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研究大一英文課程有效提升科技大學學生英文能力

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摘　要

本研究以中部某所國立科技大學學生做試驗教學，初步研究學生來源以該校大一入學的學生，學生樣本數每年約 1200 位，連續四年，共取得約 4800 位學生樣本數，本計畫將分析這四年的數據，藉此更了解學生的程度，並配合學生的需求，進而設計一年之大一英文課程，每週上課三小時，並在該英語教學課程前先實行前測，並在課程結束後實行後測，前測評量測驗採用 TOEIC Mock Test 英語能力分級測驗，後測評量測驗採用正式 TOEIC 測驗，以評量學生在該大一英文課程中英文實際能力進步幅度。此計畫教學將依據學生前測能力分班分級上課，並依照不同級別設計不同英語教材，但同一級別採統一教材、統一課綱、統一評量方式以及統一計分方法以達到評分之客觀效果。

此項計畫，將設定四個研究題目，分別為：(一)分析和探討前、後測之間的差異(二)學生的表現和性別有無關係(三)分析和探討前、後測之間的聽力及閱讀成績差異(四)各學院間學生的表現有無差異。並以 SPSS 分析法中之 ONE-WAY ANOVA 檢測樣本數據資料並分析此四個研究題目，以分析並取得具體教學成效。研究者希望將分析該計畫樣本數值以了解該校新生英文程度、英語聽力及閱讀成績之差異、以及分析英文學習成效跟學院以及性別差異有無關聯。綜合以上四年平均數值，並提供一份設計過後更適合該校大一英文課程之教學課綱

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以及教材。聽力和閱讀成績的分析，如果閱讀成績較弱，將可開設加強閱讀能力之補救教學課程；反之，將可開設聽力加強課程。性別以及各學院間之英文學習表現差異，將可更進一步了解英語之學習和性別及不同學院別有其差異性。並進一步將本計畫研究成果提供給其他有志參與英語教學人員、教育研究者、及各學校之行政主管以利英語教學，同時提供強化大一英語教學之教育宗旨並全面提升學生之英文能力，進而增加國家之競爭力。

關鍵字：One-Way ANOVA：單因子變異數分析、SPSS：統計產品與服務解決方案、課程設計：係指課程要素的選擇、組織與安排的方法過程

Chapter 1 Research Background

Today, English is playing an important role in many different fields all over the world. For instance, in politics, academia, business, sports, etc., English is used in many international affairs. The global lingua franca promotes relationships among human beings, nations, businesses, binding them more tightly together. In view of this, it is necessary that people should keep developing and supporting it. Especially in this globalization era, people interact with high frequency but how to help people to learn English with more efficiency is a common issue for many governments. Thus, there are more researchers who devote their attention to these studies and attempt to get results for dealing with the issue. The present study is going to select a school as a case study, then after the analysis of all the data from the case study, design appropriate course books and curriculum for the university freshman English course.

1.1 Background of the National University of Science and Technology

The project case study is going to invite freshman students from the National University of Science and Technology, a university with many well-known business professionals in Taiwan. The school is undergoing a lot of development; new buildings are constructed and focus is placed on developing business professionals at the school. Therefore, one of the school's most important policies is to promote students' English abilities and enhance students' occupational strengths. Hence, the school emphasis on the Undergraduate English Graduation Threshold, devoted to continually promoting students' English abilities.

1.2 Undergraduate English Graduation Threshold

The school had raised the Undergraduate English Graduation Threshold since 2016. For example, a student must achieve a TOEIC score above 550 or pass through the General English Proficiency Test (GEPT) Intermediate level (or other similar level tests) for Day School students. Evening School Undergraduate English Graduation Threshold will still maintain the requirement of a TOEIC Score higher than 225 or pass through the General English Proficiency Test (GEPT) Elementary level (or other similar level tests). In addition, almost every local college sets up similar regulations and requires students to achieve the requirement for developing global views and occupational strengths. This is not only the principle of MOE but also of almost every educator's consensus due to the fact that Taiwan is an island without a lot of natural resources; the most important resource is human knowledge. Therefore, how to promote students' globalization perspective and empower their English ability to communicate easily with people from all over the world for increasing opportunities of international trading and providing more service industries are the key to ensure that Taiwan may survive and stand out in the world.

Many universities of science and technology-language centers all require a e written English Mid-term Project and Long-term Project. For example, National Taichung University of Science and Technology's Mid-term Project requires that over 70% of freshmen need to participate in the English Proficiency Tests and 65% of the students pass through CEF A2 level (TOEIC score 225 or same level tests). Moreover, 45% students meet the requirement of B1 (TOEIC score 387 or same level tests). The Long-term Project predicts over 70% students will pass through CEF A2 level (TOEIC score 225 or same level tests) and 50% students will meet the requirement of B1 (TOEIC score 387 or same level tests) in 2018. To achieve the goal, the language center has been providing different kind of courses for students to achieve the purpose of the projects .

For achieving both requirements of Undergraduate English Graduation Threshold and English Projects, the language center is responsible for raising English abilities leading to empowering occupational strengths of students. However, almost

all students who study in Universities of Science and Technology are graduated from vocational schools. They focus on professional field knowledge more than English skills so that the vocational school student's English ability is much lower than that of a high school student. Therefore, many universities of science and technology's main purpose is to determine how to raise their students' English abilities and help them easily find jobs.

However, MOE does not insists on Undergraduate English Graduation Threshold firmly as before recently, but still encourages each university should keep conducting the policy. Besides, most universities slightly adjust the requirements and do not force students as hard as before. Generally, most universities still remain Undergraduate English Graduation Threshold now.

1.3 English Weak Students

The MOE in Taiwan not only requires all schools set up an Undergraduate English Graduation Threshold for students, but they also need to promote English language ability for students whose English is weak. What is an English low level student? Blumenthal (2014), in his study pointed out "This study investigated how a group of learners who are not often studied, low- to low-intermediate proficiency ESL students from low educational backgrounds, accounted for their own learning process, especially with respect to the way that they express perceptions of self-efficacy and to the English-language interactions that they have had outside of school." Also, the four factors which affected performance of low ability English learners were: (1) motivation; (2) achievable goals; (3) concentration ability and (4) proper classroom management, Lynch (2010) cited in Lynch and McKeurtan (2011). The definition of English low level students from National Taichung University of Science and Technology is a student whose English ability is below A2 (TOEIC score is lower 225 or does not meet GEPT Elementary Level).

1.4 TOEIC and GEPT

English learning needs to be evaluated by proficiency tests that reflect teachers'

teaching performances and students' learning with proficiency. The most popular method of evaluating English learning is the English Proficiency Test. There are many diverse English Proficiency Tests in Taiwan. The most popular tests are the TOEIC and the GEPT. TOEIC Homepage (2015) pointed out that the TOEIC is a "Test of English for International Communication." LTTC (2015) pointed out that the GEPT is "a test [that] corresponds to Taiwan's English education framework, meets the specific needs of English learners in Taiwan for self-assessment, and provides institutions or schools with a reference for evaluating the English proficiency levels of their job applicants, employees, or students."

1.5 Four Research Questions

In addition, the study will aim at four research questions are below:

1. Are freshman textbooks and teaching materials valuable for improving students' English abilities?
2. Is English learning performance influenced by which college the student attends?
3. What are the differences between listening and reading scores?
4. Is English learning performance affected by gender?

Chapter 2 Literature Review

This chapter will present some useful technology applied using in English learning and introduce some benefits from English self-learning software. Also, this will introduce the pre-test and post-test, students' English levels, students' needs and the importance of curriculum and teaching material.

2.1 The Benefits of Technology applied in English Learning

The teacher was a conductor in a traditional classroom and she input knowledge into the student's brain. In other words, the student's main educational resources came from teachers and learning was limited to the classroom. In comparison,

nowadays, students may learn anywhere due to technology. There are many benefits of the technology used in adult ESL teaching and learning. This includes "(a) opportunities for increased learner autonomy and student choice, (b)transferability of skills to other areas of life (including work), (c) increased student engagement/motivation, (d) immediate, precise feed-back, and (e) ease of tracking progress toward the individual's self-selected goals."(Ball cited in Nisbet & Austin, 2013).

In modern society, learners are fortunate to benefit from the advantages due to technology. Especially, technology not only supports English low level students who lack opportunities that empower the learning effects, but also lift learners' interest in learning (Schmid 2008; Smith, HJiggins, Wall, & Miller, 2005; Tang & Austin, 2009). Thus, it is obvious that computer software is helpful for English low level students by enriching the interest of English learning and for promoting English low level students' motivation, self-achievement and autonomy, especially since Undergraduate English Graduation Threshold Tests require students to study high volumes of vocabulary.

The average native speaker knows about 40,000 to 50,000 words upon high school graduation (Graves,2009; Stahl& Nagy, 2006) Thus, college students need to quickly increase their vocabulary for communicating with native speakers in professional, educational and social fields (Nisbet & Austin, 2013). Unfortunately, only a few words are taught in the ESL classroom so that college students can acquire and practice needed vocabulary outside of the classroom (Nisbet & Austin, 2013). In addition, researchers agree that vocabulary building must be multi-faceted, systematic and rigorous for an impressive impact and long-term results (Graves, 2006; Nation, 2008; Stahl & Nagy, 2006).

2.2 Importance of English Curriculum

The English curriculum is like a compass to direct a ship where to go so that whether a course is valuable and successful will depend on whether the curriculum is designed well or is designed for failure. The research on the subject and the literature that refers to it mostly focused on the design of the curriculum (Hicks,

2007)—especially curriculum development from how a curriculum is planned, implemented and evaluated (Ornstein and Hunkins, 2009). Moreover, having a road-map in the designing of a curriculum may help curriculum contributors systematically and comprehensively approach this challenging and complicated task (O'Neill, 2010). A review of the curriculum definition from Australia and Alberta, Canada is below:

1. "The curriculum is clear about what has to be taught and what should be learned at each stage of schooling, is based on reasonable expectations of time and resources, and is flexible and developed collaboratively with schools and jurisdictions (Australian Curriculum, Assessment and Reporting Authority, 2010a)."
2. "Curriculum is the foundation of the teaching-learning process. It involves developing programs of study (study plans), teaching strategies, resources allocations, specific lesson plans and assessment of students, and faculty development (Alberta Education, 2012).
3. Given these realities the approach to developing curriculum in higher education institutions is and should be a prime concern for all stakeholders, especially for educators, policy-makers, government, parents and the society at large (Alberta Education, 2012; De Coninck, 2008).

Curriculums are divided into different kind of types by functions and in different names given to it as described below (Cuban, 1992; Cortes, 1981; Longstreet & Shane 1993):

1. Official curriculum (curriculum approved and published by concerned education institutions in terms of the programs of the study courses, and contents etc.)
2. Taught curriculum (what is actually taught in classroom by the teachers).
3. Tested curriculum (what is actually measured by the education institution through different testing mechanisms).

For higher education, educational institutions' view is that education should help students obtain knowledge and skills (Bounds, 2009). Also, curriculum is reviewed and transformed by the institutions of higher education (Hyun, 2006, 2009).

A curriculum is like a conductor who will decide how the orchestra presents the

symphonic style for audiences. Similarly, a curriculum will present courses which includes broadening knowledge and global cultures; western culture and will improve intercultural communication competence (Jin, Liu & Zhang, 2014). Also, Jin, Liu & Zhang (2014) showed that "College English follow-up courses will ensure undergraduates keep learning English for four years in college and advance their comprehensive competence of using English." Curriculum design includes needs analysis, objective design, implementation and evaluation (Richard, 1984). Needs analysis means the learners' needs to know and how to learn in the course of curriculum and implement. Jin, Liu & Zhang (2014) showed that "According to the results of needs analysis, decisions can be made in language programme planning such as learning objectives, syllabus content, learning materials and resources, and teaching and assessment methods." All the above supports lead to explaining more learning objectives, syllabus content, learning materials and resources, and teaching and assessment methods.

2.3 English Curriculum Design[1]

English curriculum is so important, but how will people design a valuable one beneficial for students' learning? Curriculum design includes curriculum development and evaluation (Bas, 2013). Also, the four basic elements for designing a curriculum are: first, objectives, second, content, third, Teaching-Learning processes and last, measurement-evaluation. Generally, curriculum design is divided into 3 categories: (1) subject-centered curriculum design orientation, (2) student-centered (learner-centered) curriculum design orientation, (3) problem-centered curriculum design orientation (Ornstein & Hunkins, 1993). More explanations about these curriculum design orientation are below (Bas, 2013):

1. Student-Centred Curriculum Design Orientations

   Student-Centred design is a method that takes individual differences into consideration (Buyukkaragoz, 1997). More, giving specific needs and interests for learners to require learners participate with motivation in the learning process

[1] Curriculum Design is the development of curricula for students.

(Gutek, 1988).

2. Problem-Centred Curriculum Design Orientations

   The main idea of problem-Centred curriculum is to train individuals who have the basic knowledge and skills to deal with the social problems (Cubukcu, 2008). Thus, the curriculum design should be with the principle philosophy which is dominant in the society (Doganay and Sari, 2003).

The primary question when design a curriculum is: "Will it be designed on the basis of the student, the field subject or the problem (Korkmaz, 2007 cited in Bas, 2013)?" This research will focus on student's needs.

2.4 Students' Level

The study is going to search out methods to design appropriate teaching materials and curriculum for the freshman English course. One of the necessary steps is to determine the students' English Level in the school. To cope with this, the study has collected since 2013 to 2016 -four years TOEIC Mock Tests as a pre-test for freshmen from the National University of Science and Technology in central Taiwan to understand the school's freshmen English abilities. For achieving the goal, the study will analyze the three years pre-test scores as the research questions. This study intends to: evaluate the improvements in the one year Freshman English course; do a comparison of listening and reading comprehensions scores; and analyze English learning differences among different genders and colleges students.

2.5 Students' Needs

Nowadays, ESP can be used in GE due to a perceptible need of various kinds of language learning (Hutchinson & Waters, 1987). Also, needs analysis can be used in the GE course to analyze the language which will be used in different situations (Tudor, 1996). Moreover, needs analysis is significant in planning the GE language course and curriculum (Richards, 1992). Students' English levels are different and motivations are varied; thus, it is impossible to place different English level students in a classroom and learn English with same level textbook together. Therefore, Water

& Vilches (2001) pointed out that "The needs analysis of different levels and different groups is used to execute English education reform." Furthermore, the design of the curriculum is based on the various needs of learners (West, 1994). The current needs analysis theory is a task-based analysis model (Long 2005). The main stream idea supposes that learners are active and they know what they want to learn and they are in a learning center. Long (2005) pointed out that " Learners are far more active and cognitive-independent participants in the acquisition process that is assumed by the erroneous belief that what you teach is what they learn, and when you teach it is when they learn it."

Also, students need to meet the Undergraduate English Graduation Threshold; otherwise, they will not graduate from the school. Furthermore, students need to obtain language certificates to enhance occupational strengths.

Chapter 3 Research Methods and Procedures

This chapter will explain the study's research objects, research questions, hypothesis, One-Way ANOVA[2] in SPSS[3] analysis and pre-test and post-test.

3.1 Research Objects

The research study data collected from a National University of Science and Technology and the school's students, almost all of whom had graduated from vocational schools, especially from commercial business schools. These commercial high schools aim at business professional field courses, focusing less on English so that these student's English abilities are weaker in comparison with high school students. Even a few of the students cannot read English and are poor at English phonics. Thus, the study attempted to find a solution to promote freshmen English abilities to enhance their occupational strengths and cultivated them with a view to globalization.

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[2] One –Way ANOVA is one-way analysis of variance

[3] SPSS = Statistical Product and Service Solutions

3.2 Research Questions

The research project is going to analyze the pre-tests (TOEIC mock examination) over a four year period from 2013 to 2016 for evaluating the school students' average English level; and checking the improvements after one year Freshman English Course; in addition, there will be an analysis of the university freshmen listening comprehension and reading comprehension abilities. Furthermore, the study will find out whether learning performance will be influenced by gender and colleges' students. The study aims at the four research questions please see 1.5 Four Research Questions.

The research study will analyze and categorize the data and find the results for each research question as recommendations for the school's educators and administrators to design a more suitable curriculum and teaching materials. Perhaps, the results might be a useful reflection for other universities' English teachers, administrators and curriculum contributors.

3.3 Hypothesis of the Study

Hypothesis of the study in the four research questions; no differences of learning performance affected by genders, different colleges, listening and reading comprehension scores, and pre-test and post-test scores. If the results show that a huge "gap" in the research questions exists, this will refer to the fact that teaching methodology, curriculum and teaching materials are helpful. Oppositely, if the results show no differences in the research questions, it means English learning performances will not be affected by gender or college attended. Also, students will not improve after the one year Freshman English class. Moreover, listening and reading comprehension abilities are similar.

3.4 SPSS and ANOVA

SPSS Statistics is a software package used for statistical analysis, especially

applied in analyzing data in sociology and professional educational fields. SPSS is also used by market researchers, health researchers, survey companies, government, education researchers, marketing organizations, data miners, and others.

ANOVA is analysis of variance. (ANOVA) is a collection of statistical models used to analyze the differences among group means and their associated procedures (such as "variation" among and between groups), ANOVAs are useful for comparing (testing) three or more means (groups or variables) for statistical significance. According to above information, ANOVA is one item of SPSS and it is appropriated to analyze the data from the study.

3.5 Analysis Process

A. Examine whether the data is normal：

Use SPSS method to explore the Kolmogorov-Smirnov exam & Shapiro-Wilk exam, then test whether the data is normal or not. If the data is normal then keep going to test Homogeneity. If the data is not normal then use ANOVA.
Kolmogorov-Smirnov Test：One-Sample K-S test

B. Examine for Variance, the Test of Homogeneity：

a. when there is only one variable, use the Leven test to see if the variable is calculable.
b. when there are two variables, use Box's M Test to examine if the variance matrix or covariance matrix are similar.

C. Exam statistically independent：Chi-square

The chi-squared distribution (also chi-square or χ^2-distribution) with k degrees of freedom is the distribution of a sum of the squares of k independent standard normal random variables The chi-squared distribution is used in the common chi-squared tests for goodness of fit of an observed distribution to a theoretical one, the independence of two criteria of classification of qualitative data, and in

confidence interval estimation for a population standard deviation of a normal distribution from a sample standard deviation.

D. Independent-Samples T Test：

A t-test helps compare whether two groups have different average values (for example, whether men and women have different average heights).

E. Dependent- Samples ANOVA：

Repeated measures ANOVA is the equivalent of the one-way ANOVA, but for related, not independent groups, and is the extension of the dependent t-test. A repeated measures ANOVA is also referred to as a within-subjects ANOVA or ANOVA for correlated samples.

F. Paired-Samples T test：

Paired sample t-test is a statistical technique that is used to compare two population means in the case of two samples that are correlated. Paired sample t-test is used in 'before-after' studies, or when the samples are the matched pairs, or when it is a case-control study.

G. Independent Samples ANOVA Test：

This version of ANOVA applies to the case where you have one independent variable and three or more independent samples of subjects, each sample measured at a different level of the variable. To avoid having to repeat the cumbersome phrase three or more, we will henceforth refer to the number of independent samples.

The analysis process of ANOVA in SPSS for the study is below:

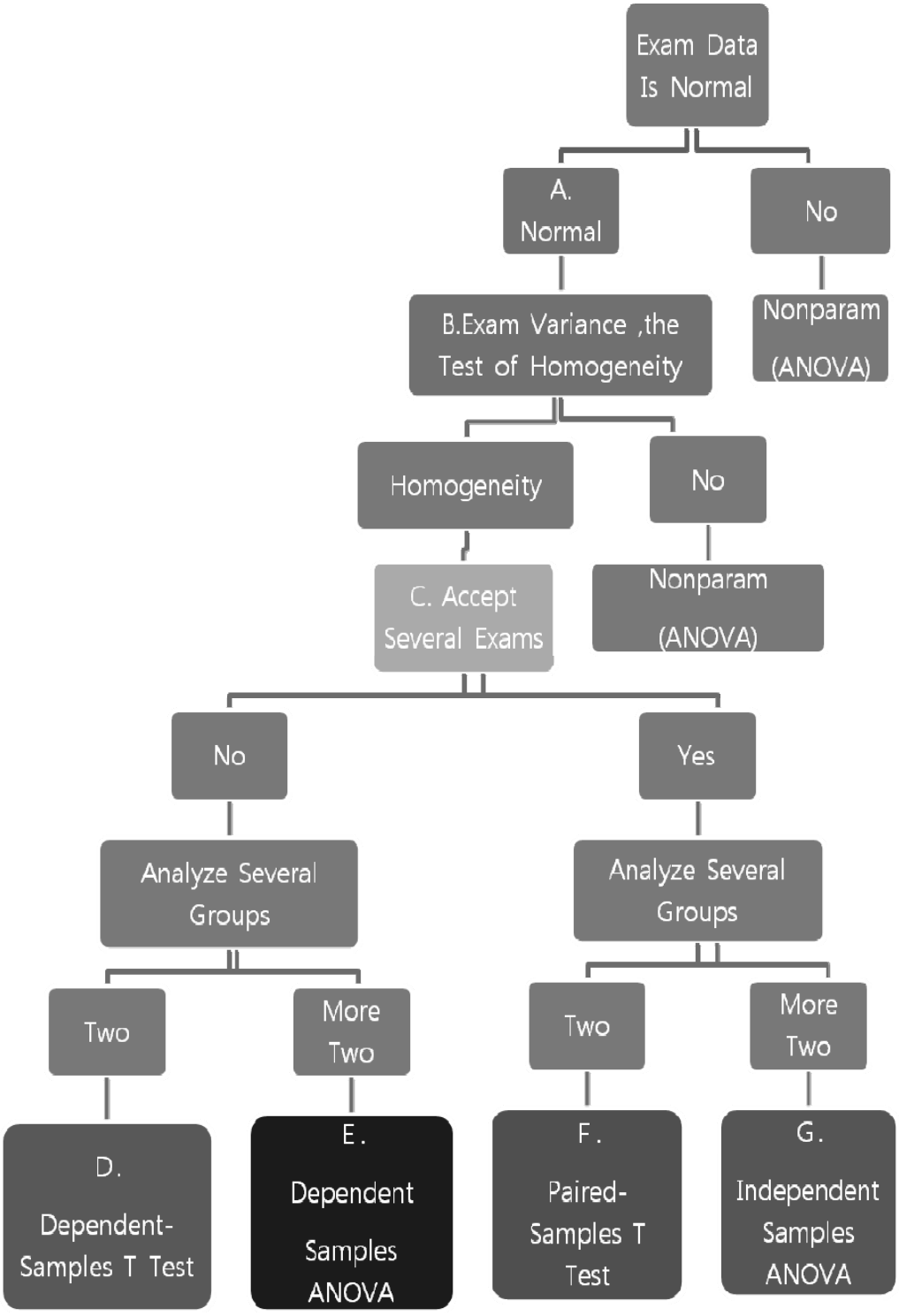

Chart 5 Data Flow Diagram

3.6 Analysis Strategies

Depending on the four research questions and according to the list of analysis processes; all data will be analyzed by computer One-Way ANOVA in SPSS software to ensure that all results will be exact. Therefore, according to the above flow diagram, the analysis strategies are as below:

1. Are freshman textbooks and teaching aid material valuable for promoting English abilities?
   The research question is appropriately analyzed by Paired-Samples T Test.
2. Will English learning performance be influenced by attendance in different colleges?
   The research question is appropriately analyzed by Dependent-Samples ANOVA
3. Will there be differences in listening and reading comprehension to compare and discuss?
   The research question is appropriately analyzed by Paired-Samples T Test.
4. Will English learning performance be affected by gender?
   The research question is appropriately analyzed by Dependent-Samples T Test.

3.7 Pre-Test and Post-Test

The Pre-Test usually is implemented before starting a course, and post-test usually is implemented after completing a course for evaluating the gap between before-learning and post- learning. “The gap” is the improvement in the student’s learning performance during the course period. This is the most convenient and effective method of learning evaluation which is implemented in many schools for students. A majority-main stream methodology indicated that teachers thought the current approaches—using pretest-posttests and student goal-setting—were important potential benefits McMillan (2015). Thus, a completed study includes learner’s performance, teacher’s performance and learning evaluation of the three aspects. The Pre-Test and Post-Test are significant because teaching evaluation is positive for students. They also evaluate the teacher’s performance and understand student’s learning results.

3.8 Limitations of the Study

The results might be suitable for national universities of science and technology only; generally, national universities of science and technology students have better performance than private universities of science and technology. However, the methodology might still be valuable for most universities of science and technology due to the fact that any helpful results are worth contributing to other English teachers and curriculum contributors and administration officers.

3.9 Procedures of the Study

The results will describe some helpful principles for developing freshmen English abilities. The research project will design a one year Freshman English Course; this course is divided into 2 semesters. Also, the study project is going to be completed in five stages. Eventually, the research project schedule will be shown by a grant chart as listed below.

Stage 1. Implement Pre-Test

(1) Every freshman will be required to participate in a TOEIC mock test as the course pre-test.
(2) All scores will be stored in a computer file to compare with post-test scores in one year.

Stage 2.The Entire Year Freshman English Course

(1) The whole year course will include two Mid-terms and two Final examinations (one of each per semester).
(2) The whole year course will include one TOEIC paper mock test in second semester.
(3) The whole year course will include six TOEIC internet mock tests, three in the first semester and three in the second semester.

(4) The whole year course will include eight TOEIC internet grammar and vocabulary tests.
(5) The whole year course will include one English Self-Introduction in the first semester and one English Job Interview in the second semester.
(6) The whole year course will include winter break homework to be evaluated in second week of the second semester.
(7) Students will be divided into 4 different levels by pre-test scores before the English Freshman Course; the four different levels will be: Group A, Group B, Group C and Group D. Group A is the best group and Group D is the weakest group to be compared with the other three groups.
(8) According to the students' English abilities; the study will design 3 different levels of textbooks for all freshmen. For instance, level 3 textbook is for Group A and B; Level 2 textbook is for Group C and Group D; level 1 textbook is for evening school's students.
(9) Each similar group class will have a similar curriculum and examinations for evaluating every student's score with justice.
(10) Extra English auxiliary materials, such as New TOEIC vocabulary or New TOEIC grammar, will be designed for students.

Stage 3 Implement Post-Test

(1) Complete the entire year Freshman English course; all students will be required to participate in a real TOEIC Test as a post-test.
(2) Compare pre-test and post-test scores.

Stage 4Analysis the data

(1) Use Applied One-Way ANOVA in SPSS to analyze the data.
(2) Attempt to find out the results for the four research questions.
(3) Find the freshman textbooks and extra aid teaching material valuable for promoting all freshmen English abilities.
(4) Evaluate and compare to the school's freshmen listening ability and reading ability.

(5) Exam the differences of English learning performance among different genders and different college students.

Stage 5 Contribute the results

(1) Contribute the results in conferences.
(2) Contribute the results in call for paper journals.
(3) Contribute the results with other educators, administrators and curriculum contributors.

Grant Chart

Items \ Month	Monthly Progress											
	8	9	10	11	12	1	2	3	4	5	6	7
Stage 1 Implement Pre-Test	■	■										
Stage 2 The Entire Year Freshman English Course		■	■	■	■	■	■	■	■	■	■	
Stage 3 Implement Post-Test											■	
Stage 4 Analysis the data						■	■	■	■	■	■	
Stage 5 Share the results										■	■	■
Accumulated progresses(%)	5	20	25	30	35	40	50	60	70	80	90	100

Chapter 4 Results and Discussion

The results of four research questions will be presented in this chapter. Also, these results will be explained with rational reasons.

1. Are freshman textbooks and teaching material valuable for improving students' English abilities?

   The research question is appropriately analyzed by Paired-Samples T Test.

   The results of 2013 are below:

   Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if p (significance) values <0.05 means not satisfied with normal distribution.

Group A

Normality Test

	Kolmogorov-Smirnov Test			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.186	108	.000	.847	108	.000
(pro-test)	.104	108	.006	.962	108	.004

a. Lilliefors Significance correction

Group B

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.120	260	.000	.934	260	.000
(pro-test)	.054	260	.060	.991	260	.100

a. Lilliefors Significant correction

Group C

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.101	384	.000	.945	384	.000
(pro-test)	.047	384	.041	.987	384	.002

a. Lilliefors Significant correction

Group D

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.138	250	.000	.914	250	.000
(pro-test)	.051	250	.200*	.991	250	.150

*. This is the lower limit of true significance

a. Lilliefors Significant correction

Because *P* (significance) values are all less than 0.05; therefore, they are very different between pre and pro-test. Also, they mean the freshman textbooks were valuable for promoting group A,B,C and D four groups students' English abilities.

The results of 2014 are below:

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if p (significance) number <0.05 means not satisfied with normal distribution.

Group A

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.124	264	.000	.883	264	.000
(pro-test)	.050	264	.200*	.986	264	.011

*. This is the lower limit of true significance

a. Lilliefors Significant correction

Group B

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.126	272	.000	.941	272	.000
(pro-test)	.053	272	.066	.991	272	.076

a. Lilliefors Significant correction

Group C

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.103	266	.000	.946	266	.000
(pro-test)	.039	266	.200*	.993	266	.274

*. This is the lower limit of true significance

a. Lilliefors Significant correction

Group D

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.098	265	.000	.888	265	.000
(pro-test)	.052	265	.080	.986	265	.012

a. Lilliefors Significant correction

Because *P* (Significance) values are all less than 0.05; therefore, this is clear different between pre and pro-test. Also, they mean the freshman textbooks were valuable for

promoting group A, B, C and D students' English abilities.

The results of 2015 are below:

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if p (significance) number <0.05 means not satisfied with normal distribution.

Group A

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.141	271	.000	.870	271	.000
(pro-test)	.048	271	.200*	.990	271	.070

*. This is the lower limit of true significance

a. Lilliefors Significant correction

Group B

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.124	318	.000	.942	318	.000
(pro-test)	.061	318	.006	.992	318	.077

a. Lilliefors Significant correction

Group C

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.114	321	.000	.943	321	.000
(pro-test)	.062	321	.004	.993	321	.109

a. Lilliefors Significant correction

Group D

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.152	245	.000	.873	245	.000
(pro-test)	.068	245	.008	.984	245	.008

a. Lilliefors Significant correction

Because *P* (significance) values are all less than 0.05; therefore, they were very different between pre and pro-test. Also, they mean the freshman textbooks were valuable for promoting group A,B,C and D four groups students' English abilities.

The results of 2016 are below:

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if p (significance) number <0.05 means not satisfied with normal distribution.

Group A

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.176	206	.000	.775	206	.000
(pro-test)	.080	206	.003	.974	206	.001

a. Lilliefors Significant correction

Group B

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.104	276	.000	.944	276	.000
(pro-test)	.041	276	.200*	.996	276	.742

*. This is the lower limit of true significance

a. Lilliefors significance correction

Group C

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.096	291	.000	.943	291	.000
(pro-test)	.060	291	.013	.989	291	.022

a. Lilliefors Significant correction

Group D

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.112	252	.000	.942	252	.000
(pro-test)	.067	252	.008	.945	252	.000

a. Lilliefors Significant correction

Because *P* (significance) values are all less than 0.05; therefore, they are very different between pre and pro-test. Also, they mean the freshman textbooks are valuable for promoting group A,B,C and D four groups students' English abilities.

2. Is English learning performance influenced by which college the student attends?
The research question is appropriately analyzed by Dependent-Samples ANOVA
The results of 2013 are below:
Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if *p* (significance) values <0.05 means not satisfied with normal distribution.

College of Health

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.081	77	.200*	.971	77	.076
(pro-test)	.126	77	.004	.908	77	.000

*. This is the lower limit of true significance

a. Lilliefors significance correction

College of Business

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.073	565	.000	.979	565	.000
(pro-test)	.070	565	.000	.959	565	.000

a. Lilliefors Significant correction

College of Design

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.103	133	.002	.955	133	.000
(pro-test)	.105	133	.001	.969	133	.004

a. Lilliefors Significant correction

College of Information and Distribution Science

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.067	130	.200*	.983	130	.107
(pro-test)	.090	130	.012	.914	130	.000

*. This is the lower limit of true significance

a. Lilliefors significance correction

College of Languages

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.101	96	.017	.974	96	.050
(pro-test)	.081	96	.127	.968	96	.020

a. Lilliefors Significant correction

Only college of business and college of languages *P* (significance) values are less than 0.05; therefore, they were very different between pre and pro-test. Also, they mean only the two colleges students' English abilities were promoting in the course; the other three colleges' *P* (significance) values are more than 0.05, they mean the other three college students' English abilities did not be promoted in the course.

The results of 2014 are below:

College of Health

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.073	179	.020	.964	179	.000
(pro-test)	.110	179	.000	.903	179	.000

a. Lilliefors Significant correction

College of Business

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.035	539	.167	.996	539	.151
(pro-test)	.042	539	.025	.989	539	.001

a. Lilliefors significance correction

College of Design

Normality Test

	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.064	133	.200*	.988	133	.296
(pro-test)	.083	133	.026	.974	133	.011

*. This is the lower limit of true significance

a. Lilliefors significance correction

College of Information and Distribution Science

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.078	131	.050	.982	131	.088
(pro-test)	.074	131	.074	.970	131	.005

a. Lilliefors significance correction

College of Languages

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.091	86	.076	.989	86	.712
(pro-test)	.100	86	.033	.951	86	.002

a. Lilliefors Significant correction

According above five colleges' *P* (significance) values are all less than 0.05, they mean five college students all had a good academic performance in the one year course.

The results of 2015 are below:

College of Health

P value (significance)>0.05, it means the data is satisfied normal distribution.

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.062	203	.057	.994	203	.658
(pro-test)	.050	203	.200*	.991	203	.219

*. This is the lower limit of true significance

a. Lilliefors significance correction

Because the data is satisfied normal distribution (significance value is more than 0.05). This means the two data is dependent so that needs to use paired-sample T test to check them. The result is *P* value (significance)<0.05，it means pre-test and pro-test scores are different. In another words, students' English abilities were lifted.

Paired sample test

		Pairwise difference					t	Degree of freedom	significance（two-tailed）
		mean	Standard Deviation	Standard Error of the mean	95% confidence interval for difference				
					Lower limit	Upper limit			
Pair 1	Pro-test – pre-test scores	62.3941	75.6724	5.3112	51.9217	72.8665	11.748	202	.000

College of Business

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.058	583	.000	.981	583	.000
(pro-test)	.038	583	.040	.996	583	.185

a. Lilliefors Significant correction

College of Design

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.081	140	.026	.985	140	.123
(pro-test)	.069	140	.095	.982	140	.063

a. Lilliefors Significant correction

College of Information and Distribution Science

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.080	136	.032	.937	136	.000
(pro-test)	.060	136	.200*	.978	136	.027

*. This is the lower limit of true significance

a. Lilliefors significance correction

College of Languages

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.111	93	.007	.957	93	.004
(pro-test)	.115	93	.004	.977	93	.093

a. Lilliefors Significant correction

According to the *P* values are all less than 0.05, they mean the all students English abilities' were promoted.

The results of 2016 are below:

College of Health

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.101	140	.001	.951	140	.000
(pro-test)	.081	140	.026	.977	140	.018

a. Lilliefors Significant correction

College of Business

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.071	561	.000	.952	561	.000
(pro-test)	.045	561	.008	.988	561	.000

a. Lilliefors Significant correction

College of Design

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.112	124	.001	.937	124	.000
(pro-test)	.097	124	.006	.929	124	.000

a. Lilliefors Significant correction

College of Information and Distribution Science

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.133	127	.000	.922	127	.000
(pro-test)	.108	127	.001	.947	127	.000

a. Lilliefors Significant correction

College of Languages

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
(pre-test)	.112	73	.024	.934	73	.001
(pro-test)	.107	73	.038	.975	73	.155

a. Lilliefors Significant correction

From this year data, all *P* values are less than 0.05 and the results were presented that all students got improved in the one year course.

3. What are the differences between listening and reading scores?

The research question is appropriately analyzed by Paired-Samples T Test.

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if *p* (significance) value <0.05 means not satisfied with normal distribution.

The results of 2013 are below:

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening Scores	.070	1136	.000	.974	1136	.000
Reading Scores	.089	1136	.000	.962	1136	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because *P* values (significance) are less than 0.05, this means listening and reading scores were very different. In another words, students' listening and reading scores were improved much in 2013.

The results of 2014 are below:

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening Scores	.063	1202	.000	.984	1202	.000
Reading Scores	.072	1202	.000	.974	1202	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because *P* values (significance) are less than 0.05, this means listening and reading scores were very different. In another words, students' listening and reading scores were improved much in 2014.

The Results of 2015 are below:

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening Scores	.067	1314	.000	.976	1314	.000
Reading Scores	.060	1314	.000	.979	1314	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because *P* values (significance) are less than 0.05, this means listening and reading scores were very different. In another words, students' listening and reading scores were improved much in 2015.

The Results of 2016 are below:

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening Scores	.087	1025	.000	.957	1025	.000
Reading Scores	.084	1025	.000	.972	1025	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because *P* number (significance) is less than 0.05, this means reading score was very different. In another words, students' reading scores were improved significantly in 2016.

Normality Test

	Kolmogorov-Smirnov Testa			Shapiro-Wilk Normality Test		
	statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening Scores	.109	1025	.000	.957	1025	.000
Reading Scores	.076	1025	.000	.979	1025	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because *P* value (significance) is less than 0.05, this means listening score is very different. In another words, students' listening scores were improved much in 2016.

4. Is English learning performance affected by gender?

   The research question is appropriately analyzed by Dependent-Samples T Test.

   Normality Test

   Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if *p* (significance) value<0.05 means not satisfied with normal distribution.

The results of 2013 are below:

Normality Test

	gender	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
		statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening Scores	Male	.096	331	.000	.948	331	.000
	Female	.071	851	.000	.973	851	.000
Reading Scores	Male	.114	331	.000	.907	331	.000
	female	.101	851	.000	.949	851	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because *P* values (significance) are less than 0.05, they mean reading and listening scores were very different and were affected by gender. According to the data, female students had better performances than male students in 2013.

rank

	gender	number	Mean rank	Sum of ranks
Listening scores	male	331	535.75	177334.00
	female	851	613.18	521819.00
	total	1182		
Reading scores	male	331	505.66	167375.00
	female	851	624.89	531778.00
	total	1182		

Test statisticsa

	Listening scores	Reading scores
Mann-Whitney U Statistic	122388.000	112429.000
Wilcoxon W Statistic	177334.000	167375.000
Z Test	-3.503	-5.395
Asymptotic significance(Two-tailed)	.000	.000

a. Grouping variable：genders

The results of 2014 are below:

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if p (significance) value <0.05 means not satisfied with normal distribution.

Normality Test

	gender	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
		statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening scores	Male	.052	337	.026	.984	337	.001
	Female	.071	865	.000	.982	865	.000
Reading scores	Male	.089	337	.000	.966	337	.000
	female	.069	865	.000	.972	865	.000

Mann-Whitney Test

Because reading's *P* value (significance) is less than 0.05, it means reading scores were very different and was affected by genders. According to the data, female students' reading performance was better than male students in 2014. Oppositely, listening's *P* value (significance) is more than 0.05, it means listening scores were similar and was not strongly affected by gender in this year.

Rank				
	gender	number	Mean rank	Sum of ranks
Listening	Male	337	577.65	194667.50
	Female	865	610.79	528335.50
	Total	1202		
reading	Male	337	499.40	168297.50
	female	865	641.28	554705.50
	total	1202		

Test statisticsa

	listening	reading
Mann-Whitney U Statistic	137714.500	111344.500
Wilcoxon W Statistic	194667.500	168297.500
Z Test	-1.488	-6.369
Asymptotic significance(Two-tailed)	.137	.000

a. Grouping variable：genders

The results of 2015 are below:

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if *p* (significance) value <0.05 means not satisfied with normal distribution.

Normality Test

	gender	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
		statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening scores	Male	.085	351	.000	.960	351	.000
	Female	.064	963	.000	.980	963	.000
Reading scores	Male	.081	351	.000	.974	351	.000
	female	.074	963	.000	.977	963	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because reading's *P* value (significance) is less than 0.05, it means reading scores were very different and was affected by gender. According to the data, female students' reading performance was better than male students in 2015. Oppositely, listening's *P* value (significance) was more than 0.05, it means listening scores were

similar and was not strongly affected by gender in this year.

Rank

	gender	number	Mean rank	Sum of ranks
listening	male	351	625.98	219719.50
	Female	963	668.99	644235.50
	Total	1314		
reading	Male	351	545.67	191531.50
	Female	963	698.26	672423.50
	total	1314		

Test statisticsa

	listening	reading
Mann-Whitney U Statistic	157943.500	129755.500
Wilcoxon W Statistic	219719.500	191531.500
Z Test	-1.819	-6.455
Asymptotic significance(Two-tailed)	.069	.000

a. Grouping variable：genders

The results of 2016 are below:

Normality Test

Use Kolmogorov-Smirnov Test and Shapiro-Wilk Normality Test, to check the data is satisfied normal distribution, if p (significance) value <0.05 means not satisfied with normal distribution.

Normality Test

	gender	Kolmogorov-Smirnov Test[a]			Shapiro-Wilk Normality Test		
		statistic	degree of freedom	significance	statistic	degree of freedom	significance
Listening scores	Male	.122	294	.000	.946	294	.000
	Female	.103	731	.000	.964	731	.000
Reading scores	Male	.071	294	.001	.961	294	.000
	female	.093	731	.000	.953	731	.000
Total scores	Male	.096	294	.000	.939	294	.000
	female	.068	731	.000	.957	731	.000

a. Lilliefors Significant correction

Mann-Whitney Test

Because both reading and listening's *P* values (significance) are more than 0.05, they mean reading and listening scores were similar and were not affected by genders in 2016.

Rank

	Gender	Number	Mean rank	Sum of ranks
Listening scores	Male	294	522.09	153494.00
	Female	731	509.34	372331.00
	Total	1025		
Reading scores	Male	294	510.60	150116.00
	Female	731	513.97	375709.00
	total	1025		
Total scores	Male	294	514.66	151310.50
	Female	731	512.33	374514.50
	total	1025		

Test statisticsa

	Listening scores	Reading scores	Total scores
Mann-Whitney U Statistic	104785.000	106751.000	106968.500
Wilcoxon W Statistic	372331.000	150116.000	374514.500
Z Test	-.624	-.165	-.114
Asymptotic significance(Two-tailed)	.533	.869	.909

a. Grouping variable：genders

Chapter 5 Conclusions and Discussion

The study analyzed whether English learning performances will be affected by gender and by different colleges students. Also, this study compared and discussed pre-test and post-test differences for evaluating reading and listening abilities and to confirm any improvement from the Freshman English Course due to designing a more appropriate curriculum and teaching materials for all freshmen. Finally, the researcher intends to contribute the methodology to promote freshmen English abilities for all English teachers, administrators and curriculum contributors in other universities as well as to contribute the results to academic conferences and journals.

5.1 Overview of the study and implications

About first question, students' scores were improved significantly from 2013 to 2016. It means freshman textbooks and teaching aid material were valuable for promoting English abilities. Also, a study focused on a medical university freshman English reading and evaluated the teaching materials are suitable for 3 levels students or not. The results showed that the teaching materials are suitable for average and weak levels students, but the teaching material is too easy for high level students. Also, average level students reading ability were improved much(楊立勤，2014). To compare with the medical university's teaching materials, all teaching materials are suitable for all levels students and promoting English abilities. Probably, medical

university students graduated from senior high schools, but university of science and technology graduated from vocational high schools. In general, high school students have better English academic performances than vocational high school. It might be the reason causes the teaching material is too easy for high level students in medical university.

About second question, only colleges of business and languages' students had good academic performances, the other colleges' students did not improve very much in 2013. However, all five colleges' students had good academic performances from 2014 to 2016. This means English learning performance was influenced by attendance in different colleges only in 2013. The other three years from 2014 to 2016 were not strongly influenced by attendance in different colleges.

About third question, the differences in listening and reading comprehensions were all very different. This means students both listening and reading scores got improved in the four years. In another words, the freshman English course did promote students' English abilities with efficiency. To compare other study which aim to evaluate a private science and technology university's students English performances, the university's students were divide into A, B and C groups. A group students had a better English performance, B group students had an average English performance and C group students had a weak English performance. The study pointed only Group A and Group B students got improve in listening and reading comprehensions. Oppositely, Group C students did not got improve in both listening and reading comprehensions. Perhaps, this is because national science and technology university's students have better academic performances than private science and technology university's students. Therefore, all groups students got improve in the national university of science and technology. On the flip side, the very weak English performance in the private university of science and technology did not get any improve(溫素美，2011).

About the last question, English learning performance be affected by gender or not. The results are very interesting. Both male and female's listening and reading's scores were different. Generally, female had better listening and reading performances than male students in 2013. In addition, the situations were slightly changed in 2014 and 2015. Both male and female students' listening scores were

similar, but female students' reading scores were better than male students' ones. It means female students had better reading performance than male students in 2014 and 2015. Oppositely, both male and female's reading and listening scores were similar. It meant male and female students had similar performances in reading and listening in 2016. According to the performances from the four years, female students had better English scores than male students. Especially, female students' reading scores were higher than male students' ones from 2013 to 2015.

5.2 Contribution to educators and schools

The study attempts to find the solutions for promoting English learning performance for freshmen students. All results might result in recommendations for all English teachers, school administrators and curriculum contributors. The results will contribute to the work of other English teachers and curriculum contributors in other universities for designing some more appropriate curriculum and teaching materials.

5.3 Contribution to National Developments

Promoting students' English abilities is not only a goal for Ministry of Education in Taiwan but also for all English teachers working to reach the goal; also the results might provide greater opportunities to promote local students' English skills as a contribution to help Taiwan develop more globalized views. Furthermore, the results might be an encouragement for all educators coping with helping and promoting English for freshman students in the future. Especially, while Taiwan is attempting to break the ice in developing relationships with more countries; English plays a very important role to connect to the entire world. A more significant impact is that Taiwan is always willing to be a member of the global village, not just keeping benefits for itself, but also contributing and sharing precious experiences with other countries and people for creating a better world civilization.

5.4 Contribution to Academics

All the results will be contributed to all English teachers and universities by participation in international conferences and printed in journals.

General speaking, all the results are presented the teaching methodology is with proficiency to promote freshman English abilities. The teaching methodology is not only useful for freshman students to develop their English abilities but also helpful for English teachers and most universities of science and technology to enhance their students to achieve better English academic performances.

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A Study of the Efficacy of a Freshman English Course to Promote Students' English Abilities in Universities of Science and Technology

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Abstract

The study invited each year approximately 1200 freshmen students and total four years approximately 4800 freshmen students as the study case from a national university of science and technology in central Taiwan. Also, the study analyzed the four year data for realizing freshmen average English abilities in the university and integrate students' needs to design a Freshman English Course. The course had three hours class each week and included a pre-test and a post-test. Pre-test used a TOEIC mock test and post-test was a TOEIC test for evaluating students' improvements from the course.

The four research questions were analyzed by One-Way ANOVA in SPSS. The researcher wanted to realize freshmen English abilities, listening and reading abilities in the university via analysis the data. More, the study attempts to recover that English learning performances be affected by genders and different college students. According to the analysis data to design a more appropriated curriculum and teaching materials for students in the university. Eventually, the study results will be provided and shared for all English teachers, educators, English education researchers, school administrators and cram schools in Taiwan. Furthermore, the study results might be as a significant education reference.

Keywords: one-way ANOVA, SPSS, curriculum design

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