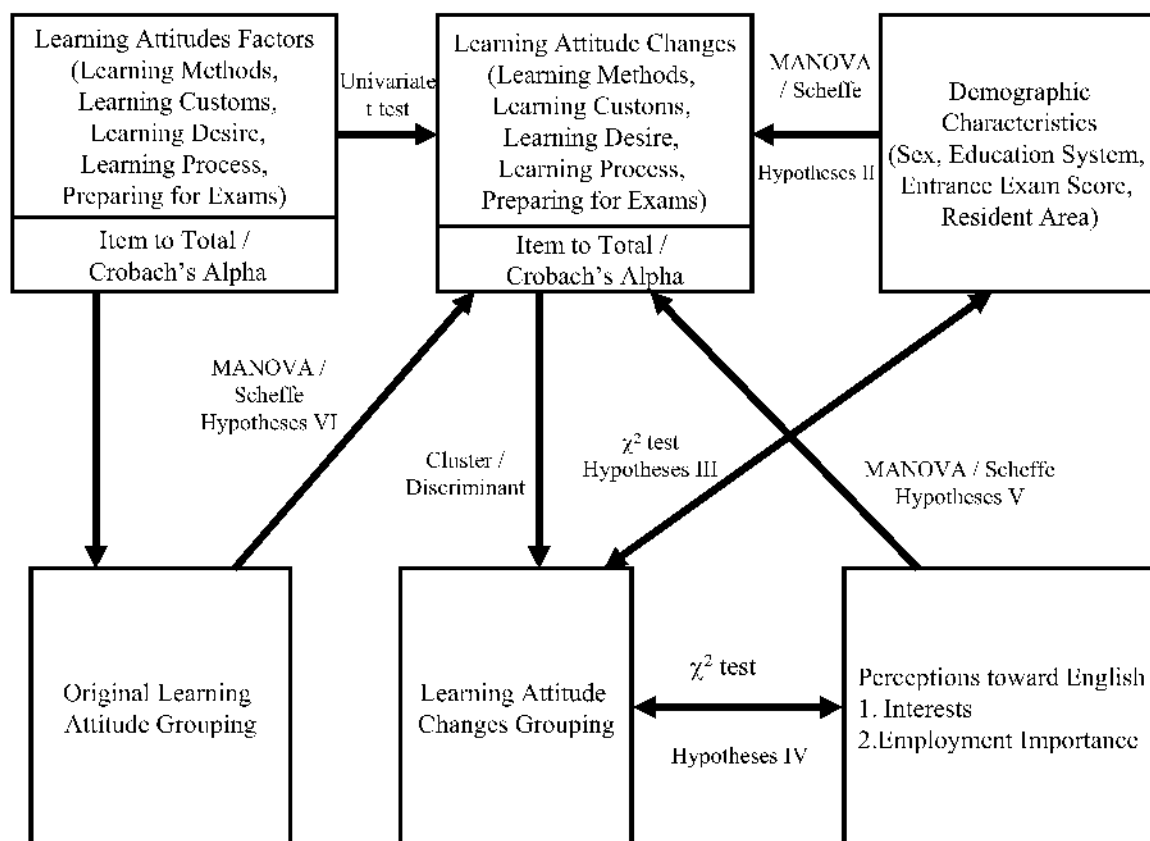
5.1: There is no significant difference in learning attitude changes between students with different degrees of interests toward English.

5.2: There is no significant difference in learning attitude changes between students with different employment importance recognitions toward English.

Hypotheses VI: There is no significant difference in learning attitude changes between students with different original attitudes groupings.

4. Data Analysis Methods

All the data are analyzed using SAS system. The data analysis methods include the measure of reliability (Cronbach's alpha and item to total), cluster and discriminant analysis, t test, MANOVA and Scheffe test and Chi-square test. All the data analysis methods are as figure 1.



【Figure 1】 Data Analysis Methods

5. Research Limitations

The research limitations in this study are as follows:

- (1) For the convenience of the process, we take six classes of freshmen at Mei-ho Institute of Technology as our subjects, and the total effective samples are only 249, which may not be proper or sufficient for inferences. This is the limitation of sampling.
- (2) For the convenience for performing mathematic operations, 3-point interval scale is used as the measurement scale of learning attitudes in this study, which may not be proper.
- (3) The five factors used in this study may not include as the factors influencing learning attitudes. Besides, since the focus of this study is on the learning attitude changes of Junior College freshmen toward English vocabulary, all the items and questions are developed or modified from related literature, thus may have the concern of invalidity.

IV. Empirical Results and Discussions

This section presents the empirical results.

1. The Basic Properties of Samples

It is obvious from Table 4.1 that most subjects are females (222 persons), which count for almost 90% of the total samples. This is because most students of Mei Ho College are females. Beside, the most of sample classes belong to Children Care Department and Department of Nurscry. Most subjects get 31-50 points for their English entrance exam (67 persons), followed by 21-30 point (52 persons) and above 81 points (38 persons). Most subjects live in the south area (south to Tainan County).

Table 4.1 Basic Properties of Samples

Basic Properties		Male	Female	Total*
Education System	2-year school	0	86	86
	5-year school	13	75	88
	2-year night school	16	59	75
	Total	29	220	249
English Entrance Example Score	10 and below	0	10	10
	11-20	2	19	21
	21-30	6	46	52
	31-50	8	59	67
	51-70	7	29	36

	71-80	1	24	25
	81 and above	5	33	38
	Total	29	220	249
Residence Area	North	0	11	11
	Central	0	26	26
	South	29	179	208
	Others	0	4	4
	Total	29	220	249

*Several missing values

2. The Original Performance of Learning Attitudes

We first transfer the 20 items of the learning attitudes questions into 5 learning attitude factors, namely learning methods (items 1 to 3), learning customs (items 4-6), learning desires (items 7-10), learning processes (item 11-16) and preparation for exams (item 17-20). To make sure the reliability of such transferring, we conduct the item to total correlation analysis and Cronbach's alpha analysis. The results show that the all correlation coefficients between items to total pass 0-6 and the Cronbach's alpha coefficient reaches 0.7, indicating high internal consistency and reliability.

We then class the above five factors by education systems and calculate the means of five factors. The results are exhibited in Table 4.2. Overall speaking, the subjects perform relatively well in learning processes and learning customs while relatively poor in learning methods.

Table 4.2 The Means of Freshmen' Learning Attitudes of toward English Vocabulary

Learning Attitude Factors	2-year school (n=86)	5-year school (n=88)	2-year night school (n=75)	Total subjects (n=249)
Learning Methods	1.98 (0.52)	2.09 (0.43)	1.88 (0.43)	1.99 (0.47)
Learning Customs	2.16 (0.44)	2.19 (0.41)	2.18 (0.41)	2.18 (0.42)
Learning Desires	1.98 (0.60)	2.14 (0.53)	1.98 (0.44)	2.04 (0.53)
Learning Processes	2.25 (0.38)	2.29 (0.38)	2.33 (0.35)	2.29 (0.37)
Preparation for Exams	2.10 (0.44)	2.12 (0.45)	2.01 (0.36)	2.08 (0.42)

Note: Standard error in parenthesis.

For the convenience for further analysis, we use Ward's hierarchical clustering procedure to assign all the subjects into different learning attitude groups. The groups exhibit different original leaning attitudes toward English vocabulary of subjects.

The result of cluster analysis is shown in Table 4.3.

Table 4.3 Results of Cluster Analysis for Original Learning Attitudes Grouping

Group	1	2	Total
Numbers of observations	129	120	249
Percentage	51.8%	48.2%	100.0%

To make sure whether above grouping is proper, we use a discriminant analysis. The result shows that the total hit ratio is 92.77% (231/249) and thus that the grouping is proper.

The means of each leaning attitude factors of different groups are as Table 4.4.

Table 4.4 Means and Standard Deviations of Each Learning Attitude Factors of Different Original Attitude Groups

Learning Attitude Factors	Group 1 (n=129)	Group 2 (n=120)
Learning Methods	1.71 (0.36)	2.28 (0.37)
Learning Customs	1.96 (0.39)	2.41 (0.31)
Learning Desires	1.68 (0.41)	2.41 (0.35)
Learning Processes	2.13 (0.37)	2.46 (0.30)
Preparation for Exams	1.81 (0.30)	2.37 (0.34)

Note: Standard error in parenthesis.

Group 1 has means lower than 2 except for learning process, thus is named as medium-low attitude group; while group 2 has means of all factors higher than 2.2, thus is named as medium-high attitude group.

3. The Learning Attitude Changes and the Difference Analysis between Freshmen with Different Demographic Items

Overall speaking, the leaning attitudes of freshmen toward English vocabulary have improved after the 2-month instruction program. Almost all the figures in Table 4.5 are positive. The only exception is the leaning process changes of 2-year night school freshmen. However, the figure is -0.007, which is very close to zero. Overall speaking, the most improved item is leaning desire and the least one is learning customs. After conducting the univariate t test, we can see that learning custom is the only item without significant change. All other learning attitude factors show significant improvements after the instruction program since all the null hypotheses are rejected. The results indicate that Hypotheses I are partly rejected.

Table 4.5 Means of Learning Attitude Changes of Freshmen toward English Vocabulary

Learning Attitude Factors	2-year school (n=86)	5-year school (n=88)	2-year night school (n=75)	Total subjects (n=249)	H_0 : Mean=0 t (p) valc
Learning Methods	0.074 (0.475)	0.102 (0.393)	0.093 (0.397)	0.090 (0.423)	3.35 (0.00)**
Learning Customs	0.043 (0.436)	0.019 (0.418)	0.027 (0.441)	0.029 (0.430)	1.08 (0.28)
Learning Desires	0.166 (0.555)	0.259 (0.411)	0.150 (0.425)	0.194 (0.470)	6.50 (0.00)**
Learning Processes	0.200 (0.376)	0.157 (0.357)	-0.007 (0.368)	0.122 (0.375)	5.15 (0.00)**
Preparation for Exams	0.198 (0.406)	0.176 (0.348)	0.160 (0.479)	0.179 (0.409)	6.89 (0.00)**

Note: Standard error in parenthesis.

** : Significant at $\alpha = 0.01$ level.

To understand whether there exist significant differences of learning attitude changes between freshmen with different demographic items, we conduct MANOVA tests. The results show that there is only significant difference in learning processes changes between students with different education systems, while there is no significant difference in other changes of learning attitude factors. Besides, there is no significant difference in leaning attitude changes between students with different entrance scores, with different residence areas, or with different sex.

From the Scheffe's test, we can see very obviously that the day school freshmen have improved better in learning processes than that of night school freshmen. The results partially reject Hypotheses II.

Table 4.6 MANOVA/Scheffé Tests for the Differences of Learning Attitude Changes
between Freshmen with Different Induction Systems

Learning Attitude Factors	2-year school (n=86)	5-year school (n=88)	2-year night school (n=75)	Wilk's λ	MANOVA F (P) value	ANOVA F (P) value	Scheffe
				0.93	1.91 (0.04)*		
Learning Methods	0.07 (0.48)	0.10 (0.39)	0.09 (0.40)			0.10 (0.90)	
Learning Customs	0.04 (0.44)	0.02 (0.42)	0.03 (0.44)			0.07 (0.93)	
Learning Desires	0.17 (0.56)	0.26 (0.41)	0.15 (0.43)			1.32 (0.27)	
Learning Processes	0.20 (0.38)	0.16 (0.36)	-0.01 (0.37)			6.95 (0.00)	A; B>C
Preparation for Exams	0.20 (0.41)	0.18 (0.35)	0.16 (0.48)			0.17 (0.84)	

Note: A: 2-year school

B: 5-year school

C: 2-year night school

4. The Difference Analysis of Learning Attitude Changes between Freshmen with Different Attitude toward English

There is no significant difference in learning attitude changes between freshmen with different recognition of the importance of English to employment. However, there is significant difference in leaning desire changes between freshmen with different interests toward English. Freshmen not iterated in English originally before the instruction program exhibit better improvements in leaning desires than other freshmen who were originally interested or very interested in English. In the matter of fact, though not statically significant, Freshmen not interested in English originally before the instruction program have improved more in all the leaning attitude factors than other freshmen in terms of mean differences.

Table 4.7 MANOVA / Scheffe Tests for the Differences of Learning Attitude Changes between Freshmen with Different Inductions

Learning Attitude Factors	Very Interested (n=40)	Interested (n=143)	Not Interested (n=66)	Wilk's λ	MANOVA F (P) value	ANOVA F (P) value	Scheffe
				0.91	2.22 (0.02)*		
Learning Methods	0.07 (0.29)	0.06 (0.46)	0.18 (0.40)			0.93 (0.15)	
Learning Customs	-0.04 (0.42)	-0.00 (0.43)	0.14 (0.43)			3.24 (0.05)	
Learning Desires	0.06 (0.37)	0.16 (0.44)	0.37 (0.53)			6.99 (0.00)**	C>B, A
Learning Processes	0.07 (0.35)	0.09 (0.37)	0.22 (0.39)			6.95 (0.06)	
Preparation for Exams	0.04 (0.33)	0.19 (0.44)	0.23 (0.36)			0.17 (0.05)	

Note: A: 2-year school

B: 5-year school

C: 2-year night school

5. The Difference Analysis of Learning Attitude Changes between Freshmen of Different Original Attitude Groups

It is obvious that all figures in Table 4.8 exhibit significant differences in learning attitude changes between freshmen of different original attitude groups. Freshmen who belong to medium-low attitude group show significantly more improvements is freshmen originally belonging to medium-high attitude group.

Table 4.8 MANOVA / Scheffe Tests for the Differences of Learning Attitude Changes between Freshmen of Different Original Attitude Group

Group	Medium-Low 1 (n=129)	Medium-High 2 (n=120)	Wilk's λ	MANOVA F (P) value	ANOVA F (P) value	Scheffe
			0.77	14.27 (0.00)**		
Learning Methods	0.22 (0.42)	-0.05 (0.38)			26.82 (0.00)**	A>B
Learning Customs	0.17 (0.42)	-0.12 (0.38)			32.53 (0.00)**	A>B
Learning Desires	0.32 (0.54)	0.06 (0.34)			19.39 (0.00)**	A>B
Learning Processes	0.20 (0.41)	0.04 (0.32)			10.78 (0.00)**	A>B
Preparation for Exams	0.29 (0.43)	0.06 (0.35)			20.90 (0.00)**	A>B

Note: ** Significant at $\alpha = 0.01$ level.

A: Medium-Low Group

B: Medium-High Group

6. The Relationship of Learning Attitude Changes Grouping, Demographic Items and Different Perceptions toward English

For the convenience for further analysis of the relationship between leaning attitudes changes grouping and the demographic items or the different perceptions toward English, we use Ward's hierarchical procedure to cluster all the subjects according to the learning attitude changes into different groups. The results show that three groups of subjects with different leaning attitude changes are formed. The results of cluster analysis for grouping are shown in Table 4.9.

Table 4.9 Results of Cluster Analysis for Learning Attitude Changes Grouping

Groups	1	2	3	Total
Numbers of Observations	57	166	26	249
Percentage	22.9%	66.7%	10.4%	100.0%

Also, to make sure that the clustering result is proper, we conduct a discriminant analysis. The result shows that the hit ratio is 87.95% (219/249) and thus the grouping is proper.

The means of each learning attitude factors of each attitude change group are as Table 4.10. It is very obvious that Group 3 has the highest means for all the five learning attitude factors. Group 2 has the middle means for all the five factors while Group 1 has the lowest means, which are all negative, for all the attitude factors. Group 1 shows no improvement at all after the instruction program and this is named as “Not improved” group. While Group 2 and Group 3 are named as “Improved” and “Much Improved” groups, respectively.

Table 4.10 Means and Standard Deviations of Each Learning Attitude Factors of Different Attitude Change Groups

Learning Attitude Factors	Group 1 (n=57)	Group 2 (n=166)	Group 3 (n=26)
Learning Methods	-0.04 (0.40)	0.06 ^(E) (0.39)	0.54 (0.41)
Learning Customs	-0.35 (0.34)	0.12 (0.38)	0.28 (0.43)
Learning Desires	-0.20 (0.44)	0.20 (0.30)	1.01 (0.34)
Learning Processes	-0.22 (0.24)	0.18 (0.32)	0.51 (0.39)
Preparation for Exams	-0.10 (0.29)	0.21 (0.36)	0.60 (0.49)

Chi-square tests are then employed to test the relationships of learning attitude changes grouping, demographic items and different perceptions toward English. The results show only the null hypothesis that learning attitude changes grouping and grouping of interests toward English are independent is rejected. Note that we make a merge between Group 2 and Group 3 to meet the theoretical requirement of

Chi-square test. The new group is just named as “Improved” group. The result shows that most of the freshmen who were not interested in English belong to Group 2. Thus the result is consistent with that we found previously. From the results we know that Hypotheses III, which say that learning attitude changes grouping and demographic item classifications are independent, are not rejected

- 3.1: Learning attitude changes grouping and sex are independent.
- 3.2: Learning attitude changes grouping and entrance exam scores grouping are independent.
- 3.3: Learning attitude changes grouping and education system classification are independent.
- 3.4: Learning attitude changes grouping and resident area are independent.

Hypotheses IV: Learning attitude changes grouping and perceptions grouping toward English are independent.

- 4.1: Learning attitude changes grouping and interest toward English grouping are independent.
- 4.2: Learning attitude changes grouping and employment importance recognition toward English grouping are independent.

Table 4-11 Independence Test for Learning Attitude Changes Grouping and Grouping of Interests toward English

Interests Groups	Very Interested	Interested	Not Interested	Chi-Square Value	P Value
Not improved	19	28	10	16.851	0.001**
Improved	21	115	56		

V. Conclusions

Students need more effective methods to help them learn vocabulary, especially for students of English as a second language (ESL). However, traditional vocabulary teaching often counts on mechanical memorization of lists of words and their definitions in Taiwan. Students should know more about vocabulary so that their learning effects last long. The knowledge about vocabulary generally includes word morphology, phonology, semantic features, and word’s relationship with other associated words. Numerous studies have provided excellent vocabulary teaching methods.

Teaching methods or learning strategies, students' achievements, and students' attitudes are generally connected in the literature, though such research on English vocabulary are not often seen. It is usually supported that excellent teaching methods or learning strategies may improve students' achievements. As to the studies on the relationship between students' attitudes and academic achievements, most research support the positive relationship. In other words, if the students are motivated to be more aggressive toward English vocabulary learning, they are expected to be better in their vocabulary abilities.

However, the studies on students' attitude changes and English vocabulary teaching method or learning strategies are not often seen in the literature and such motivates this study.

The primary objective of this study is to conduct an empirical examination of the relationships between the freshmen students' attitude changes toward English vocabulary and teaching methods. This study investigates how junior college students of English as a second language improve their learning attitudes toward English vocabulary through a teaching project including several vocabulary teaching methods

The major findings of this paper are as following:

1. Overall speaking, the subjects perform relatively well in learning processes and learning customs while relatively poor in learning methods.
2. Overall speaking, the leaning attitudes of freshmen toward English vocabulary have improved after the 2-month instruction program. The only exception is the leaning process changes of 2-year night school freshmen. However, the figure is -0.007, which is very close to zero. The most improved item is leaning desire and the least one is learning customs. After conducting the univariate t test, we can see that learning custom is the only item without significant change. All other learning attitude factors show significant improvements after the instruction program since all the null hypotheses are rejected. The results indicate that Hypotheses I are partly rejected.
3. The results show that there is only significant difference in learning processes changes between students with different education systems, while there is no significant difference in other changes of learning attitude factors. Besides, there is no significant difference in leaning attitude changes between students with different entrance scores, with different residence areas, or with different sex. From the Scheffe's test, we can see very obviously that the day school freshmen have improved better in learning processes than that of night school freshmen. The results partly reject Hypotheses II.
4. There is no significant difference in learning attitude changes between freshmen

with different recognition of the importance of English to employment. However, there is significant difference in leaning desire changes between freshmen with different interests toward English. Freshmen not interested in English originally before the instruction program exhibit better improvements in leaning desires than other freshmen who were originally interested or very interested in English. In the matter of fact, though not statically significant, freshmen not interested in English originally before the instruction program have improved more in all the leaning attitude factors than other freshmen in terms of mean differences.

5. Freshmen who belong to medium-low attitude group show significantly more improvements is freshmen originally belonging to medium-high attitude group.
6. For the convenience for further analysis of the relationship between leaning attitudes changes grouping and the demographic items or the different perceptions toward English, we use Ward's hierarchical procedure to cluster all the subjects according to the learning attitude changes into different groups. The results show that 3 groups of subjects with different leaning attitude changes are formed. Chi-square tests are then employed to test the relationships of learning attitude changes grouping, demographic items and different perceptions toward English. The results show only the null hypothesis that learning attitude changes grouping and grouping of interests toward English are independent is rejected. Note that we make a merge between Group 2 and Group 3 to meet the theoretical requirement of Chi-square test. The new group is just named as "Improved" group. The result shows that most of the freshmen who were not interested in English belong to Group 2. Thus the result is consistent with that we found previously.

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英文字彙教學與學習態度改變關聯性之研究一

以美和技術學院為例

莊筱玉*、戴鑑華**、傅敏芳***

摘要

本研究旨在探討英語字彙教學方法與專科（二、五專）入學新生英文字彙之學習態度改變（attitude changes）之關係；並探討新生對英文之興趣、對英文在未來就業重要性之認知及人口統計變數是否會與其學習態度之改變有關。本研究主要之結論如下：1.整體而言，受訪者在學習過程及學習習慣方面表現較佳，而在學習方法方面表現較差。2.整體而言，受訪者在經過二個月字彙教學課程後，學習態度均有所提昇。3.日間部新生相對於夜間部新生在學習過程上態度之改變上有顯著差異。4.原本對英文沒有興趣或很沒有興趣的新生在英文字彙學習態度上相較於原本對英文有興趣或很有興趣的新生有更顯著提昇與改善。

關鍵字：英文字彙、教學方法、學習態度改變

*美和技術學院應用外語系專任講師

**美和技術學院應用外語系專任講師

***美和技術學院應用外語系專任講師