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The English Benchmark Policy for Graduation:
An Investigation of Perception, Motivation,
and Approaches to Learning
at a University of Technology in Central Taiwan

Pei-Chi Shih

A thesis submitted on partial fulfillment of
the requirement for the degree of Doctor of Education

School of Education
University of Durham

2013

The English Benchmark Policy for Graduation: An Investigation of Perception, Motivation, and Approaches to Learning at a University of Technology in Central Taiwan

Pei-Chi Shih

The present study explored teachers' and students' attitudes towards the English graduation benchmark policy and the perceived impact of the policy on students' motivation for learning. Under the policy, students had to pass one of the recommended standardised English proficiency tests in order to graduate. 15 English teachers and 982 non-English majors at a technological university in central Taiwan participated in the study. Both quantitative and qualitative approaches were employed for the present study. The results showed that the policy was approved overall by teachers and students. Students reported relatively high levels of identified regulation (i.e., a more autonomous form of extrinsic motivation) and mastery-approach goals, indicating that they wanted to do well on the exam and had a desire to improve their English proficiency. Differences by gender, year of study, academic discipline, English proficiency levels, and test status in terms of the motivational responses to the policy were also examined in the present study. The results showed that the extent of the approval of the policy seemed to be more related to students' English abilities than to other characteristics; the degree of test anxiety was more related to students' year and their English abilities than to other characteristics; students' English abilities seemed to play an important role in determining the adoption of motivational regulations and approaches to learning; and finally, the role of performance-avoidance goals might be more important than other types of achievement goals in this high-stakes testing context. The pedagogical suggestions are proposed as follows: the quality of the English exit exam has to be ensured; students need to be provided with different sets of standards under the policy; appropriate learning strategies, especially deep approaches, have to be taught; and finally, a connection among curriculum, instruction, and the assessment should be facilitated.

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List of Interview Transcript Symbols

The following symbols are used in the excerpts throughout the thesis:

[] words in the square brackets representing the missing words assumed by the researcher and added in the excerpt to make the utterance clear.

() words in the parentheses representing the researcher's response in the interview.

{ } words in the curly brackets representing the interviewee's response in the interview.

Declaration

I hereby declare that all materials in this thesis are my original work and the thesis has not been submitted for another award or qualification offered by other institutions or universities.

Statement of Copyright

The copyright of the thesis rests with the author. No quotation from it should be published without the author's prior written consent and information derived from it should be acknowledged.

Acknowledgements

There are many people to whom I would like to show my appreciation. Without them, this thesis would not have been possible.

First and foremost, I would like to express my deepest gratitude to my primary supervisor, Professor Robert Coe, for his guidance, patience, support, and mentorship. I am also grateful to my second supervisor, Dr. Patrick Barmby, for his helpful suggestions in general. I also thank the oral defense committee members, Professor Joe Elliott and Dr. Dave Putwain, for their constructive advice and insightful questions.

I also owe a debt of gratitude to Mark Frost who made the time proofreading my lengthy work. His willingness to give his time so generously has been very much appreciated.

Special thanks are given to all the participants in the present study. Their opinions and insights had helped me gain a deeper and broader understanding regarding the perceived impact of the English graduation benchmark policy on teaching and learning in a university context.

My grateful thanks are also extended to my former colleagues, Desiree, Elieen, Jennifer Gao, Jennifer Tu, Juno, Ting Yu, Zoe, and Yan-yan for their assistance with the collection of my data. I would also like to thank Kuang Ye, Han Yu, Guo Chuan, and Jenny for their friendship.

Finally, I would like to dedicate this thesis to all my family who have been giving infinite support throughout my study. I could not have come this far without their unconditional love. I am also grateful to my then boyfriend and now husband, André, for always standing by me and believing in me.

CHAPTER ONE

INTRODUCTION

In this chapter, Taiwan's technological and vocational education is briefly introduced, followed by an introduction of standardised English proficiency tests and English educational policies in Taiwan. Four research questions are proposed to explore the perceived impact of the English graduation benchmark policy on students and teachers at a university of technological in central Taiwan.

Background

Taiwan's institutions of higher education include two major types of undergraduate programs. One is four-year comprehensive universities mainly for high school graduates. The other one is technical institutes in the Technological and Vocational Education (TVE) system, the target of the present study, which primarily accept senior vocational high school¹ graduates and five-year²/two-year³ junior college graduates. Generally speaking, students in comprehensive universities have better English abilities and skills than those in the TVE system.

TVE has dedicated itself to prepare students to enter the workforce with qualified vocational skills. TVE usually adopts a more market-oriented approach to meet the demand for a skilled workforce in the contemporary society, and introduces cooperative education in which theory and vocational training are integrated (Technological and Vocational Education, 2012). Accordingly, students in the TVE system are provided with more in-depth vocational training and hands-on experience,

¹Senior vocational schools provide specialized subjects, such as agriculture, industry, commerce, marine products, home economics, opera and arts. It normally takes three years to complete (Ministry of Education, 2010).

²“Students who have completed a two-year, junior-college-level program in certain technological disciplines may complete a bachelor's degree in the same field at a college/university of technology. This requires an additional two years of study (Clark, 2002: Programs and Degrees section).

³“Five-year junior college programs, primarily technical and vocation in content, combine a student's three remaining years of high school with two years of higher education. Successful students are awarded a Certification/Diploma of Graduation” (Clark, 2002: Secondary Education section).

together with the participation in project work. In addition, the students are encouraged to obtain the pre-service occupational certification by taking professional qualifying examinations in order to increase their future career opportunities (Technological and Vocational Education, 2012). Due to the market-oriented approach and the great focus on vocational training, English education in the TVE system is usually overlooked. As a result, the students under the TVE system are often characterized with low English proficiency levels and weak English learning motivation when compared with their peers in the comprehensive universities (Chu, 2009).

To improve the quality of English education and the English abilities of Taiwanese university students, the Ministry of Education (MOE) has encouraged Taiwanese higher education institutions to adopt an English graduation benchmark policy (Chu, 2009; Pan, 2009a). Under the policy, students at the tertiary level⁴ were required to take one of the recommended standardised English proficiency tests and pass a certain level in order to graduate. In recent years, more and more institutions of higher education in Taiwan had established and implemented the policy.

Standardised English proficiency tests

In 2005, the MOE in Taiwan used the Common European Framework of Reference for Languages: learning, teaching, assessment (CEFR⁵; Council of Europe, 2001) as a source to establish the target English levels for English learners in Taiwan. Following that move, the Central Personnel Administration of Executive Yuan (2005) presented a list of English proficiency tests available in Taiwan to help test takers

⁴ Students at tertiary level refer to undergraduates at four-year comprehensive universities and those at technical institutes in the Technological and Vocational Education system.

⁵ According to Council of Europe (2001), the aim of CEFR is to provide "a common basis for the elaboration of English syllabuses, curriculum guidelines, examinations, textbooks, etc." The CEFR describes what a language learner should be able to do at each level in terms of his or her reading, listening, speaking and writing skills (see Appendix B).

choose a test they regard as appropriate or important for their personal or professional needs. The list covers international language tests for academic purposes (e.g., IELTS or TOEFL) or for workplace English (e.g., TOEIC), and locally-developed general English proficiency tests (e.g., GEPT or CSEPT). To make these language test scores interpretable, Central Personnel Administration (2005) also provided a table (see Appendix A) illustrating approximate score comparability within the CERF framework across different standardised English proficiency tests.

Among these standardised English proficiency tests, the most widely adopted by colleges and universities in Taiwan are perhaps the TOEIC (Test of English for International Communication) and the GEPT (General English Proficiency Test). The College Student English Proficiency Test (CSEPT) is also gradually gaining popularity among universities of technology in Taiwan. A brief overview of these standardised English proficiency tests is as follows.

TOEIC

The Test of English for International Communication (TOEIC), developed and promoted by the Educational Testing Service (ETS) since 1979, is a norm-referenced English language proficiency test for non-native speakers of English. The TOEIC is used to assess English in work-related contexts. According to ETS (2012), TOEIC test questions were designed based on the samples of spoken and written language from the global workplace. The test format consists of a Listening Section and a Reading Section. Each section contains 100 multiple-choice questions. The total score ranges from 10 to 990. Since the TOEIC is not served as a measure of achievement, there is no passing or failing score. In 2007, the TOEIC was revised, but the total score remains the same. The minimum score required for students in the present study was 350 for the old TOEIC, and 225 for the new TOEIC. The changes in the question

format are summarized in Table 1.1.

Table 1.1 Overview of the TOEIC Changes

OVERVIEW OF THE CHANGES			
Part	Name of each part	Existing TOEIC	New TOEIC
Listening (45 minutes)			
1	Photographs	20	10
2	Question-Response	30	30
3	Short Conversations	30	30
4	Short Talks	20	30
Reading (75 minutes)			
5	Incomplete Sentences	40	40
6	Error Recognition	20	Eliminated
7	Reading Comprehension	40	60

Source: <http://www.etscanada.ca/students/listening-reading.php>

GEPT

The General English Proficiency test (GEPT), a criterion-referenced test, had been developed by the Language Training and Testing Center (LTTC) and commissioned by the MOE of Taiwan since 1999. According to the LTTC (2012b), the test is divided into five levels: Elementary, Intermediate, High-Intermediate, Advanced, and Superior. Each test level, except Superior, is administered in two stages. Test-takers have to pass the first stage (listening and reading sections) before they proceed on to the second stage (speaking and writing sections). They also have to pass both stages of each level or the integrated superior level to receive a certificate of achievement. Generally speaking, non-English majors in most technological and vocational universities and colleges in Taiwan were required to pass the second stage of the elementary level or the first stage of the intermediate level (Chu, 2009). The students in the present study were required to pass the 2nd stage of the elementary level.

CSEPT

Like the GEPT, the College Student English Proficiency Test (CSEPT) was also a locally-developed general English proficiency test developed by The Language Training and Testing Center (LTTC). The CSEPT, launched in 1997, was particularly designed for students at technological and vocational colleges/universities in Taiwan. LTTC (2012a) claims that the results of CSEPT can be used “to evaluate the effects of English teaching and to assess students' progress in English.” The CSEPT is a two-level, listening-reading-grammar test. This multiple-choice test mainly assesses students' listening skills (understanding English conversations and short passages in the context of student life) and reading skills (knowledge of English grammar and usage) (LTTC, 2012a). The students in the present study were required to get either at least a score of 130 for Level One or at least a score of 120 for Level Two.

English educational policies in Taiwan

Challenge 2008: The National Development Plan (2002-2007)

The introduction of standardised English proficiency tests can be traced to 2002 when the Taiwanese government began to launch the “Challenge 2008: National Development Plan” (MOE, 2005a). The objective of this six-year (2002 to 2007) national plan was to develop a knowledge-based economy in Taiwan in order to respond to the rapid growth of globalization. “E-Generation Manpower Cultivation Plan”, one of the sub-plans, was particularly relevant to the present research. Its objective was to enhance English education at the tertiary level by creating an English living environment, promoting the General English Proficiency Test (GEPT; one of the recommended standardised English proficiency tests served as an English exit exam), enhancing the quality of English educators, promoting international trends in

universities and colleges, attracting foreign students, and encouraging study abroad⁶.

The Grant Project on the Enhancement of Students' Foreign Language Proficiency

Besides the National Development Plan, the MOE also introduced “The Grant Project on the Enhancement of Students' Foreign Language Proficiency” (MOE, 2005b) in 2002. The Grant Project was particularly for the vocational and technological tertiary institutions to improve the quality of English education. The six sub-projects were as follows: implementing foreign language examinations on and off campus, providing remedial instruction, encouraging new teaching methodologies for and experiments in teaching English and other foreign languages, running a range of English campus and related activities, cooperating with foreign universities and inviting foreign instructors to Taiwan, and developing courses and other related supporting programs delivered in English in order to attract international students. Qualified universities and technical institutes would receive subsidies or grants to implement each sub-project. The annual amount of grants would be determined by different evaluation indicators, including students' English proficiency test passing rates, the provision of remedial lessons, the improvement project on English teaching, English teaching experiments, the provision of English camps, ESP teaching experiments, the provision of English as a medium of instruction (EMI) program, and the recruitment of foreign students and teacher⁷ (Information Center and International Cooperation and Exchange, [ICICE], 2008, as cited in Lin, 2009, pp. 73-73).

⁶ For more information about the National Development Plan, please refer to the MOE's website at: <http://english.moe.gov.tw/ct.asp?xItem=7043&ctNode=784&mp=3>.

⁷ The two sub-projects were terminated in 2006: the multimedia English teaching and the building of English learning environment (ICICE, 2008, as cited in Lin, 2009).

Intelligent-Taiwan 12 Projects (2009-2016)

After “Challenge 2008” and “The Grant Project”, the “Intelligent-Taiwan 12 Project” was proposed by the Council for Economic Planning and Development of Executive Yuan (<http://english.president.gov.tw/Default.aspx?tabid=1150>). The “Intelligent Taiwan-Manpower Cultivation” Project is part of the “Intelligent-Taiwan 12 Projects” and it includes 13 individual plans. Among these plans, the “Plan for Enhancing National English Proficiency (2010-2016)” is particularly relevant to the present research. Its goal is

“[t]o strengthen the cultivation of specialists with strong English language capabilities, create opportunities for scenario-based English language learning, leverage English language capabilities to enhance market competitiveness, make effective use of English to enhance the quality of international service provision, and strengthen and support the mechanisms needed to support the process of internationalization” (Retrieved on January 20, 2012 from <http://english.moe.gov.tw/ct.asp?xItem=10164&ctNode=784&mp=1>).

The promotion and implementation of the educational policies above had encouraged and led more and more Taiwanese colleges and universities to integrate the standardised English proficiency tests into their assessment system. Under the graduation benchmark policy, colleges and universities were allowed to set their own standards of English benchmark. To help students pass the benchmark, colleges and universities usually provided many supporting measures, such as test preparation courses, remedial English classes, language resources, and English learning counseling. For those who had been struggling with the English exit exam, many universities or colleges also offered alternative paths, allowing those students to take a make-up course and/or to take a school-administered make-up exam to fulfill the English certification requirements for graduation (Chu, 2009).

The problems

Even though the standardised English proficiency tests had been widely adopted by many Taiwanese higher education institutions as a criterion for graduation, the high-stakes testing system was continuously stirring controversy among policymakers, researchers, teachers, and others. Issues regarding student motivation for learning had been raised.

The MOE of Taiwan expected that the implementation of the English graduation benchmark policy would provide university students with incentives to take English learning more seriously. When being increasingly motivated, students were assumed to put more work effort into their studies and their English skills would be thus improved. Some Taiwanese researchers or educators (e.g., Chen & Johnson, 2004; Pan, 2009a, 2009b; Liauh, 2010, 2011) also supported the implementation of the policy and regarded it as a worthwhile development. They suggested that many university or college students had been aware of the importance of official English certificates in job markets and such underlying value of the standardised English proficiency tests might greatly motivate students to study English harder (Chen & Squires, 2010; Huang, 2005; Pan, 2009b).

However, some other Taiwanese researchers argued that the power of the English graduation benchmark policy might not work as well as the MOE expected (Chu, 2009; Hsu, 2009; Nash, 2005; Tsai & Tsou, 2009). They had raised several problems and issues regarding the policy. For instance, “one-size-fits-all” in the high-stakes approach is regarded as problematic (Chu, 2009). Higher English achievers may find the benchmark too easy to achieve and put in little effort in response to it (Shih, 2007); lower English achievers, on the other hand, may find the benchmark too difficult to pass and experience a high level of test anxiety (Chen & Hsieh, 2011). Furthermore, since test outcomes are over-emphasized under the English benchmark

policy, students are likely to employ more surface approaches to learning.

There are a few studies evaluating these above-mentioned pros and cons of the English benchmark policy through the lens of theoretical perspectives. It is hoped that the present study will find some evidence to evaluate whether the policy is used as a positive or negative incentive in terms of motivation for learning.

Purpose of the study

The main purpose of the present study is to explore the perceived impact of the English graduation benchmark policy on students as well as teachers. The sub-purposes are as follows.

First, the study examines how non-English majors and English teachers generally perceive the policy. More and more Taiwanese technological institutions have started to adopt standardised English proficiency tests for high-stakes decisions (i.e., graduation), which means a larger number of non-English majors and English teachers are or will be affected, directly and indirectly. Under the English benchmark policy for graduation, these students and teachers play an immediate, direct role in the testing process, and thus their voices, concerns, or opinions have to be heard.

Second, it explores students' perceived effects of the policy on their English learning motivation. Motivation is "one of the main determinants of second/foreign language (L2) learning achievement" (Dörnyei, 1994, p. 273) and "extremely important for L2 learning... it is crucial to understand what our students' motivations are" (Oxford & Shearin, 1994, p. 12). When students' motivations are identified and better understood, teachers can examine whether these motivations are appropriate or sufficient to help students develop their English proficiency. The findings regarding motivation are examined through self-determination theory and achievement goal theories because they are particularly relevant to high-stakes testing policies

(Anderman et al., 2010; Ryan & Brown, 2005; Ryan & Weinstein, 2009).

Third, the study also investigates students' adoption of approaches to learning. Ryan and Brown (2005) have cited many studies illustrating the positive link between a controlling evaluation condition (e.g., a high-stakes testing context) and the greater use of surface approaches. Although the studies the authors cited were all conducted in a western society, it is assumed that students in the present study will also report the same result.

Finally, the present study examines which variables are more useful in predicting a pass/fail outcome on the English exit exam.

Research questions

1. How is the English graduation benchmark policy perceived by technological university students and teachers? To what extent are the variables of gender, year, discipline, English proficiency, and test status related to students' perception?
2. What types of motivational regulations (i.e., intrinsic motivation, external regulation, introjected regulation, identified regulation) and achievement goals (i.e., mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals) do students in this technological university report under the policy? To what extent is the same set of variables related to the adoption of regulations and goals?
3. What types of approaches to learning do students in this technological university report under the policy? To what extent is the same set of variables related to the adoption of approaches to learning?
4. Which variable(s) can better predict students' pass/ fail outcomes on the English exit exam?

Significance of the study

This study is significant both academically and pedagogically.

Academically, none of the previous studies conducted in Taiwan have employed both self-determination theory (SDT; Ryan & Deci, 2000) and achievement goal theories (Elliot & McGregor, 2001) to examine the perceived motivational impact of the English graduation benchmark policy on university students. As noted earlier, since both families of motivation theories are relevant to high-stakes testing, it is expected that the findings should provide some systematic evidence on how students respond to a high-stakes testing policy. Furthermore, research within these two families of motivation theories for investigating non-Western students' motivation in a high-stakes test context has rarely been explored. It is worth investigating to see if the findings of the present study will be fully explained from the theoretical positions of SDT and achievement goal theories.

Pedagogically, the present study investigates group differences by gender, study of year, academic discipline, English proficiency, and test status in terms of their perceptions of the policy, motivational regulations, achievement goals, and approaches to learning. Such findings of the group differences are expected to help identify which groups of students respond more positively to the policy and which groups tend to lack response to the policy. The reasons explaining these group differences are also explored. Such information is useful to help university administrators and English teachers consider what can be done to make the policy more beneficial to students.

Definition of terms

High-stakes testing. Important decisions (e.g., graduation) are directly associated with test outcomes.

Standardised English proficiency tests. There were 14 types of standardised English proficiency tests available (See Appendix C) for students to take in this technological university. The list covered international language tests for academic purposes (e.g., IELTS or TOEFL) or for workplace English (e.g., TOEIC), and locally-developed general English proficiency tests (e.g., GEPT or CSEPT).

English exit exam. The English exit exam refers to one of the available standardised English proficiency tests.

English graduation benchmark policy. Under the policy, students had to pass one of the available standardised English proficiency tests in order to graduate. Students had multiple opportunities to re-take the target test.

CHAPTER TWO

LITERATURE REVIEW

Chapter Two discusses the debate over high-stakes testing policies. Two motivation theories, a self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000a, 2000b) and an achievement goal theory (Elliot, 1999; Elliot & McGregor, 2001), are applied to examine the students' motivational responses to a high-stakes testing policy.

High-stakes testing

High-stakes tests usually refer to large-scale standardised tests or public examinations and are mainly used to “ration future opportunity as the basis for determining admission to the next layer of education or to employment opportunities” (Chapman & Snyder, 2000, p. 458). High-stakes testing policies “represents a motivational policy” (Ryan & Brown, 2005, p. 358) which applies performance-contingent rewards and punishments to standardised test scores. Performance-contingent rewards refer to those given for satisfying or surpassing a certain requirement or standard, whereas performance-contingent punishments are those given for failing it (Deci & Moller, 2005).

Under high-stakes testing policies, schools, teachers, and students are the key stakeholders affected. For schools, the received amount of subsidies or grants could be determined by students' test results or performance ratings. For teachers, their teaching might be evaluated based on their students' test scores. For students, if they perform up to certain standards, they are rewarded through praise or through concrete rewards, such as money; in contrast, if they perform badly or fail the test, they could be punished by being held back in school or being unable to graduate (Kohn, 2000).

From this perspective, high-stakes testing can create a context where the stakeholders (i.e., schools, teachers, and students) direct their attention to test score results and external contingencies.

Positive reactions to high-stakes testing

The use of high-stakes testing and its impact on educational contexts still remain controversial. Policymakers intend to use high-stakes tests to make desired educational changes. They argue that “the promise of rewards or the threat of sanctions is needed to ensure change” (National Research Council, 1999, p. 35), which assumes that the behaviours that the stakeholders adopt associated with high scores will be reinforced, whereas those with poor test performance will be diminished. From this perspective, high-stakes tests have been treated as powerful and “effective tools for controlling educational systems and prescribing the behavior of those who are affected by their results” (Shohamy et al., 1996, p. 299).

Many agree on the usefulness of the use of external contingencies to control behaviours. Shanker (1993, as cited in Ryan & Brown, 2005) argues that when the achievement outcomes, such as test scores, are significantly attached to the consequences, students will have “the incentive to work hard and achieve because they know something important...is at stake” (p. 9). Finn (1991) also holds that high-stakes testing can effectively change student learning behaviour when contingent rewards and sanctions exist behind the test results. Thomas (2005) argues that some students under high-stakes testing policies will be more motivated to exert more effort to improve their test scores in the future. Stecher (2002) also concludes that students with high-stakes testing are motivated to put in more effort, know better about their own abilities and what to study, and align their own effort with rewards.

Some research studies also demonstrate the potential positive effects of high-stakes testing on students. For example, in their qualitative study focusing the impact of a high-stakes test on 102 low-achieving students in Chicago public schools, Roderick and Engel (2001) found that lower-performing students could hold positive attitudes towards the high-stakes testing policies if the goal is perceived achievable. They further suggest that these students would be motivated to study harder if they are provided with “incentives... through goals that provide an opportunity for feedback, a tangible reward, and a way to construct meaning regarding learning” (p. 219).

Negative reactions to high-stakes testing

The power and controlling nature of high-stakes testing have been subject to criticism for its potential undesirable consequences (Ryan & Brown, 2005). The study conducted by Noble and Smith (1994) shows that when high stakes is placed behind test performance, teachers tend to focus on the activities that could boost test scores, such as practicing test-taking skills or reviewing past examination papers, and their students are thus directed to learn toward the test rather than to enhance long-term knowledge growth. Amrein and Berliner (2002) took a comprehensive look at the consequences of high-stakes tests by conducting a state-by-state analysis. A total of 18 states were included and four separate standardised state tests (i.e., the American College Testing Program (ACT), Scholastic Aptitude Test (SAT), National Assessment of Educational Progress (NAEP), and Advanced Placement (AP)) were examined. The analyses revealed that the state’s high-stakes testing policy failed to enhance transfer. Amrein and Berliner (2002) found that after the policy was implemented, the students from two-thirds of states performed worse on the ACT; in other words, these students did not perform better on the outside tests, although increased scores were shown on the state’s high-stakes test. Many other studies (e.g.,

Burger & Krueger, 2003; Paris et al., 1991; Stecher, 2002; Ryan & Brown, 2005; Ryan & Weinstein, 2009) also raise some other concerns other negative impacts of high-stakes testing on students, such as decreasing intrinsic motivation, stimulating test anxiety and frustration, being more competitive, and using more inappropriate test-taking strategies.

Taiwan's studies on high-stakes testing

The MOE of Taiwan predicts that the English graduation benchmark policy (in which standardised English proficiency tests are adopted as an English exit exam) can motivate more university students to take English learning more seriously, and thus their English abilities and market competitiveness will be enhanced (Pan, 2009a). Some of Taiwan's studies on the English graduation benchmark policy seemed to support the MOE's predictions, arguing that the policy could inspire some positive impacts on students and their motivation for learning. For instance, Su (2005) conducted a study with a sample of 539 students at a technological university in southern Taiwan, and found that half of the students were in favour of the English certification requirements, and claimed that they would exert greater efforts to study English and earn English certificates because they were beneficial for their future job employment and advanced studies. Pan (2009b) cited a survey of 1162 students carried out by a college student association which revealed that 63% supported the policy and these students claimed that they would put more effort into studying English under the policy. A recent study conducted by Pan and Newfields (2012) showed that the English graduation benchmark policy did bring about some positive slight changes. They found that 737 students from eight technical universities/colleges in Taiwan with the policy, compared with 678 students from nine technical universities/colleges without the policy, were more motivated to study English, spent

more time studying English, and employed more different language learning strategies although they also engaged in more test-related practice.

However, some other Taiwan's studies argued that the English graduation benchmark policy was problematic and raised several concerns. Chu (2009), for instance, questioned the use of a standardised assessment to all non-English majors, regardless of their academic backgrounds or English proficiency levels. In her study, 1177 students at two technological universities in Taiwan were recruited. The results showed that most students were not optimally challenged. Students with lower English abilities felt over-challenged, expressed negative language learning motivation, and reported high levels of test-induced fear and anxiety. Those with higher English proficiency, on the other hand, felt under-challenged by the benchmark. They generally showed indifference to the English graduation requirements because of no need to make efforts to pass the benchmark. Chu (2009) concluded that under high-stakes testing, student motivation for learning could not be effectively enhanced due to the inherent problems of one-size-fits-all assessment. The conclusion is consistent with what self-determination theory has highlighted about the positive relationship between motivation and optimal challenges.

The issue of providing students with more optimal challenges was also addressed by Liauh (2011) who conducted a study with a sample of 1,009 students at ten of Taiwan's technological and vocational higher education institutions in northern Taiwan. The results showed that students overall accepted the English certification requirements, but students with moderate English abilities seemed to be more motivated under the benchmark policy than those with lower or higher English abilities. The finding also highlighted that students' need for competence has to be satisfied, as self-determination theory had argued.

Tsai and Tsou's (2009) carried out a study with a sample of 520 technical university students. The study reveals that 43.7% of the students disapproved of the policy. They perceived that an English exit exam should not be used as a sole assessment method to evaluate their English competence for graduation. The survey data also showed that about half of the students were under high pressure due to the English exit exam. Tsai and Tsou (2009) argued that graduation decisions only based on the result of an English exit exam test was not fair; and multiple measures should be adopted instead. They finally concluded that the threat of retention and test-induced fear could not effectively motivate students.

In line with Tsai and Tsou's study (2009), the study conducted by Chen and Squires (2010) also showed that high-stakes testing might increase students' test anxiety. In their study, 42.7% of the 857 Taiwanese vocational college students were worried that they could not pass the English exit exam on time. The authors suggested that to help build students' confidence and pass the exam, teachers should integrate test content in their lessons. Their suggestion was consistent with Pan's (2011) view that the alignment of curriculum with the English certification tests could promote positive test impact. Chen and Squires (2010) also found that students in different disciplines showed different perceptions of the policy. For those whose career paths and future studies less rely on English language proficiency tended to hold less favourable attitudes towards the policy. The finding seemed to echo Pan's (2009b) suggestion that different standards should be set for different majors under the policy. Business-related majors, for example, could be required to gain a higher standard since they are likely to be required to use English in their workplace.

High-stakes testing and motivation

High-stakes testing policies “represents a motivational policy” (Ryan & Brown, 2005, p. 358) in which students are motivated to study harder and thus student achievement will be enhanced. Within this view, the concept of motivation seems to be unidimensional (Ryan et al., 2007). The premise is the contingent rewards and penalties attached to test results will increase student motivation for learning (Ryan et al., 2007), and it will be the case for each student (Kellaghan et al., 1996). However, motivation for learning is not a single concept (Harlen & Deakin-Crick, 2003). Much research has investigated the role of motivation in various contexts and attempted to cover all possible mediating factors influencing learners’ motivational behaviour, but none of the existing theories or constructs can fully explain or capture the nature of motivation for learning since it involves a large number of variables and can be analyzed from different theoretical perspectives (Harlen & Deakin-Crick, 2003).

Theoretical perspectives on high-stakes testing

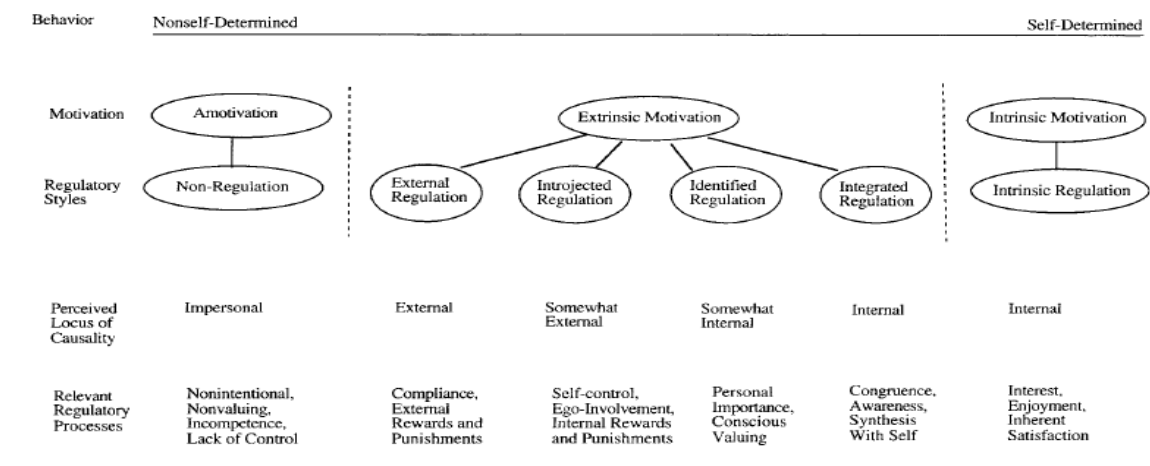
There are two theories in contemporary motivational psychology particularly relevant to high-stakes testing policies, that is, self-determination theory (SDT, Deci & Ryan, 1985; Ryan & Deci, 2000a, 200b) and achievement goal theories (Elliot, 1999; Elliot & McGregor, 2001). SDT concerns the impact of external events, such as test scores, on learning motivation, while achievement goal theories concern mastery goals (i.e., developing one’s competence) versus performance goals (i.e., judging one’s competence relative to others) in the achievement setting. It is argued that SDT has provided both theoretical bases and empirical evidence which can help us gain a better understanding of the motivational implications of high-stakes testing movement (Ryan & Brown, 2005; Ryan & Weinstein, 2009). Achievement goal theories can also be used as a framework to understand high-stakes testing because goals are related to

academic performance, and achievement goal theories concern individual improvement in learning, and consider the role of social comparison in motivation (Anderman et al., 2010, p. 125).

Self-determination theory

Self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000a, 2000b), developed based on the earlier work on intrinsic versus extrinsic motivation, has replaced the classic intrinsic/extrinsic dichotomy with a more elaborate construct. SDT proposed a continuum of self-determination which reflects different types of self-regulatory styles ranging from completely external, to partially external, to partially internalized, to entirely internal (Deci & Ryan, 1985; Ryan & Deci, 2000) (see Figure 2.1).

Figure 2.1 The Self-Determination Continuum



Source: Adapted from Ryan and Deci, 2000, p.72

Intrinsic motivation

Intrinsic motivation for an activity generally involves doing it out of enjoyment, interest or pleasure (Deci & Ryan, 1985). According to Ryan and Deci (2002, pp.7-8), humans have three innate psychological needs: competence (i.e., a sense of

efficacious and accomplishment), autonomy (i.e., the perceived origin of one's behaviour), and relatedness (i.e., a sense of closeness to other people or a sense of belonging with others). These researchers hypothesize that when these needs, especially the former two, are satisfied, individuals are likely to be truly intrinsically motivated. To satisfy the need for competence, optimally challenging tasks have to be provided. If the task is perceived too easy, students tend to feel bored and exert little work effort; if too difficult, students tend to get anxious and withdraw efforts (Ryan & Deci, 2002; Roderick & Engel, 2001). When being reasonably challenged, students are more motivated to work harder to attain achievable success, and thus develop greater competence (Deci & Moller, 2005). To satisfy the need for autonomy, an autonomy-supportive learning environment has to be provided. Ryan and Grolnick (1986) report that a more autonomy-supportive classroom enhances students' interest, intrinsic motivation, and desire to take more challenging tasks. Similarly, Grolnick and Ryan (1987) find that an overly controlling classroom leads students to be less active, and perform worse at complex tasks.

Extrinsic motivation

SDT has identified four types of extrinsic motivation involving different degrees of self-determination or autonomy: external, introjected, identified, and integrated regulations (Deci & Ryan, 1985; Ryan & Deci, 2000a, 2000b). The first two represent more passive, controlling, and less self-determined forms of extrinsic motivation while the latter two represent active, volitional, and more self-determined forms. Four types along a continuum of self-determination are described more fully below.

External regulation, the least self-determined motivational type, entirely comes from external sources, such as external demands, rewards, or punishments. It is typically how extrinsic motivation was being characterized in early motivation studies

(Ryan & Deci, 2000a, 2000b; Vallerand & Ratelle, 2002). An example of external regulation would be a student who wants to do well on an exam to get monetary rewards.

Introjected regulation takes place when individuals perform a task due to “internal prods and pressures such as self-esteem-relevant contingencies” (Deci & Ryan, 1994, p.6). An example of introjected regulation would be a student who studies for the exit exam because he believes that he *should* pass the exam; otherwise he would feel guilty or shamed if he did not. Since behaviour is driven by internal pressure, it is regarded as a controlled form of extrinsic motivation.

Identified regulation, a more self-determined form of extrinsic motivation, occurs when individuals value the task and understand its potential usefulness (Deci & Moller, 2005). An example of identified regulation would be a student who works very hard for the English exit exam because a certified English ability is important and useful for achieving his self-selected future goal. Since the behaviour involves personally relevant reasons, it is regarded as relatively autonomous (Rigby et al., 1992).

Integrated regulation, the most self-determined form of extrinsic motivation, takes place when the motivation has been fully internalized into the self and one’s behaviour is entirely assimilated with one’s other needs and values (Ryan & Deci, 2000a, 2000b). The integrated regulation is similar to intrinsic motivation, but is still regarded as extrinsic because the behaviour performed is to attain separate outcomes, such as for its volitional values, rather than for its inherent pleasure (Ryan & Deci, 2000a, 2000b).

Many studies based on SDT have supported the assumption that these four types of extrinsic motivation above fall along a continuum of self-determination, reflecting different degrees of autonomy (Ryan & Deci, 2002). For example, Ryan and Connell

(1989) found that externally regulated learners tended to be less interested in tasks, make less effort and blame the teacher for poor performance outcomes; introjected regulated learners were more willing to expend effort, but showed more anxiety and more negative coping styles with failures; identified regulated learners felt more pleasure when engaging in school tasks and had more positive coping skills; and intrinsically motivated learners were positively associated with higher levels of interest, competence, and coping skills. Other subsequent studies based on SDT (e.g., Grolnick & Ryan, 1987; Ryan & La Guardia, 1999; Ryan, Stiller, & Lynch, 1994) also show similar findings, suggesting that when motivation is based on controlled, and the least autonomous motives (such as external rewards or sanctions) students often demonstrate poorer quality of learning, display lessened persistence, and experience more negative emotions; in contrast, when motivation is based on non-controlling, more self-determined motives (such as intrinsic motivation), students tend to perform better on learning, show longer persistence, and experience more positive emotions.

Amotivation

Besides intrinsic and extrinsic motivation, Deci and Ryan (1985) introduce amotivation, a third construct. Amotivation refers to the situation where individuals do not see any relation between their behaviours and the outcomes of the behaviours (Noels et al., 2000). When being amotivated, individuals lack intentions to act probably because they do not value the task or feel incompetent (Ryan & Deci, 2000a, 2000b).

A self-determination theory perspective on high-stakes testing

SDT is one of the very few theories that is able to offer theoretical and empirical bases and reflect the motivational implications of high-stakes testing (Ryan &

Weinstein, 2009). SDT is particularly interested in the relationships between these environmental contingencies and individuals' inherent tendency to learn and develop (Ryan & Weinstein, 2009). According to SDT, humans have an inherent interest in developing knowledge, skills, and competences, and such a natural motivational tendency can either be enhanced by positive contextual features (i.e. positive feedback regarding competence) or be diminished by negative features (i.e. the use of rewards that are controlling, threats of punishment or pressurized assessment) (Ryan & Deci, 2000a, 2000b). Ryan and Brown (2005) argue that high-stakes testing policies do not support students' inherent tendency to learn. When students are pressured to achieve specific test outcomes, they are not learning under supportive conditions. In other words, students' autonomy cannot be supported under high-stakes testing policies.

As mentioned earlier, SDT argues that humans have three innate psychological needs: competence, autonomy, and relatedness (Ryan & Deci, 2002, pp.7-8). SDT suggests that when these needs, especially the former two, are not satisfied, individuals are unlikely to be truly intrinsically motivated. To promote the three innate psychosocial needs, the external events, such as assessment or evaluations, should have "informational significance" instead of "controlling significance" or "amotivating significance" (Ryan & Brown, 2005, p. 361). When an external event has informational significance, the feedback students receive is non-controlling. Students can use it to "identify gaps in fundamental knowledge, or lack of progress in specific competencies" (Ryan & Weinstein, 2009, p. 230), and thus develop their competence or abilities. If the event has controlling significance, students might have temporary or immediate compliance and become more and more extrinsically motivated to attain success or avoid failure. Under such a circumstance, some negative long-term consequences can be generated, such as decreased intrinsic motivation, less effort, and more surface approaches to learning (Ryan & Brown,

2005; Ryan & La Guardia, 1999). Finally, the external event such as an overly challenging test can have amotivating significance. Students tend to withdraw effort when they find that the standard is too high to attain (Ryan & Weinstein, 2009).

Some SDT theorists such as Ryan and Brown (2005) and Ryan and Weinstein (2009) have raised the issue of “one size fits all” in the high-stakes approach. They hold that when students are required to achieve a certain level or score on target tests, their individual differences such as backgrounds, learning styles, achievement levels, and rates of improvement are ignored. According to SDT, goals should be optimally challenging (Ryan & Deci, 2000). If the standard is too low, students with better abilities may find it indifferent and make little effort. However, if it is too high, at-risk students are likely to be less engaged, exert less effort, develop lower confidence, and experience helplessness because the goal is too difficult to achieve (Deci & Ryan, 1985; Ryan & La Guardia, 1999).

In summary, from the SDT perspective, the role of high-stakes testing has to be minimized when it comes to improving educational practices because the controlling nature of high-stakes testing fails to support students’ autonomy, to provide non-controlling feedback, and to give optimal challenges. In the long term, students are likely to be primarily motivated to succeed on a test rather than to develop knowledge or understanding due to high stakes attached to tests (Ryan & Brown, 2005; Ryan & Weinstein, 2009).

Select study that applies self-determination theory in a Taiwanese context

In Taiwan, studies using SDT to examine Taiwanese students’ motivation in a high-stakes context are barely found. One that can be retrieved is a recent study conducted by Wang and Huang (2010) who applied SDT to examine Taiwanese students’ learning and academic achievement under the multiple college admission

system. A total of 18,566 students were traced in the study. The students were split into two groups: (1) those admitted through the large-scale Joint College Entrance Examination channel; and (2) those admitted through the recommendation-and-selection entrance channel⁸. The study found that the latter, freed from the pressure of the Entrance Examination, were more intrinsically motivated, more engaged in the learning process, and more satisfied with their academic performance and learning environment than the former. The findings seem to support SDT's prediction that autonomy-supportive environment is related to more adaptive patterns of learning while high-stakes testing is likely to have negative impact on students' interest and motivation (Ryan & Brown, 2005).

However, it is important to note that since the SDT framework is constructed by Western education, the concept and values are culturally relative. Culturally defined values, such as collectivism versus individualism, might affect the process of internalisation as proposed in SDT studies. Markus and Kitayama (1991), for example, argue that Chinese culture emphasizes collectivistic values and individuals are expected to obey authorities and behave in accordance with social expectations or social norms. From this perspective, autonomy is likely to be relatively less important for Chinese or Taiwanese students.

Achievement goal theories

Another family of motivation theories that are related to high-stakes testing is achievement goal theories (Ryan & Brown, 2005). The original definitions of achievement motivation involved two types of goals: mastery and performance goals. Students adopting mastery goals were orientated toward enhancing competence, increasing knowledge, and attempting to understand and master the learning content;

⁸ For more information regarding the multiple college admission system, please refer to the MOE's website at <http://english.moe.gov.tw/ct.asp?xItem=9513&ctNode=504&mp=1>

on the other hand, students adopting performance goals were concerned about demonstrating their competence (Ames, 1992).

The finding of early studies focusing on mastery versus performance goals in the achievement settings showed that mastery goals were typically associated with positive outcomes, such as higher intrinsic motivation, use of deep approaches to learning, and better performance (Grant & Dweck, 2003). Performance goals, in contrast, were often found to be associated with negative consequences, such as on student cognition, interest, and learning (see Ames, 1992, for a review). Elliot and Harackiewicz (1996), drawing from the previous work on achievement motivation, proposed a trichotomous model of achievement goals where performance goals are divided into performance-approach (i.e., judging one's competence relative to others) and performance-avoidance goals (i.e., avoiding negative outcomes, such as academic failure). The studies (Elliot & Church, 1997; Elliot & Harackiewicz, 1996) based on the trichotomous model found that the adoption of performance-avoidance goals had much more negative consequences than the adoption of the other two goals, such as lowering intrinsic motivation and academic performance.

Based on the approach-avoidance dimension to mastery goals, Elliot and McGregor (2001) introduced a 2 x 2 achievement goal framework. In the framework, mastery goals are separated into mastery-approach (i.e., developing competence and improving skills) and mastery-avoidance goals (i.e., avoiding learning failures); performance goals are separated into performance-approach (i.e., performance goals (i.e., judging one's competence relative to others) and performance-avoidance goals (i.e., avoiding negative outcomes, such as poor academic performance). People from collectivist societies such as Taiwan tend to adopt avoidance goals than those from individualistic societies such as US (Elliot et al., 2002). One possible reason is that the collectivistic emphasis on living up to others' expectations, such as parents' or

teachers', may increase students' fear of academic failure (Markus & Kitayama, 1991), which might be considered as "a stigma to the family" (Shih, 2008, p. 317).

Many correlational and empirical studies have shown that the goals are important and useful in the achievement domain because they can predict achievement behaviours and academic performance. For instance, mastery-approach goals are typically related to engagement, persistence, and deep approaches to learning; performance-approach goals are often linked with better academic performance; mastery- and performance-avoidance goals are often associated with negative effects, such as withdrawal of effort, high anxiety, and low achievement (see Cury, Elliot, Da Fonseca, & Moller, 2006; Hulleman, Schrager, Bodmann, & Harackiewicz, 2010; Senko, Hulleman, & Harackiewicz, 2011, for reviews). In Huang's (2012) meta-analysis of 151 studies, mastery approach goals were also found to be positively associated with academic achievement ($r = .13, .13, .10$, for the two-, three-, and four-factor models, respectively). In their overview of the motivation literature, Bargh, Gollwitzer, and Oettingen, (2010) also concluded that "learning goals lead to better achievement than performance goals" (p. 278). However, Hulleman, Schrager, Bodmann, and Harackiewicz's (2010) meta-analysis of 98 studies of performance goals showed that normative performance goals predicted high academic achievement ($r = .14$). Goal valences (approach versus avoidance), rather than the goal contents (mastery versus performance), might be the key reason. Elliot (1999) states that in approach motivation, one's behaviour is guided by a positive outcome (i.e., approaching success), whereas in avoidance motivation, the focus is on avoiding an undesirable possibility (i.e., avoiding failure). Previous studies have illustrated approach motivation is often associated with better academic performance whereas avoidance motivation is often associated with poorer academic performance (Elliot & Church, 1997; Elliot et al., 1999; Huang, 2012; Moller & Elliot, 2006). In light of

these patterns, an appropriate learning environment could be constructed to help students foster desired achievement-related behaviours and enhance their academic performance (Anderman et al., 2010; Grant & Dweck, 2003).

Relationship between a high-stakes testing context and the adoption of achievement goals

The following antecedents might explain why a student adopted one or more goals in a high-stakes testing context: perceived competence, fear of failure, the perceived value of the exam, and the nature of the exam.

Perceived competence is documented as an antecedent to the adoption of goals, as posited by the achievement goal model (Elliot & Church, 1997). Elliot (2005) suggests that individuals with high perceived competence are expected to be oriented to the possibility of success and adopt an approach mode of goals, whereas individuals with low perceived competence are oriented to the possibility of failure and adopt an avoidance mode of goals. By definition, in a high-stakes context the salience of success and failure is amplified, hence the link will be strengthened.

Besides competence expectancies, fear of failure is also identified as an individual difference-based antecedent of goal pursuit. According to Elliot and his colleagues (Elliot, 1999; Elliot & Church, 1997; Elliot & McGregor, 2001), fear of failure positively predicts the adoption of both avoidance forms of goals. Again, if high stakes are attached to failure this link will be strengthened.

The perceived value of the given task, in this case the English exit exam, is another possible antecedent of the achievement goal adoption. In the achievement motivation literature, task values can be defined as how a given academic task meets students' personally valued future plans (Wigfield, 1994). If the task fits students' future goals (e.g., doing well on the English exit exam to have better job opportunities), the task is perceived useful or important. Such task values have been

found to a positive predictor of the adoption of mastery-approach goals (e.g., Bong, 2001; Greene, Miller, Crowson, Duke, & Akey, 2004; Liem, Lau, & Nie, 2008). Finally, the nature of the exam might also be an antecedent of the achievement goal adoption. In this research context, the TOEIC was one of the most widely taken tests by the students in the present study. The TOEIC is a norm-referenced test, showing the relative standing of each test-taker in terms of the performance of others (Ito et al., 2005). Since performance goals are directed toward a norm-based evaluation of each examinee's competence (Elliot & Harackiewicz, 1996), it is hypothesised that performance goals are promoted.

Approaches to learning

Prior research suggests that different types of motivation and achievement goal orientations can predict surface/deep learning. In general, deep approaches focus on understanding and meaning, while surface approaches focus on memorization and reproduction (Biggs, 1979, 1987, 1993; Entwistle & Entwistle, 1991; Marton & Säljö, 1984). Lublin (2003, pp. 3-4) have summarized more defining features of deep and surface approaches to learning as shown in Table 2.1.

Table 2.1 The Characteristics of Deep and Surface Approaches to Learning

Deep approaches	Surface approaches
Actively seek to understand the material/ the subject	Try to learn in order to repeat what they have learned
Interact vigorously with the content	Memorize information needed for assessments
Make use of evidence, inquiry and evaluation	Make use of rote learning
Take a broad view and relate ideas to one another	Take a narrow view and concentrate on detail
Are motivated by interest	Fail to distinguish principles from examples
Relate new ideas to previous knowledge	Tend to stick closely to the course requirements
Relate concepts to everyday experience	Are motivated by fear of failure
Tend to read	
Study beyond the course requirements	

Source: Adapted from Lublin, 2003, pp. 3-4.

Marton and Säljö (1976) suggest that most students are capable of using both deep and surface approaches, and they “adopt an approach determined by their expectations of what is required of them” (p.125). Ramsden (1992) and Biggs (1993) also argue that students’ choice of approaches to learning is grounded in the learning context or environment. This notion is supported by many studies. For instance, Hargett et al. (1994) found that when the learning environment emphasize test results, students, regardless of their academic learning abilities, tend to adopt surface approaches; in contrast, when the learning context encourages students to transfer their knowledge in different situations, students tend to use deep approaches. Many other studies also support the link between assessment methods and students’ adoption of learning approaches. For example, Scouller’s (1998) study shows that students tended to adopt surface learning approaches when preparing for the multiple choice question (MCQ) exam, and used deeper approaches when preparing for the essay assignment. Similarly, Tian (2007) also found that students using deep approaches did not perform better in the formal exam although the information about the types of questions was not provided.

As Watkins and Hattie (1985) have argued, “deep level learning strategies are not required to satisfy examination requirements (p.139)”. The notion was echoed by several researchers in Taiwan who expressed their concern about the adoption of standardised English proficiency tests as the graduation benchmark. Chu (2009), for example, argues that the current standardised English proficiency tests rely primarily on multiple-choice questions, and this kind of massive use of multiple choice questions does not provide students with opportunities to actually use the language. Similarly, Nash (2005) indicates that the English benchmark policy is likely to lead students to prepare for a certain standardised English exam by cramming for a body of knowledge about English grammar rules and vocabulary, instead of developing the

ability to use English in real-life situations. Given the increased role of standardised English proficiency tests as an English exit exam in Taiwanese universities, the link between students' use of approaches to learning and their university environment is worth examining.

Approaches to learning and motivation

SDT-based empirical studies (e.g., Grolnick & Ryan, 1987; Ryan & La Guardia, 1999) have demonstrated a relatively clear pattern of results: more self-determined types of motivation (i.e., intrinsic motivation and identified regulation) are positively associated with deep approaches, while less self-determined types of motivation (i.e., external and introjected regulations) tend to be positively associated with surface approaches. However, the findings for the relationships between students' adoption of achievement goals and their approaches to learning have been less consistent.

Two possible reasons might account for the inconsistent pattern between students' achievement goals and approaches to learning: First, the early findings for achievement goals did not have the approach-avoidance dimension. The approach-avoidance distinction particularly has been shown helpful to explain early inconsistent results for performance goals (Senko et al., 2011). Elliot and Moller (2003) found that many negative effects are associated with the adoption of performance-avoidance goals, not of performance-approach goals. Second, the same label has been used to measure different achievement goals (Hulleman et al., 2010). Senko et al. (2011) noted that the critical element of performance goals has been in disagreement: some argue that it is the desire to outperform others while some argue it is the desire to demonstrate competence. These two types of performance goals could generate a different pattern of results. Hulleman et al. (2010), after reviewing 98 studies of performance goals, concluded that students concerning outperforming others usually

have better achievement whereas those concerning demonstrating competence do not.

Some studies have demonstrated the link between performance-approach goals and surface approaches. A meta-analysis carried out by Utman (1997), for instance, reveals that students with performance goals tend to perform better at rote tasks associated with surface level processing, such as repetition of learning material in order to recall information. After reviewing both experimental studies and the influences of high-stakes testing in naturalistic studies, Kellaghan et al. (1996) reported that when too much attention is paid to test results, many students would be led to adopt performance goals and used more surface approaches (e.g., rote learning). More recently, Senko et al. (2011) identified 24 studies and reported that most studies (about 70%) showed that performance-approach goals (judging one's competence relative to others) were positively associated with surface approaches. Senko et al. (2011) further propose that the frequent use of surface learning strategies such as the focus of memorization is the main reason that students get high exam scores. Some researchers, on the other hand, hold different views. Darnon, Butera, Mugny, Quiamzade, and Hulleman (2009), for example, argue that performance approaches are not always associated with surface strategies; they sometimes can promote deep strategies, especially when students are required to use higher level cognitive strategies to perform well on difficult tasks.

Although the findings between performance-approach goals and surface learning are not conclusive, it is argued that appropriate assessment policies should encourage students to adopt a mastery focus where the development of competence is concerned, rather than a performance focus where the demonstration of competence is overemphasized (Elliot & Moller, 2003). A demonstration-focused learning environment promotes students' focus on learning outcomes rather than learning

processes (Midgely et al., 2001). In addition, many students, especially low achievers, are highly likely to end up adopting a performance-avoidance goal which is typically associated with negative consequences (Elliot & Moller, 2003).

In addition to the disagreements over the relationships between performance-approach goals and surface learning, achievement goal theorists also hold different views of linking performance-approach goals and external rewards. Some argue that concrete rewards are likely to positively influence goal-setting behaviour. For example, Harackiewicz, Barron, Carter, Lehto, and Elliot (1997) suggest that the presentation of performance-contingent reinforcements conveys positive competence information which will make students be more motivated to enhance their performance. Hidi and Harackiewicz (2000) even claim that unmotivated and low-achieving students adopting performance goals are likely to develop long-term interest and intrinsic motivation when provided reward contingencies. Some goal theorists, on the other hand, express different views. Midgley et al. (2001), for example, argue that performance-focused goals coupled with extrinsic rewards are only effective for students who are highly achievement oriented and perceive themselves as competent. Deci and Moller (2005), from a self-determination perspective, also warn that when students are highly motivated to receive performance-contingent rewards but fail to demonstrate high performance, the reward contingency could become detrimental because it decreases perceived competence and the feelings of autonomy.

Although rewards contingencies remain controversial in the literature, some research conducted in the Taiwanese context seems to support that extrinsic rewards could be an effective motivator of learning. For instance, in Chen and Squires's (2010) study, 857 non-English majors in a Taiwanese vocational university were asked to rate the effectiveness of university measures in relation to the English

graduation benchmark policy in which students had to pass a certain level of standardised English proficiency tests before receiving their university diploma. 75% of the students perceived that scholarships or monetary rewards were a strong motivator to make them study hard and achieve the desired goal; in addition, 72% also regarded waving General English courses as an effective or very effective incentive.

CHAPTER THREE

METHODOLOGY

Research Context

The present study was situated in a private technological university in central Taiwan. Most of the non-English majors in the four-year undergraduate program were recruited from vocational high school students. There were five disciplines⁹ in this technological university: Management (41%), Science and Engineering (18%), Informatics (16%), Humanities and Social Sciences (14%), and Design (11%). The participation percentage in each discipline was 38%, 18%, 16%, 15% and 9%, respectively. 5% of the participants did not indicate their discipline. The total number of the non-English majors in this technological university was around 10,500 (with a male-female ratio of 43-57). The total number of the participants in the present study was 982 (with a male-female ratio of 40-54).

The students were placed into different regular English classes (i.e., Elementary, Intermediate, and High-Intermediate) based on their scores on the English placement test taken on the orientation day. English was a compulsory subject for non-English majors in the first two years. They were required to take *Freshman English Courses*¹⁰ (4 credits / 4 hours) and *Sophomore English Courses*¹¹ (4 credits / 4 hours) in their first and second year respectively. English was not the medium of instruction in most of these English classrooms. Some elective English courses for non-English majors were also provided. Sponsored by the MOE's "*Teaching and Learning Excellence Project*", the university had been providing non-English majors with short-term

⁹ Students will be awarded a bachelor's degree in their particular discipline after completing the standard curriculum. It corresponds to the system of single honours undergraduate degree operated in England.

¹⁰ Freshman refers to a student in the first year at a university. Freshman English Courses mean first-year General English courses.

¹¹ Sophomore refers to a student in the second year at a university. Sophomore English Courses mean second-year General English courses.

intensive English test preparation courses, remedial English courses for students with lower skills, and English extracurricular test-related activities/contests to help students pass the benchmark. In addition, students had an access to language resources and online mock English proficiency tests on the university's website. Finally, students were also encouraged to make appointments online to have English learning counselling.

Under the English graduation benchmark policy, the students had the flexibility to choose one of the 14 available tests (see Appendix C) to fulfil the English graduation requirements. Students who obtained a score above CERF-B1 level (see Appendix B for level descriptors) could be exempted from regular English courses and were entitled to apply for monetary rewards. However, if students failed to pass the CERF-A2 level (see Appendix B for level descriptors) by the second semester of the third year, they had to take a 36-hour English remedial course and an internal test. These students were required to obtain a total score no less than 60 points on classroom-based assessment (accounting for 60% of the overall grade) and the internal test (accounting for 40% of the overall grade) in order to graduate.

Participants

Participants were non-English majors and EFL English teachers in a technological university in a central Taiwan (see Appendices M, N, and O for participants' background Information).

Relationship of the researcher with the institute and informants

The researcher in the present study worked as a full-time English teacher in this institution for three years and was in part of the English Language Certification Project (e.g., coordinating short-term intensive test preparation courses). She was not

subject to any pressures given by this university but she had her own predisposition: she supported the English graduation benchmark policy. Such a predisposition about the policy inevitably affected the way she asked questions or interpreted responses despite her own awareness. The researcher did not know or teach any student participating in the present study before conducting the research, but she knew and worked together with all of the three teachers interviewed. The researcher's relationship with those teachers might also lead to potential biases in the data generation process. For instance, those might answer the questions in the way that they assumed the researcher or the university wanted them to say rather than based on their actual beliefs (since the potential audience of this present study was the university authorities).

Instruments

In this study, both quantitative (i.e. questionnaires) and qualitative (i.e. semi-structured individual interviews with students and teachers) approaches are used. The combination of quantitative and qualitative techniques makes findings more valid and reliable (Mertens, 1998). Interview data reflect the values or beliefs of the study participants, but lack standard procedures for data collection and interpretation, and thus findings are often considered as subjective and biased; on the other hand, questionnaire data, based on large samples and statistical significance, enable researchers to capture an global picture of the phenomenon being studied, but do not inform researchers about participants' depth of feelings and thoughts (Mertens, 1998). Therefore, the current study employed both quantitative and qualitative methods in order to minimize the biases and drawbacks inherent in each design.

In this present study, all statistical analyses were conducted using PASW 18.00. The statistical tests included factor analysis (CFA and EFA), independent-samples t-

test, one-way ANOVA, and one-way MANOVA. A confidence interval, an interpretive procedure, was also employed. As for qualitative methods, Kvale's (1996) meaning categorization approach was adopted to analyze the interview data. More specifically, the researcher (1) read the full transcription through and develops a sense of the whole; (2) determined the unit of analysis; (3) attempted to identify all motivation-related statements; (4) classified the statements into discrete categories; (5) conducted a secondary coding of the statements within each of the motivation categories; and (6) ensured that essential non-redundant themes of the whole interview were tied together into a descriptive statement.

Data collection procedures

Before collecting data, the researcher in the present study had an appointment with the director of the Language Centre who was in charge of the implementation of the English graduation benchmark policy in this university. With the director's verbal consent, the researcher started to invite the teachers and students to participate in the present study.

The study fell into four main phases:

The first phase was a survey of 298 students for the preliminary Student Questionnaire (see Appendix D) and the return rate was 99.3% (298 out of 300 questionnaires issued in February, 2011). The students came from six different regular English classes. Before the teachers distributed the questionnaires to their students in class, the researcher explained the purpose of the present study. It was also made clear that participation was voluntary. Students did not have to fill in the questionnaire if they did not want to.

Students received different versions of the questionnaires (i.e., sections 1 and 2 for class A; sections 1 and 3 for class B; sections 1 and 4 for class C; sections 2 and 3

for class D; sections 2 and 4 for class E; sections 3 and 4 for class F). It took the students about 10 to 15 minutes to complete the questionnaire. The teachers collected the questionnaires and brought them back to the language centre for the researcher to collect. Since the questionnaires were all conducted in class, the return rate was expected to be high.

The second phase was a survey of 982 students for the revised version of the Student Questionnaire (see Appendix E) and the return rate was 98.2% (982 out of 1000 student questionnaires issued between May and July 2011). The student sample was not random. They came from six full-time English teachers' classes. These teachers indicated their willingness in their e-mail to help distribute the student questionnaire. Each teacher taught regular English courses and/or selective English courses in the university. Each class was comprised of 35 to 50 students. There were two rounds of collecting student questionnaires. At the first round, the teachers chose either two of their classes to distribute the questionnaires. About 500 student questionnaires were collected at the first round. The researcher then analyzed students' background and characteristics (including, gender, year of study, discipline, proficiency level, and test status) to see which groups might be over- or under-presented. The results showed that 3rd and 4th year students were under-sampled, mainly because most of the teachers only taught 1st and 2nd year students, and there were no compulsory English courses for 3rd and 4th year students. Students who failed the English exit exam also appeared to be under-sampled. To make the proportions in the overall sample better coincide with the proportions in the population, the second round of collecting student questionnaires would focus on students from selective English courses (mainly consisting of 3rd and 4th year students) and those from remedial English courses (consisting of students who failed the English exit exam).

The third phase was a survey of English teachers. Of 45 teachers that were sent

an e-mail (see Appendix H) to help with Teacher Questionnaire (see Appendix G), 15 responded for a 33.3% response rate. The last phase was interviews with nine students and three teachers between September 2011 and March 2012). There were 60 students indicating their willingness to be interviewed in their questionnaire. All of the 60 students were sent an e-mail (see Appendix I) to confirm their willingness, the date/time they were available, and the method (e.g., phone or Skype) they preferred. Six students left incorrect or invalid contact information, five students replied that they were no longer interested in the follow-up interview, and the rest did not respond to the e-mail. As a result, only nine students were interviewed (see Appendix O for students' background). These students were sent a small gift certificate as appreciation after the interviews.

As for the three teachers interviewed, the researcher selected them on purpose based on their teaching experiences and backgrounds. Teacher A, a full-time English teacher, coordinated English certification courses and taught regular English courses. Teacher B, a part-time English teacher, taught test preparation courses. Teacher C, a part-time English teacher, taught regular English classes and test preparation courses (see Appendix O for teachers' background). It was expected that such a purposive sample could yield greater depth of information regarding the perceived impact teaching in regular English class and/or test preparation class.

Constructing the Student Questionnaire

The Student Questionnaire consisted of two main parts. Part one concerned demographic questions, such as gender, major, English proficiency levels, test status (pass/fail), etc. Part two consisted of four sections, dealing with students' (1) perception of the English benchmark policy for graduation, (2) motivational regulations, (3) achievement goals, and (4) learning strategies. All variables, in part

two, were assessed using a Likert scale. The participants were asked to circle the appropriate rating that best presented their opinion. The following sections discuss how each section was constructed.

(1) *Perception of the English benchmark policy*

The Perception scale was comprised of two subscales: approval of the English benchmark policy and test anxiety. The questionnaire items were drawn from the previous studies conducted in Taiwan (e.g., Chu, 2009; Tsai & Tsou, 2009). These studies particularly addressed university students' views on the application of a standardised English language proficiency test as the graduation benchmark. 8 items were drawn and modified for Approval and 4 items for Test Anxiety.

(2) *Motivational regulations*

The motivational regulation scale consisted of four subscales – intrinsic motivation, external regulation, introjected regulation, and identified regulation – based on the self-determination theory (SDT; Deci & Ryan, 1985). The SDT has provided some theoretical perspectives on standardised testing, but few validated instruments have been developed to investigate students' motivational regulations in a high-stakes testing context. Therefore, Deci and Ryan's (1985, 2000a) continuum of autonomy, reflecting degrees of self-determination between intrinsic and external behavioural regulations, was the major basis for the development of this motivational regulation instrument. As mentioned in Chapter Two, the continuum illustrates three general types of motivation: amotivation, extrinsic and intrinsic. Amotivation was excluded from the present study. Amotivation reflects disengagement from behaviour (e.g., *There is nothing to motivate me in learning English*), while the other motivational regulations reflect intentional and regulated behaviour. In this present

study, the purpose of the motivation instrument was to measure university students' motivation for learning English, and not to measure their motivation to disengage in the English activities; therefore, amotivation was not examined.

Deci and Ryan (1985, 2000a, 2000b) propose four forms of extrinsic motivation: external, introjected, identified, and integrated regulations. External regulation refers to behaviour that is controlled by external authority or fear of punishment (e.g., *I learn English because I have to; my university has established the benchmark policy*). Introjected regulation is associated with feelings of "should" and the behaviour is driven by internal pressures, such as shame or guilt (e.g., *If I didn't get any official certificate of English proficiency before graduated, I would feel ashamed*). Identified regulation occurs when the activity is regarded personally important and valuable (e.g., *I learn English because it is important for my advanced studies or future career*). Finally, integrated regulation takes place when the value or goal of the task is integrated with other important aspects of the self. Integrated regulation was excluded in the present study because according to previous research of motivation in the educational field (e.g., Gagne & La Guardia, 2009), integrated regulation is more difficult to be appropriately measured because individuals have to carefully consider whether the reasons for performing the behaviour are consistent with their larger self-system or self-concept. The third category of motivation is intrinsic motivation which usually reflects the enjoyment of an activity for its own sake (e.g., *I enjoy studying English*). Table 3.1 illustrates the motivational regulations measured in this present study.

Table 3.1 Key Concepts and Examples of Four Types of Motivational Regulations

Types	Key concepts	Examples
1. External	External authority; fear of punishment	<i>I learn English because I have to; my university has established the benchmark policy.</i>
2. Introjected	Internal pressure; Avoidance of guilt and shame	<i>If I didn't get any official certificate of English proficiency before graduated, I would feel ashamed.</i>
3. Identified	Personal values and goals	<i>I learn English because it is important for my advanced studies or future career.</i>
4. Intrinsic	Enjoyment	<i>I enjoy studying English.</i>

(3) Achievement goals

The achievement goal scale was adapted from Elliot and McGregor's (2001) 2x2 Achievement Goal Questionnaire (AGQ). The present study did not choose Elliot and Murayama's (2008) revised AGQ (AGQ-R) because many previous studies focusing on achievement goals have employed the AGQ. To make the results of the present study more comparable, the AGQ was adopted. It is important to note that the AGQ was modified to make the questions more specific and suit the Taiwanese university context. The questionnaire modifications were illustrated in Table 3.2.

Table 3.2 Modifications of Achievement Goal Questionnaire

Original items	Modified items
Performance-approach goals	
<ul style="list-style-type: none"> - It is important for me to do better than other students. - It is important for me to do well compared to others in this class. - My goal in this class is to get a better grade than most of the other students. 	<ul style="list-style-type: none"> - It is important for me to do better than other students on the English exit exam. - It is important for me to do well compared to others on the English exit exam. - I hope I can get a better score than most of the other students on the English exit exam.
Mastery-approach goals	
<ul style="list-style-type: none"> - I want to learn as much as possible from this class. - It is important for me to understand the content of this course as thoroughly as possible. - I desire to completely master the material presented in this class. 	<ul style="list-style-type: none"> - I want to learn as much as possible from English class. - It is important for me to understand the content of the English course as thoroughly as possible. - I desire to completely master the material presented in English class.
Performance-avoidance goals	
<ul style="list-style-type: none"> - I just want to avoid doing poorly in this class. - My goal in this class is to avoid performing poorly. - My fear of performing poorly in this class is often what motivates me. 	<ul style="list-style-type: none"> - I study English hard to avoid doing poorly on the English exit exam. - I study hard to avoid getting a bad score on the English exit exam. - My fear of performing poorly on the English exit exam is often what motivates me.
Mastery-avoidance goals	
<ul style="list-style-type: none"> - I worry that I may not learn all that I possibly could in this class. - Sometimes I'm afraid that I may not understand the content of this class as thoroughly as I'd like. - I am often concerned that I may not learn all that there is to learn in this class. 	<ul style="list-style-type: none"> - I am striving to avoid doing worse on English performance than before. - I am striving to avoid losing my English skills. - I am striving to avoid forgetting what I have learned in English class.

As can be seen in Table 3.2, the original and modified items in terms of mastery-approach goals were quite different. The original mastery-avoidance goal items address the concern of not being able to master the material in class while the modified mastery-avoidance goal items address the concern of performing worse than before. The modification was the result of the consideration of the educational context of Taiwan. It has been found that Taiwanese students tend to lose their English skills or abilities after entering technological universities. Several reasons might account for it. First, technological students usually pay much more attention to their specialized subjects than English (Chu, 2009). Second, the hours of English classes are insufficient; two to four hours per week (Pan, 2011). Third, technological university English teachers are usually much less strict than senior high school English teachers since the latter have to prepare their students for the college entrance exam in which English was an important subject to be tested (Spencer, 2008). Finally, students in the third and fourth years were not required to take any English courses. The statement of failing to learn or mastery [English] course material in class (Elliot & McGregor, 2001) might not be applicable to some students. Considering the reasons above, the researcher of the present study believed that mastery-avoidance goals should focus on “avoid[ing] doing worse than one has done before” (Van Yperen et al., 2008, p. 932) in this research context.

In the 2 x 2 achievement goal model, a goal is defined as an "aim that one is committed to that serve as a guide for future behaviour" (Elliot & Murayama, 2008, p. 614). If a goal is in relation to others, it is considered a performance goal and if it concerns one's self or a task-criterion, it is a mastery goal. As mentioned earlier, the 2 x 2 model was adopted in the present study, but the questionnaire items were modified to better suit the high-stakes context in this technological university in Taiwan (see

Table 3.2). The modified version of the 2 x 2 goal framework placed a greater emphasis on reasons, such as hopes and fears, rather than on aims. The examples were such as "*I hope I can get a better score than most of the other students on the English exit exam*" and "*My fear of performing poorly on the English exit exam is often what motivates me.*"

(4) *Learning strategies*

The learning strategy scale was adapted from Oxford's (1990) *Strategy Inventory for Language Learning (SILL), the EFL version*. This 50-item instrument has been used to assess for the frequency of use of language learning strategies by students. It is comprised of six subscales: memory, cognitive, compensation, metacognitive, affective, and social strategies. The examples were illustrated in Table 3.3, drawn from Oxford and Burry-Stock (1995, p. 5).

Table 3.3 Examples of Six Types of SILL Learning Strategies

Strategy	Items	Examples
Memory	9	Grouping, imagery, rhyming, and structured reviewing
Cognitive	14	Reasoning, analyzing, summarizing, and general practising
Compensation	6	Guessing meanings from the context in reading and listening, and using synonyms and gestures to convey meaning when the precise expression is unknown
Metacognitive	9	Paying attention, consciously searching for practice opportunities, planning for language tasks, self-evaluating one's progress, and monitoring error
Affective	6	Anxiety reduction, self-encouragement, and self-reward
Social	6	Asking questions, cooperating with native speakers of the language, and becoming culturally aware

Source: Oxford and Burry-Stock, 1995, p.5.

Piloting the Student Questionnaire

Before the Chinese version of the questionnaire was pilot tested on students, two English teachers examined whether the English-Chinese translation was appropriate and then two Chinese teachers reviewed the Chinese wording. The preliminary student questionnaire was distributed to six General English classes (about 300 students) in the middle of February, 2011. To avoid survey fatigue, the students were not required to answer all of the sections (99 items in total) on their questionnaire. Rather, each class received a different version of the questionnaire and responded to only their background information and two sections (i.e., sections 1 and 2 for class A; sections 1 and 3 for class B; sections 1 and 4 for class C; sections 2 and 3 for class D; sections 2 and 4 for class E; sections 3 and 4 for class F). Table 3.4 illustrated the overall structure and sources of the preliminary student questionnaire (see Appendix D for the complete questionnaire).

Table 3.4 The Structure of the Preliminary Student Questionnaire

Structure & Content	Item No.	Sources
PART ONE	- 1-9	
Background information		
PART TWO		
Section 1: Perceptions		
- <i>Approval of the benchmark policy</i>	- 10 ~ 17	Previous literature (e.g., Chu, 2009; Tsai & Tsou, 2009)
- <i>Test anxiety</i>	- 18 ~ 21	
Section 2: Motivational regulations		
- <i>Intrinsic motivation</i>	- 23, 26, 33, 35	Self-determination theory (SDT; Ryan & Deci, 2000a)
- <i>External regulation</i>	- 22, 27, 31, 36	
- <i>Introjected regulation</i>	- 28, 32, 34, 37	
- <i>Identified regulation</i>	- 24, 25, 29, 30	
Section 3: Achievement goals		
- <i>Performance-approach goals (PAp)</i>	- 38, 41, 47	2 X 2 Achievement Goal Questionnaire (Elliot & McGregor, 2001)
- <i>Mastery- approach goals (MAp)</i>	- 40, 44, 49	
- <i>Performance-avoidance goals (PAv)</i>	- 39, 42, 46	
- <i>Mastery-avoidance goals (MAv)</i>	- 43, 45, 48	
Section 4: Learning Strategies		
- <i>Memory</i>	- 50 ~ 58	<i>Strategy Inventory for Language Learning (SILL)</i> (Oxford, 1990)
- <i>Cognitive</i>	- 59 ~ 72	
- <i>Compensation</i>	- 73 ~ 78	
- <i>Metacognitive</i>	- 79 ~ 87	
- <i>Affective</i>	- 88 ~ 93	
- <i>Social</i>	- 94 ~ 99	

The completed questionnaire was then ready for the item analysis. The reliability of the questionnaire was assessed by two measures: the inter-item correlations (above .30) and Cronbach's alpha (Hair et al., 2006). The item analysis results were as follows.

Regarding students' perception of the English benchmark policy (section 1), items 15 and 17 were eliminated from the approval subscale because many correlations among items were low (i.e., below .20). The exclusion of these two items improved the alpha coefficient from .75 to .84. The four items from the test anxiety subscale all remained due to their acceptable inter-item correlations (about or above .30) and satisfactory alpha coefficient (.72).

Moving to motivational regulations (section 2), items 35 (from external regulation) and 37 (from introjected regulation) were removed because of low inter-item correlations (below .30). The exclusion of item 35 improved the alpha coefficient from .64 to .77 for external regulation and that of item 37 enhanced slightly from .63 to .65 for introjected regulation. All items related to intrinsic motivation and identified regulation variables met the lower limit for correlations among items (exceeding .30) and their Cronbach alphas also reached relatively high levels ($\alpha = .93$ and .83, respectively). Therefore, none of the items was eliminated.

With regard to achievement goals (section 3), the Cronbach's alphas for performance-approach, performance-avoidance, mastery-approach, and mastery-avoidance goals were .83, .60, .73, and .67, respectively. The internal consistency of the entire scale for achievement goals was satisfactory ($\alpha = .79$). The inter-item correlation analysis were also acceptable, although several correlations were slightly lower than .30. Since the questionnaire items were modified from the existing questionnaire, that is, *2 X 2 Achievement Goal Framework* (Elliot & McGregor, 2001), all of the items remained for research purposes.

When examining SILL learning strategies (section 4), the researcher found it difficult to determine which items should be eliminated or retained due to the following concerns. First, the internal consistency of the entire scale for learning strategies was excellent ($\alpha = .95$); second, most of the inter-item correlations exceeded .30; third, all variables with communalities were more than .50, suggesting that they met acceptable levels of explanation (Hair et al., 2006); and fourth, all the items were based on the original questionnaire, *Strategy Inventory for Language Learning (SILL)* by Oxford (1990). It would be ideal to retain all 50 items for further analysis. However, if all 50 items remained, the entire questionnaire would contain

almost one hundred question items, which may lead to survey fatigue and result in lowered response rates or lower-quality survey data.

Based on the above-mentioned concerns, the section of learning strategies, addressing six different types of language learning strategies, was replaced by Biggs, Kember, and Leung's (2001) Revised Two-Factor Study Process Questionnaire (R-SPQ-2F) which focuses on only deep and surface approaches to learning. The R-SPQ-2F was selected due to the following reasons. First, it assesses only two approaches to learning with much fewer items, so the issue of survey fatigue should be less problematic. Second, the SPQ-R-2F has been widely employed in a higher education context in Asia, a similar learning environment to the one in the present study.

The revised version of the student questionnaire included 65 items, excluding items 15, 17, 35, and 37 based on the item analysis results. The SILL with 50 items were replaced by the SPQ-R-2F with 20 items. The revised questionnaire (see Appendix E) was distributed in the third and fourth weeks of May, 2011. Of 1000 questionnaires distributed in 20 English classes, 982 were returned. However, 43 students failed to complete their background information. These cases would be deleted from further analysis since they cannot be grouped without demographic information being provided, such as gender, major, test status (pass/fail), etc. As a result, a total of 939 questionnaires were then ready for factor analysis.

Analysis of the Student Questionnaire

To be more accurate about the relationships between constructs, both exploratory factor analysis (EFA) and confirmatory factor analysis (CFA) were performed. EFA is employed to search for underlying factor structure among variables whereas CFA is used to test or confirm a pre-specified relationship (Hair et al., 2006).

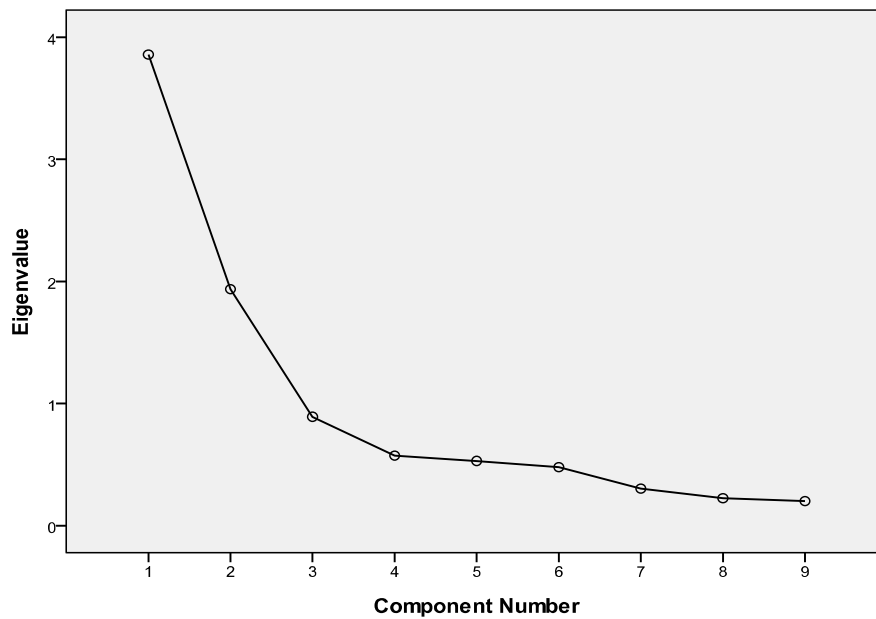
Students' perception of the English graduation benchmark policy

EFA

Principal components analysis (PCA) with varimax rotation was performed on the 10 Perception items. A varimax rotation was selected because it simplifies the interpretation of the factors (Tabachnick & Fidell, 2007) by attempting to “minimise the number of variables that have high loadings on each factor” (Pallant, 2011, p. 185). Before conducting principal components analysis, the suitability of data for factor analysis was examined. The correlation matrix showed that the presence of many coefficients was above .30. The Kaiser-Meyer-Okline value was .81, greater than the recommended value of .6 (Kaiser, 1970, as cited in Pallant, 2011) and Bartlett's Test of Sphericity was significant ($p < .001$), thus factor analysis was appropriate. The analysis yielded a two-factor solution with an eigenvalue exceeding 1, as expected. However, item 10 “*I think the graduation benchmark is necessary*” had to be removed because it loaded moderately on both factors. When the analysis was repeated using oblimin rotation, it persisted in having cross-loading. Therefore, this variable was considered as problematic and thus discarded (see Table 3-1 in Appendix P).

Another principal-components factor analysis with varimax was performed again on the 9 Perception items (excluding item 10). The analysis also revealed the presence of two factors with eigenvalues exceeding 1. The two-factor solution explained a total of 64.40% of the variance, with Factor 1 contributing 42.87% and Factor 2 contributing 21.53%. The two-factor solution represented 64.40% of the variance of the 9 variables and it should be sufficient with respect to total variance explained.

Figure 3.1 Eigenvalue Plot for Scree Test Criterion (Perception of the Policy)



As seen in Table 3.5, all items loaded above .60 on their primary factor, and none of the secondary loadings exceeded .25. Both resultant indices illustrated moderately high levels of internal consistency (Cronbach’s $\alpha = .80$, and $.88$, respectively). All variables’ communality values were greater than .30, indicating that every item should fit with the others in its factor (Pallant, 2007). In this respect, the 9 item two-factor solution should be accepted for the structure of Perception.

Table 3.5 Orthogonal Rotation of Component Analysis Factor Matrix

KMO = .80	Factor			Communalities
	Test anxiety	Approval		
20 I worry that I might be held back in university because I would fail the English exit exam.	.889			.791
21 I feel quite anxious about the English exit exam.	.874			.769
18 I am confident I would pass the English exit exam (reversed).	.822	-.220		.724
19 I think I will still do badly on the English exit exam although I take effort preparing for it.	.795	-.243		.691
12 I think the policy can encourage students to study English hard.	-.161	.835		.723
11 I think the policy can enhance students' English learning motivation.	-.218	.792		.675
13 I think the policy can improve students' overall English abilities.	-.109	.759		.588
16 I think the English exit exam is the best tool to measure students' English abilities.		.660		.440
14 I think the English exit exam can appropriately assess students' English abilities.		.623		.395

<i>Sum of Squares (Eigenvalue)</i>	<i>3.859</i>	<i>1.937</i>	<i>Total</i> <i>5.796</i>
<i>Percentage of trace</i>	<i>42.87</i>	<i>21.53</i>	<i>64.40</i>

Note. N=977. Major loadings for each item are in bold.

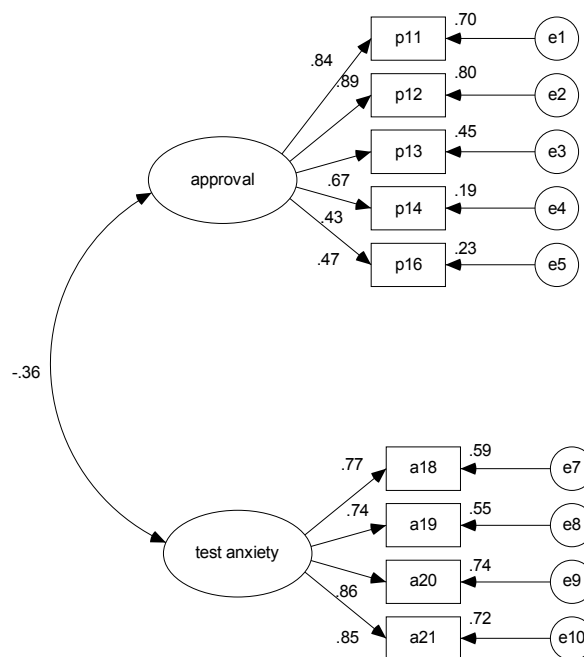
CFA

The 9 item two-factor solution was further validated through the use of confirmatory factor analysis (CFA). According to Hair et al. (2006), CFA can provide an objective comparison, examining the replicability of the factor model results. The authors further suggest that adequacy of model fit can be evaluated by one incremental index (e.g., comparative fit index (CFI)), and one absolute index (e.g., root mean square error of approximation (RMSEA)), in addition to the χ^2 value and the associated degrees of freedom. Hair et al. (2006) also argue that values indicative of a good/adequate fit are based on model characteristics, but typically CFI values more than .90 and RMSEA values less than .10 produce an adequate fit.

AMOS 17.0 was chosen to perform CFA. The results showed that the model chi square was significant, χ^2 (26, N=982) = 427.98, $p < .01$, CFI = .91, RMSEA = .12 (.11 - .13; 90% CI). The results of the CFA revealed that not all the goodness-of-fit indexes were satisfactory, as the value of RMSEA was slightly higher than the cutoff value recommended. Items 14 and 16 were the ones with the lowest factor loading in their respective dimensions, so the researcher decided to re-examine the model eliminating these two items. The results of which showed the value of RMSEA was even higher (.14). RMSEA usually improves as more variables were added to the model, especially with larger sample size (Hair et al., 2006). However, as mentioned earlier in the chapter, the other variables were discarded, because the exclusion improved the alpha coefficient from .75 to .84. Considering the reasons above, the researcher of the present study decided not to modify this model.

Figure 3.2 displays standardised regression weights (i.e., standardised loadings). All loadings were significant, ranging from .43 to .89. In addition, the two subscales (i.e., approval of the policy and test anxiety) were significantly correlated ($r = -.34$), supporting the hypothesis of a relationship among the factors. Overall, the acceptability of fit for this model was indicated.

Figure 3.2 CFA Model of the Perception Structure



Motivational Regulation

EFA

A principal-components factor analysis (PCA) with varimax rotation on the 14 motivational regulation items was undertaken. As mentioned earlier, a varimax rotation was selected because it simplifies the columns of loading matrix (Pallant, 2011) that is easier to interpret (Tabachnick & Fidell, 2007). The varimax rotation revealed a three-factor model, accounting for 66.26% of the total variance. Many variables (i.e., 29, 35, 23, 26, 33, and 34), however, had more than one significant

loading. The problem of cross-loadings still existed when using OBLIMIN. Since a simple structure solution was not produced, a priori criterion, instead of latent root (eigenvalue) criterion was applied. Four, a predetermined number of factors, was decided based on the research objectives as well as the SDT theory. The factor matrix showed that although the eigenvalue of factor 4 (.81) was below the 1.0 threshold, fewer variables (i.e., 25, 29, and 34) had a cross-loading. In addition, all variables' communalities were above .50, and the percentage of variance explained increased from 66.26% and 72.48%. In other words, the four-factor solution (see Table 3-2 in Appendix P) could be retained in an attempt to result in a more simple structure solution, and increase communality values and the overall percentage of variance explained (Hair et al., 2006).

When the analysis was repeated using oblimin rotation, items 25 and 29 still did not load strongly on only one factor (see Table 3-3 in Appendix P). Therefore, these two items were regarded as problematic and discarded since they persisted in having cross-loading; item 34 was retained because it did not show a cross-loading when an oblique method was employed (Hair et al., 2006). In addition, its communality was greater than .50, which can provide sufficient explanation. Finally, the inclusion of item 34 slightly improved the alpha coefficient from .74 to .77.

Another principal-components factor analysis with oblimin was performed on the 12 motivation items (excluding items 25 and 29). The prior criterion was also employed. The result extracted the four-factor solution which accounted for 75.27% of the total variance. As shown in Table 3.6, all items loaded above .50 on their primary factor, and none of the secondary loadings exceeded .30. Factor 1 accounted for 44.73% of the total variance and consisted of the four intrinsic motivation items. Factor 2 accounted for 14.64% of the total variance and comprised the three external

regulation items. Factor 3 accounted for 8.33% of the total variance and consisted of the three introjected regulation items. Factor 4 accounted for 7.57% of the total variance and comprised the two identified regulation items. Even though the eigenvalue for the fourth factor was lower than 1.0, it was quite close to 1, so it could be considered for inclusion (Hair et al., 2006). All four resultant indices proved moderate to high levels of internal consistency (Cronbach's $\alpha = .92, .71, .77, \text{ and } .79$, respectively). The table also shows that all variables' communality values were also greater than .50, providing sufficient explanation.

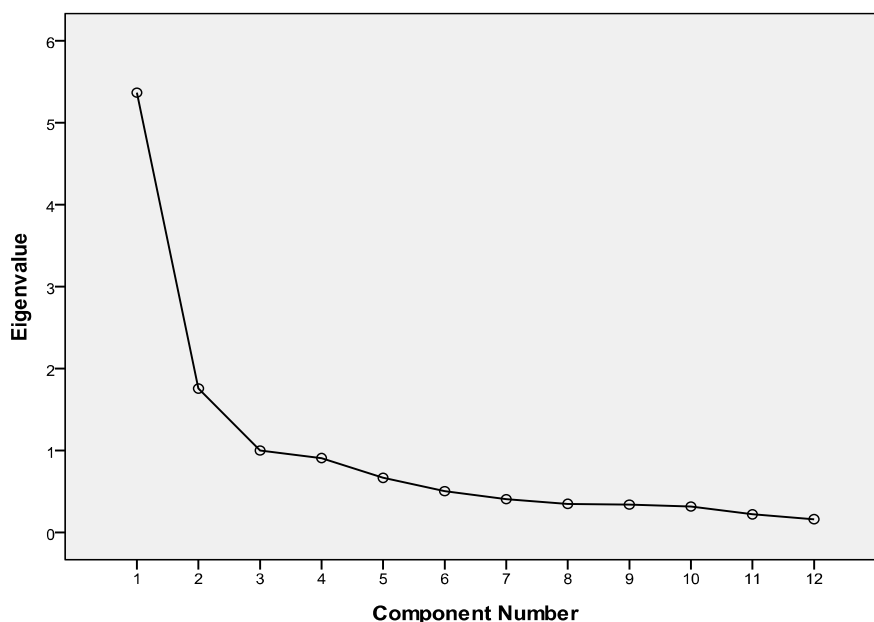
Table 3.6 Factor Loadings and Communalities for Motivational Regulation Items

	Factor				Communality
	1	2	3	4	
KMO =.88					
I study English because...					
23. learning English is interesting.	.94				.821
26. I enjoy studying English.	.93				.844
35. I like English.	.90				.864
33. learning English is a challenge that I enjoy.	.77		-.17		.733
27. I have to; English is a compulsory subject.		.83		-.13	.657
22. I have to; my university has established the benchmark policy.		.81		.14	.743
31. I have to; I am pressured to pass the English exit exam.		.70			.545
28. if I did not get any official certificate of English proficiency before graduated, I would feel ashamed.			-.95	.11	.797
32. I think every university graduating student should get an official certificate of English proficiency.			-.78	-.14	.780
34. as a university student, I feel like I should study English.	.29		-.50	-.23	.616
24. English is important for my advanced studies or for entering the job market in a field that I like .				-.91	.815
30. official certificates of English proficiency are useful for my higher education or future career in a field that I like.	[.10]			-.88	.817
					<i>Total</i>
<i>Sum of Squares (Eigenvalue)</i>	5.368	1.756	1.000	.908	9.032
<i>Percentage of Trace</i>	44.73	14.64	8.33	7.57	75.27

Note. N=976. Factor loadings were obtained using principal components extraction with oblique rotation. Primary factor loadings are in bold.

The scree test (Figure 3.3) indicated three factors may be appropriate. For research purposes, the four factor solution was retained for further analysis.

Figure 3.3 Eigenvalue Plot for Scree Test Criterion (Motivational Regulations)



CFA

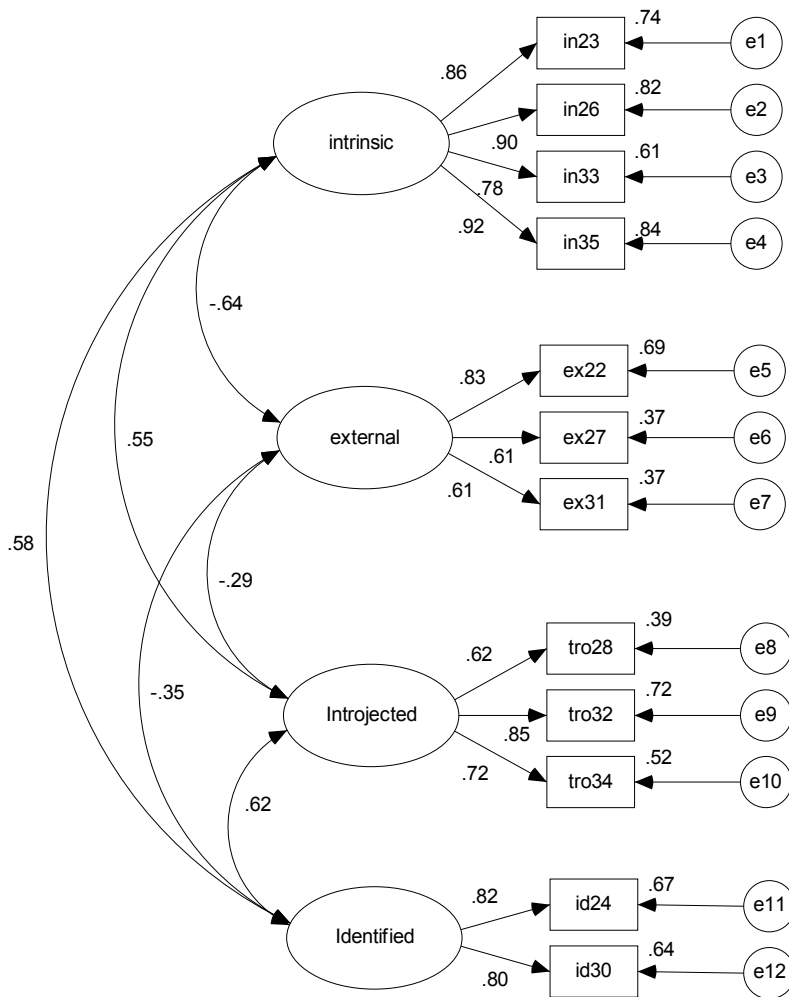
A confirmatory factor analysis was performed through AMOS on the 14 motivational regulation variables. A four factor model of intrinsic motivation, external regulation, introjected regulation, and identified regulation was hypothesized. These four factors were hypothesized to have a significant relationship between each other. Hair et al. (2006, p.752) suggest that adequacy of model fit can be evaluated by one incremental index (e.g., comparative fit index (CFI)), and one absolute index (e.g., root mean square error of approximation (RMSEA)), in addition to the χ^2 value and the associated degrees of freedom. The authors further indicate that values indicative of a good/adequate fit are based on model characteristics, but typically CFI values more than .90 and RMSEA values less than .10 produce an adequate fit.

The results illustrated that the model chi square was significant, χ^2 (71, N=982) =

548.416, $p < .01$, which was expected for this model (14 observed variables tested with a large sample size) (Hair et al., 2006, p. 753). RMSEA, a badness-of-fit index, was .082 (.075-.088; 90% CI). The value was slightly higher than the .07 guideline for a model with 14 observed variables (Hair et al., 2006, p.753). CFI, a goodness-of-fit index, was .935, above the .92 guideline (Hair et al., 2006) for this model. All loadings were significant, ranging from .61 to .91. In addition, the four factors (i.e., intrinsic motivation, external regulation, introjected regulation, and identified regulation) were significantly correlated, supporting the hypothesis of relationships among the factors.

The results showed that the hypothesized structure was verified. However, the component analysis (using varimax and oblimin solutions) on the same set of motivational regulation variables, examined earlier, suggested that items 25 and 29 were problematic because they loaded strongly on more than one factor. Therefore, a new model deleting these two items was tested via CFA. The modified model still indicated a significant chi square: $\chi^2 (48, N=982) = 309.828, p < .001$, RMSEA = .074 (.066-.081; 90% CI), CFI = .958, but both the RMSEA and CFI indicated an adequate fitting model after items 25 and 29. The loadings ranged from .61 to .92 (see Figure 3.4). Overall, the acceptability of fit for this model was improved. Based on both EFA and CFA results, it was determined that the 12-variable / four-factor construct was employed to assess students' motivational regulations. The four-factor model of self-determined motivations showed negative covariances between external and intrinsic regulation, external and introjected regulation and external and identified regulation, indicating that external regulation were inversely related to the other three types of regulations. External regulation and intrinsic motivation showed the most negative correlations.

Figure 3.4 CFA Model of the Structure of Motivational Regulations



Achievement goals

EFA

A principal-components factor analysis with varimax rotation on the 12 achievement goal items was performed. Again, a varimax rotation was selected because it simplifies the columns of loading matrix (Pallant, 2011) and it is easier to interpret the factors (Tabachnick & Fidell, 2007). The factor analysis yielded a four-factor solution. Item 42 “*My fear of performing badly on the English exit exam is often what motivates me to study English hard*” was eliminated because it was loaded on an unexpected factor. Item 44 “*I am striving to avoid making English*

mistakes” was considered as problematic because it loaded onto two factors (see Table 3-4 in Appendix P). When the analysis was repeated using oblique rotation (see Table 3-5 in Appendix P), item 42 still loaded on the unexpected factor and thus it was discarded. Although item 44 did not show a cross-loading when oblimin rotation was performed, the exclusion of item 44 improved the alpha coefficient from .67 to .74 for mastery-avoidance goals, and increased the total variance from 67.92% to 71.80%. Furthermore, the loading of item 44 was .399, indicating that its overlapping variance was lower than 20% (Comrey & Lee, 1992 as cited in Tabachnick & Fidell, 2007) and it was deemed non-practical significant (Hair et al., 2006). Therefore, both items 42 and 44 were eliminated from further analysis.

Another principal-components factor analysis with varimax rotation was performed on the 10 achievement goal items (excluding items 42 and 44). This analysis revealed four factors with eigenvalues exceeding unity. The four-factor solution accounted for 71.79% of the total variance. As shown in Table 3.7, all items loaded above .60 on their primary factor, and none of the secondary loadings exceeded .35. Factor 1 accounted for 28.7% of the total variance and consisted of the three performance-approach goal items (eigenvalue = 2.87). Factor 2 accounted for 19.5% of the total variance and comprised the three mastery-approach goal items (eigenvalue = 1.95). Factor 3 accounted for 13.4% of the total variance and consisted of the two performance-avoidance goal items (eigenvalue=1.34). Factor 4 accounted for 10.2% of the total variance and comprised the two mastery-avoidance goal items (eigenvalue = 1.02). All four resultant indices revealed moderate levels of internal consistency (Cronbach’s α = .76, .71, .74, and .74, respectively). All variables’ communality values were greater than .50, indicating sufficient explanation. In this respect, the 10-variable /four-factor solution should be accepted for the structure of

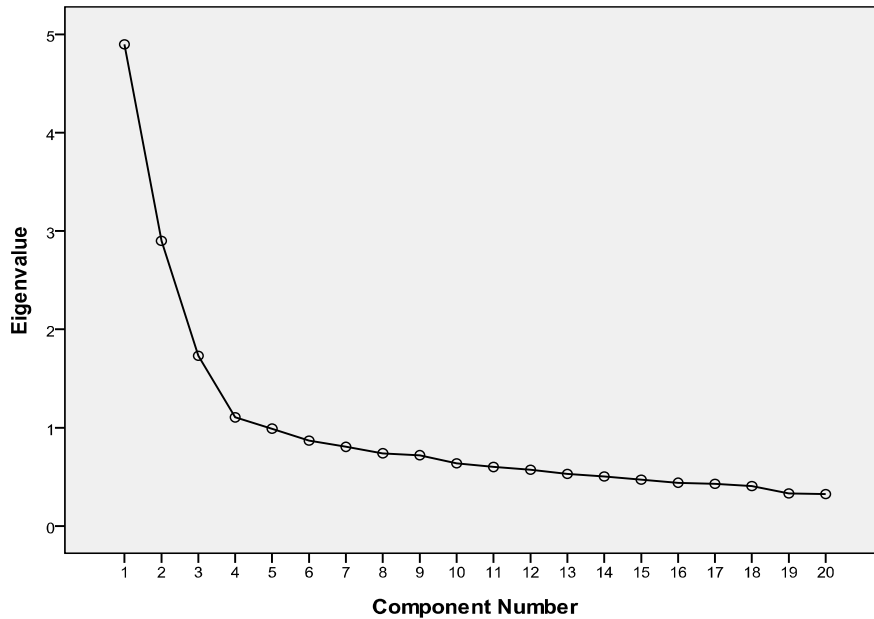
Achievement Goals. The scree analysis (see Figure 3.5) also indicated that four factors should be appropriate.

Table 3.7 Factor Loadings and Communalities for Achievement Goal Items

	Factor				Communality
	1	2	3	4	
KMO =.70					
38 It is important for me to do better than other students on the English exit exam.	.83				.692
40 I hope I can get a better score than most of the students on the English exit exam.	.81	.12			.680
41 It is important for me to do well compared to others on the English exit exam.	.81			.19	.685
43 I desire to completely master the material presented in English class.		.84		.12	.714
49 It is important for me to understand the content of the English course as thoroughly as possible.		.83		.13	.710
46 I want to learn as much as possible from English class.		.64	-.32	.14	.543
45 I study hard to avoid doing badly on the English exit exam.			.88		.794
39 I study hard to avoid getting a bad score on the English exit exam.		-.14	.87		.777
47 I am striving to avoid performing worse than before.	.12	.18		.87	.796
48 I am striving to avoid forgetting what I have learned.	.15	.16	-.12	.85	.789
					<i>Total</i>
<i>Sum of Squares (Eigenvalue)</i>	2.874	1.953	1.337	1.015	7.179
<i>Percentage of Trace</i>	28.74	19.53	13.37	10.15	71.79

Note. N=976. Factor loadings were obtained using principal components extraction with orthogonal rotation. Major factor loadings are in bold.

Figure 3.5 Eigenvalue Plot for Scree Test Criterion (Achievement Goals)



CFA

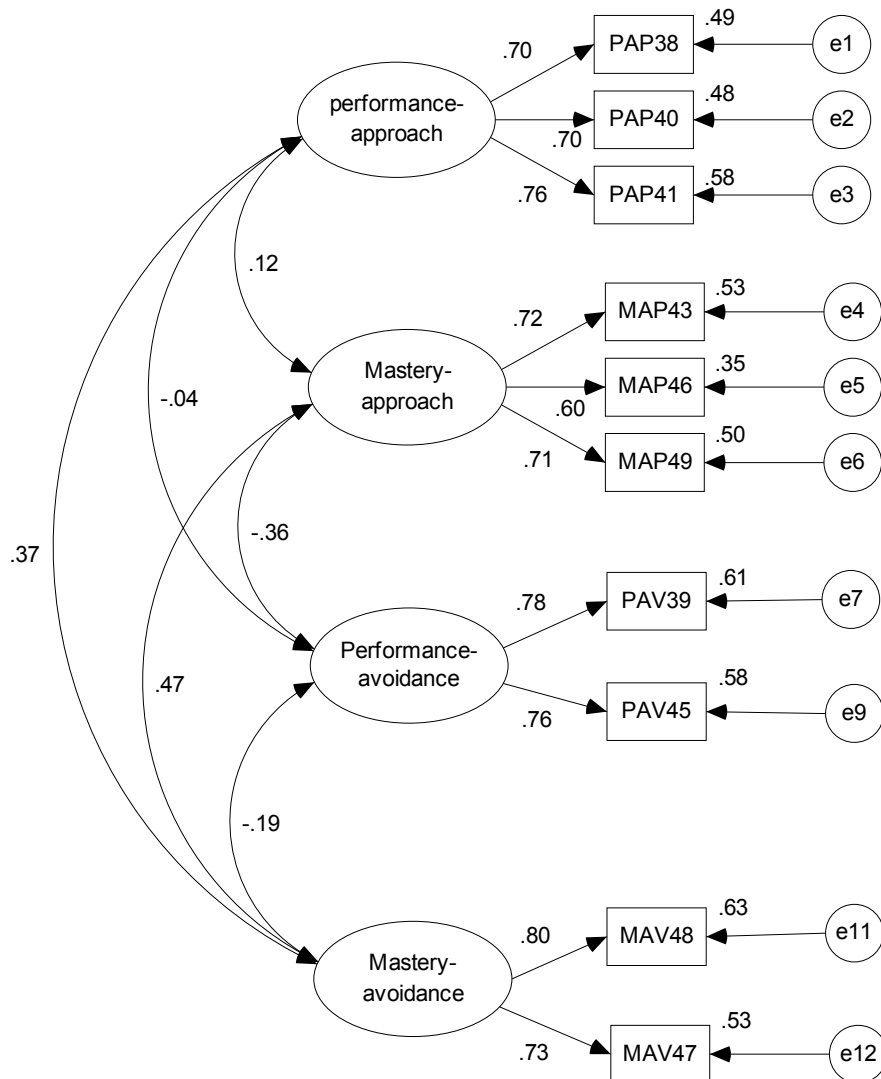
A confirmatory factor analysis was performed through AMOS on the 12 achievement goal variables. A four factor model of performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance goals was hypothesized. These four factors were hypothesized to have significant relationships between each other. Maximum likelihood estimation was employed to estimate the model. The results indicated that the model chi square was significant, $\chi^2(48, N=982) = 577.191$, $p < .001$. The value for RMSEA was .105 (.097-.112; 90% CI), higher than the .08 guideline for a model with 12 observed variables (Hair et al., 2006, p.753). Even the lower bound of the RMSEA exceeded .08. The value for CFI was .830, less than the .90 guideline (Hair et al., 2006, p. 749). These indices seemed to indicate the model did not fit the data well.

Since item 42 “*My fear of performing badly on the English exit exam is often what motivates me to study English hard*” had a very low loading (.24) and represented a very small proportion of variance ($R^2 = .06$), item 42 was considered a

poorly performing item and a prime candidate for deletion. A modified model without PAV 42 was thus tested. The results still indicated a significant chi square: χ^2 (38, N=982) = 209.422, $p < .001$, RMSEA = .067 (.058-.076; 90% CI), CFI = .937, but both the RMSEA and CFI indicated an adequate fit. In addition, exploratory factor analysis (EFA) on the 12 achievement goal items, performed earlier, also identified item 42 as problematic. Therefore, item 42 was determined to be excluded for further analysis.

The results from the EFA on the goal construct also indicated that item 44 “*I am striving to avoid making English mistakes*” was problematic because it loaded on an unexpected goal factor. Therefore, another additional (third) model, without item 44 (and item 42), was tested. The results indicated a significant chi square: χ^2 (29, N=982) = 128.224, $p < .001$, RMSEA = .058 (.048-.069; 90% CI), CFI = .960. These fit indices suggested the model with 10 measured variables (see Figure 3.5) had a better overall fit than the model with 12 or 11 variables. Based on both EFA and CFA results, the 10-variable / four-factor construct was employed to assess students’ achievement goal orientations. As seen in Figure 3.6, covariances on this four-factor model of achievement goals between mastery-approach and performance-avoidance and between mastery-avoidance and performance-avoidance were negative, indicating that mastery-based goals and performance-avoidance goals were inversely related.

Figure 3.6 CFA model of the structure of Achievement Goals



Approaches to learning

EFA

A principal-components factor analysis (PCA) with varimax rotation on the modified Biggs' R-SPQ-2F items was undertaken. A varimax rotation was selected because it is easier to interpret the factors (Tabachnick & Fidell, 2007) by simplifying the columns of loading matrix (Pallant, 2011). The varimax rotation revealed a four-factor model, accounting for 49.44% of the total variance. Many variables (e.g., 50,

56, 61, 63, 64, 65, and 68) were found to be problematic because they either had no significant loadings or had a cross-loading. Since a simple structure solution was not produced, a priori criterion was applied. A predetermined number of factors, two, was determined based on the research objectives. An initial varimax-rotated component analysis was conducted on the modified Biggs' R-SPQ-2F items. The results suggest that item 56 was problematic because it had moderate-size loadings on both factors. The problem still existed when OBLIMIN was employed. Items 51, 52, 54, 57, 60, 65, and 69 were also eliminated due to their relatively low communalities (i.e., below .30) and low inter-item correlations (below .20). It can be noticed that the items eliminated were designed as surface variables. This is not surprising since the previous studies have suggested that the surface scale is much less robust than the deep scale (Kember & Gow 1990; Zhang 2000). The exclusion of these items slightly improved the alpha coefficient from .83 to .84 for deep approaches and greatly increased the total variance from 36.55% to 50.77% although the alpha coefficient for surface approaches slightly decreased from .73 to .71.

Another principal-components factor analysis with varimax rotation was performed on these 12 items. The two-factor solution accounted for 50.77% of the total variance. As shown in Table 3.8, all items loaded above .50 on their primary factor, and none of the secondary loadings exceeded .35. Factor 1 accounted for 35.22% of the total variance and consisted of the eight deep approach items. Factor 2 accounted for 15.55% of the total variance and comprised the four surface approach items. Both resultant indices proved satisfactory levels of internal consistency (Cronbach's $\alpha = .84$ and $.71$, respectively). Table 3.8 also shows that all variables' communality values were greater than .30, indicating that every item should fit with the others in its factor (Pallant, 2007). In this respect, the 12 item two-factor solution should be accepted for the structure of Approaches to Learning.

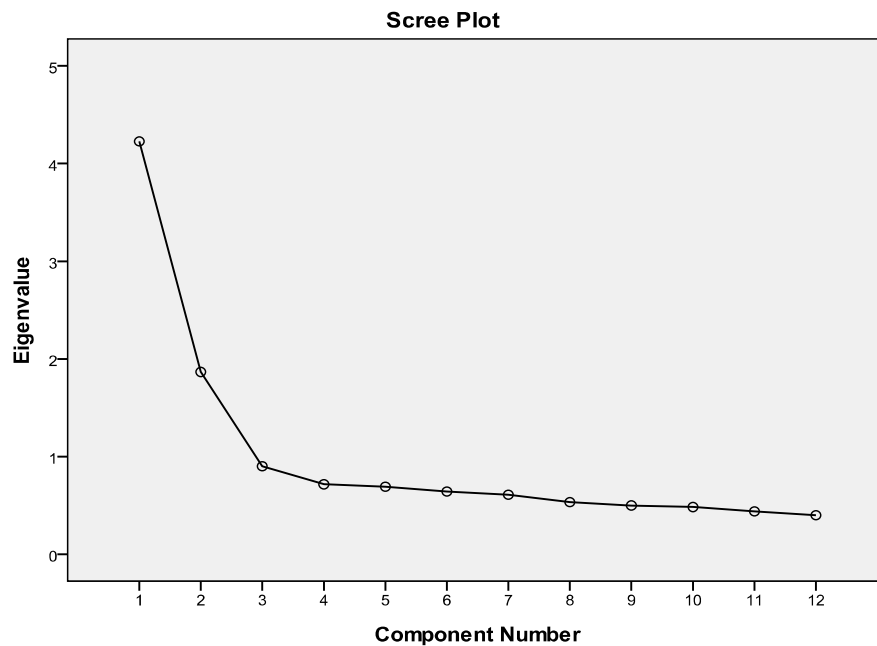
Table 3.8 Factor loadings and communalities for Items of Approaches to Learning

KMO =.88	Factor		Communality
	1	2	
58 I find that studying English can at times be as exciting as a good novel or movie.	.73	-.27	.605
55 I find most new English materials interesting and often spend extra time trying to obtain more information about them.	.71	-.21	.551
59 I test myself on important English sections until I understand them completely.	.70		.499
63 I make a point of looking at most of the suggested readings that go with the lecturers.	.70		.483
67 I work hard at my English studies because I find the material interesting.	.69	-.27	.543
66 I come to English classes with questions in mind that I want answering.	.66	.19	.464
50 I find that at times studying English gives me a feeling of deep personal satisfaction.	.60	-.31	.455
63 I spend a lot of my free time finding out more about interesting topics which have been discussed in English class.	.56	-.33	.423
61 I generally restrict my English study to what is specifically set as I think it is unnecessary to do anything extra.		.77	.597
64 I find it is not helpful to study English materials in depth. If confuses and wastes time, when all you need is a passing acquaintance with materials.	-.16	.76	.603
68 I see no point in learning English material which is unlikely to be in the English examination.		.71	.498
53 I only study seriously what's given out in English class or related to the English exit exam.	-.21	.57	.368
			<i>Total</i>
<i>Sum of Squares (Eigenvalue)</i>	4.227	1.866	6.093
<i>Percentage of Trace</i>	35.22	15.55	50.7

Note. N=976. Factor loadings were obtained using principal components extraction with orthogonal rotation. Major factor loadings are in bold.

The scree analysis (see Figure 3.7) indicated that three factors may be appropriate. However, if looking at the eigenvalue for the third factor, one can see that the value was not greater than 1.0. Therefore, two factors would be retained.

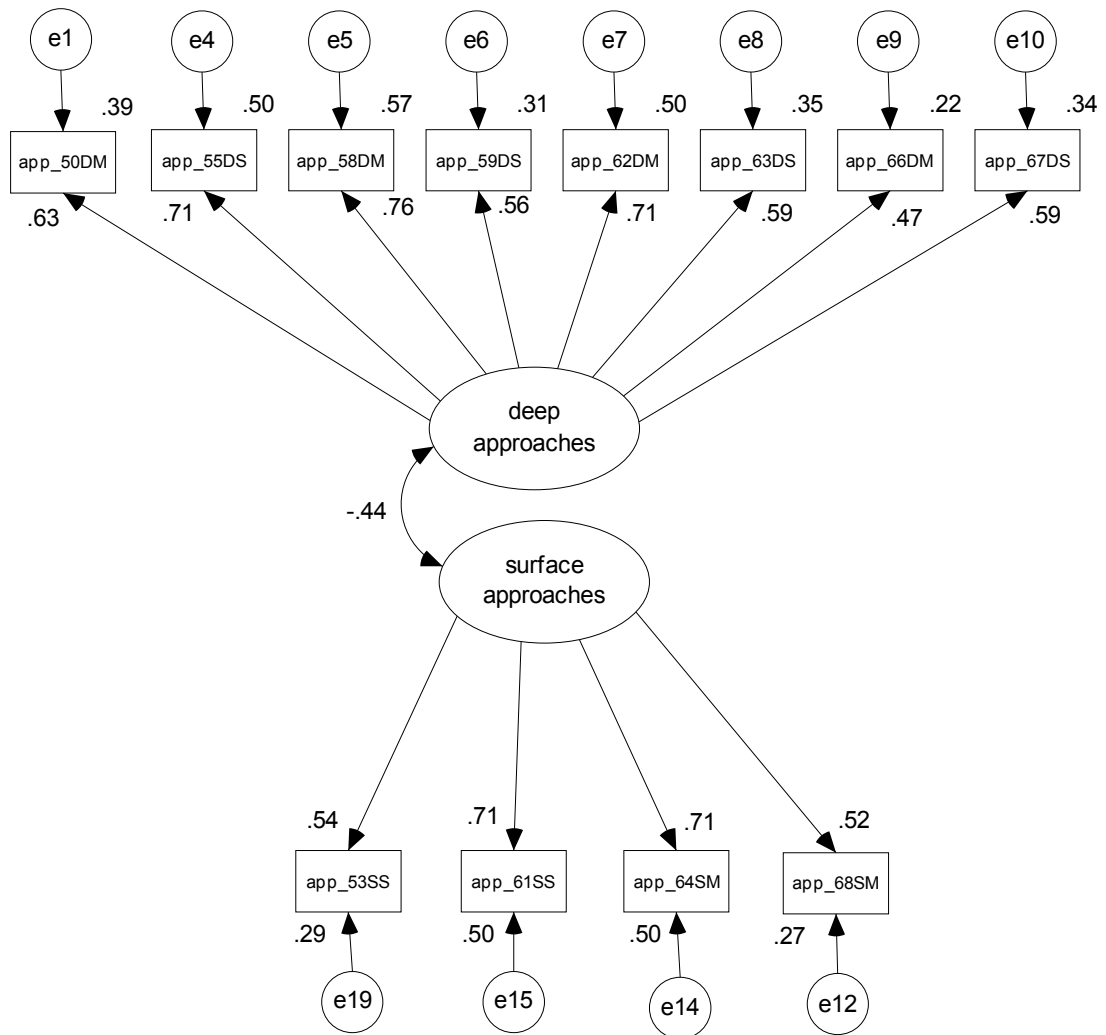
Figure 3.7 Eigenvalue Plot for Scree Test Criterion (Approaches to Learning)



CFA

After the structure of the scale and item loadings were examined via principal component analysis, the results were confirmed via CFA. The results showed that the model chi square was significant, $\chi^2 (53, N=982) = 339.098, p < .001, RMSEA = .074 (.067-.082; 90\% CI), CFI = .91$. Both fit indices indicated an acceptable model. Figure 3.8 displays standardised loadings. As can be seen, all loadings were significant, ranging from .47 to .86. In addition, these two factors (i.e., deep and surface) were significantly correlated.⁶

Figure 3.8 CFA model of the structure of Approaches to Learning



Descriptive Statistics

The means, standard deviations, ranges, and alpha coefficients for each measure and percentages of variance are reported in Table 3.9. As shown, all internal consistencies were greater than Nunnally's (1978) criterion of .70, indicating acceptable reliability. The results show that the students had a relatively good motivational profile. Specifically, students showed positive attitudes towards the English benchmark policy for graduation ($M=4.39$) and a moderately low level of test anxiety ($M=3.06$). Furthermore, they reported relatively high identified regulation ($M=5.03$), followed by mastery-approach goals ($M=4.60$), mastery-avoidance goals

(M=4.13), introjected regulation (M=4.12), external regulation (M=3.90), intrinsic motivation (M=3.83), and performance-approach goals (M=3.67), which were all above the midpoint of the scale. Performance-avoidance goals were the least likely to be adopted by students (M=2.90).

Table 3.9 Descriptive Statistics for Each Variable

Measure	N	Mean	SD	Range	α	Percentage of variance
Perceptions (9 items)						64.40%
Attitudes	980	4.39	.895	1-6	.80	
Test anxiety	978	3.06	1.263	1-6	.88	
SDT motivational regulations (12 items)						75.27%
Intrinsic motivation	977	3.83	1.108	1-6	.92	
External regulation	978	3.90	1.153	1-6	.77	
Introjected regulation	977	4.12	1.055	1-6	.71	
Identified regulation	978	5.03	.901	1-6	.79	
Achievement goals (10 items)						71.79%
Performance-approach	980	3.67	1.014	1-6	.76	
Mastery-approach	978	4.60	.857	1-6	.71	
Performance-avoidance	980	2.90	1.072	1-6	.74	
Mastery-avoidance	978	4.13	.901	1-6	.74	
Approaches to learning (12 items)						50.74%
Deep	978	3.34	.822	1-6	.84	
Surface	976	3.52	1.013	1-6	.71	

Note. All variables were measured using a 6-point scale.

Zero-Order Correlations

Pearson bivariate correlations were performed to examine the relationship between students' perceptions of the English benchmark policy for graduation, motivational regulations, achievement goals, and approaches to learning. The values are presented in Table 3.10. There were 64 significant correlations ($p < .001$) and all variables were found to be significantly correlated, except for performance-approach goals, unrelated to performance-avoidance goals and surface approaches. Since small correlation coefficients easily become significant with $p < .01$ because of the large sample size, the study only interpreted coefficients close to .30 or above, recommended by Cohen (1988) who suggests that a minimum of 9% of the

covariation explained is meaningful (a correlation of $r = .30$ means 9% shared variance ($.3 \times .3 = .09$)). The guidelines of determining the strength of the relationship are proposed by Cohen (1988, pp.79-81) as follows: $.10$ to $.29$ = small effect, $.30$ to $.49$ = medium effect, $.50$ to 1.0 = large effect.

As shown in Table 3.10, a positive, strong correlation was found between intrinsic motivation and deep approaches to learning ($r = .72, p < .001$). Intrinsic motivation was also found to be positively correlated to identified regulation ($r = .50, p < .001$) and negatively correlated to external regulation ($r = -.54, p < .001$). The findings were consistent with the assumptions proposed by self-determination theory (Deci & Ryan, 1985) that intrinsic motivation and identified regulation are both considered more autonomous while external regulation is more controlling.

Findings regarding introjected regulation were unexpected. Introjected regulation was found to be moderately positively correlated to intrinsic motivation ($r = .48, p < .001$) and identified regulation ($r = .48, p < .001$), and small negatively correlated to external regulation ($r = -.25, p < .001$). According to SDT, introjected and external regulations are categorized as a less autonomous form of extrinsic motivation because both involve control and pressure towards specific outcomes (Vallerand & Bissonnette, 1992). However, the results showed that introjected regulation was perceived as a more self-determined form. Possible reasons accounting for these unexpected findings will be discussed in Chapter Five.

There is a small negative correlation between deep approaches and performance-avoidance goals ($r = -.28, p < .001$) and moderate positive correlations between deep approaches and the other three achievement goals (r ranging from $.35$ to $.39$). Surface approaches to learning generated the opposite patterns. A moderate positive correlation was found between surface approaches and performance-avoidance goals ($r = .44, p < .001$), and small negative correlations between surface approaches and

mastery-approach and mastery-avoidance goals ($r = -.28$ and $-.10$, respectively).

Test anxiety, external regulation, performance-avoidance goals, and surface approaches were, as expected, positively correlated with each other (r ranging from $.34$ to $.63$). The pattern was in line with the previous studies.

Table 3.10 Pearson Product-Moment Correlations Between Variables

	1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.
1. Approval	—	-.42**	.47**	-.24**	.56**	.42**	.32**	.31**	-.27**	.26**	.40**	-.18**
2. Anxiety		—	-.59**	.63**	-.41**	-.37**	-.31**	-.23**	.50**	-.20**	-.43**	.34**
3. Intrinsic			—	-.54**	.48**	.50**	.40**	.35**	-.41**	.33**	.72**	-.37**
4. External				—	-.19**	-.25**	-.15**	-.14**	.45**	-.15**	-.39**	.41**
5. Introjected					—	.48**	.50**	.22**	-.18**	.26**	.41**	-.11**
6. Identified						—	.36**	.35**	-.30**	.26**	.39**	-.23**
7. PAp							—	.10**	-.03	.27**	.38**	.03
8. MAp								—	-.29**	.35**	.35**	-.28**
9. PAv									—	-.14**	-.28**	.44**
10. MAv										—	.38**	-.10**
11. Deep											—	-.33**
12. Surface												—

** $p < .001$ (2-tailed).

PAp= performance-approach goals; MAp = mastery-approach goals;

PAv= performance-avoidance goals; MAv = mastery-avoidance goals.

Constructing the Teacher Questionnaire

The Teacher Questionnaire consisted of two main parts. The first part concerned demographic questions, such as gender, teaching position, years of teaching English at a university level, etc. The second part consisted of two sections. The first section dealt with teachers' perception of the English benchmark policy for graduation. The Perception scale for teachers was structured in the same manner as the one for students. It was also comprised of three subscales: (1) approval of the English benchmark policy (six items), (2) perceived worries about their teaching evaluation under the policy (two items), and (3) perceived impact of the English exit exam on their teaching, including teaching syllabus, teaching content, teaching methods, textbook selection, supplementary materials, classroom activities, quizzes, homework/ assignments, and assessment (nine items). The items were mainly drawn from the

previous studies conducted in Taiwan (Chu, 2009; Tsai & Tsou, 2009). All variables, in part two, were assessed using a Likert scale. The participants circled the appropriate rating that best presented their opinion. The teacher questionnaire was distributed in the third and fourth weeks of May, 2011. Of 45 questionnaires e-mailed, 15 were returned.

Analysis of the Teacher Questionnaire

The varimax rotation revealed a three-factor model, accounting for 82.22 % of the total variance. The deletion of item (8) "*I think the graduation benchmark is necessary*" would yield an expected three-factor solution with an eigenvalue exceeding 1. The exclusion of item (8) slightly improved the alpha coefficient from .85 to .86. As shown in Table 3.11, all items loaded above .70. The table also shows that all variables' communality values were also greater than .50, providing sufficient explanation.

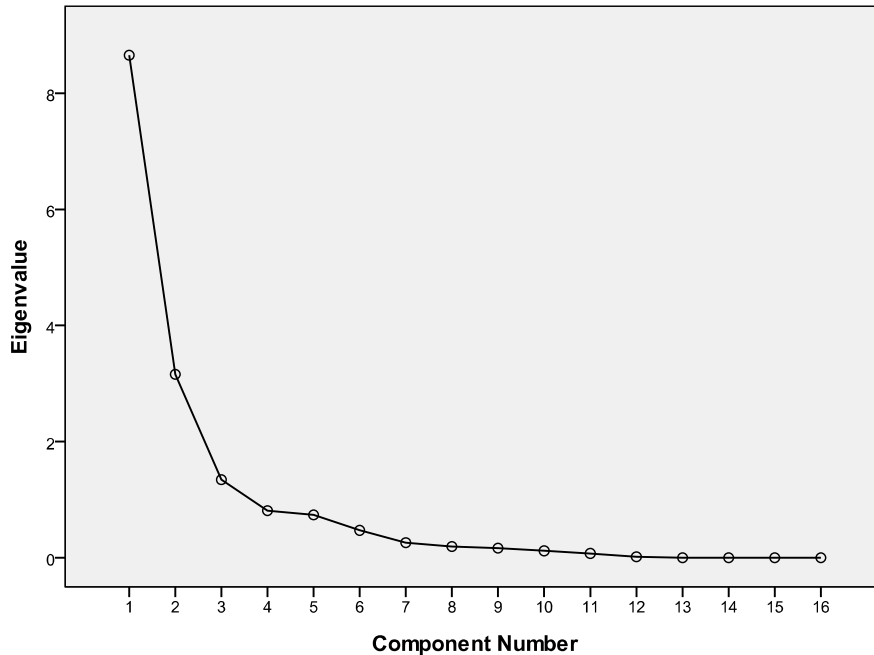
Table 3.11 Factor Loadings and Communalities for Teacher Perception Items

	Factor			Communities
	1 Impact on Teaching	2 Approval	3 Concern	
16 Teaching syllabus	.93			.887
18 Teaching methods	.92			.955
17 Teaching content	.92			.881
24 Assessment	.90			.919
21 Classroom activities	.87			.811
19 Textbook selection	.85			.753
23 Homework/ assignments	.82			.812
20. Supplementary materials	.78			.698
22. Quizzes	.75			.701
13 I think the English exit exam should not be as an only assessment tool to assess students' English abilities (reversed).		.94		.902
11 I think the graduation benchmark can improve students' overall English abilities.		.78		.623
10 I think the graduation benchmark can enforce students to study English hard.		.75		.896
9 I think the graduation benchmark can enhance students' English learning motivation.		.75		.884
12 I think the standardised English proficiency tests can appropriately assess students' English abilities.		.74		.586
14 I am worried my students' performance on the English exit exam affects my teaching evaluation in this university.			.88	.913
15 I am worried my students' performance on the English exit exam affects my holding a teaching post in this university.			.87	.933
<i>Sum of Squares (Eigenvalue)</i>	<i>8.654</i>	<i>3.158</i>	<i>1.343</i>	<i>14.007</i>
<i>Percentage of Trace</i>	<i>54.086</i>	<i>19.738</i>	<i>8.393</i>	<i>82.218</i>

Note. N=15. Factor loadings were obtained using principal components extraction with varimax rotation

The scree test (Figure 3.9), also indicated three factors should be appropriate. Thus, the three factor solution with 16 items was retained for further analysis.

Figure 3.9 Eigenvalue Plot for Scree Test Criterion (Teachers' Perception of the Policy)



The means, standard deviations, ranges, and alpha coefficients for each measure and percentages of variance are reported in Table 3.12. All internal consistencies were greater than .80, indicating acceptable reliability. The results show that teachers reported a relatively high level of approval of the policy. The perceived effect of the policy on the teaching practice was slightly above the midpoint of the scale. Finally, teachers reported a low level of concern that students' performance on the English exit exam would affect their teaching evaluation or teaching post in the university.

Table 3.12 Descriptive Statistics for Each Variable

Measure	N	Mean	SD	Range	α	Percentage of variance
Teacher Perceptions						82.22%
Approval (5 items)	14	4.63	.995	2.2-5.8	.86	
Concern (2 items)	15	2.37	1.382	1.0-6.0	.97	
Impact on teaching (9 items)	14	3.70	1.286	1.0-5.8	.96	

Note. All variables were measured using a 6-point scale.

CHAPTER FOUR

RESULTS AND ANALYSIS:

PERCEPTION OF THE ENGLISH GRADUATION

BENCHMARK POLICY

The purpose of this chapter is to answer the first research question which is repeated as follows:

- 1. How is the English graduation benchmark policy perceived by technological university students and teachers? To what extent are the variables of gender, year, discipline, English proficiency, and test status related to students' perception?*

Both quantitative analysis of the questionnaire data and qualitative analysis of the interview data were conducted to answer the above research question.

Students' perception of the English graduation benchmark policy

In the following sections, students' perception of the policy would be first examined and discussed, followed by teachers'.

Analysis of the student questionnaire data

Two complementary approaches were used, the confidence interval (CI) method and the statistical testing based on p values. A CI provides a range of values that indicate the true population parameter. Non-overlapping of the two confidence intervals indicates a significant difference at the .05 level while an overlap indicates that results may or may not be statistically significant (Akobeng, 2008). On the other hand, the p value measures the strength of statistical evidence against the null hypothesis (i.e., no difference between groups). A result with $p < .05$ is typically considered statistically significant. These two approaches to statistical analysis are different but complementary (Altman, 2005).

A total number of 982 university students participated in the survey. The student

questionnaire first examined students’ perception of the English benchmark policy, particularly about their approval of the policy and test anxiety. The difference between males and females, across four different year groups, across five different discipline groups, across three different English proficiency groups, and across four different test status groups, in terms of their scores on approval and test anxiety would also be investigated.

Students’ approval of the policy

Table 4.1 shows the descriptive statistics of students’ approval of the English graduation benchmark policy. The mean score for the approval measure was high at 4.39 on a six point scale, indicating that the policy was supported overall by the students.

Table 4.1 Descriptive Statistics for Approval of the Policy

Dependent Variable	N	Minimum	Maximum	Mean	Std. Deviation
Approval of the policy	980	1	6	4.39	.895

Group differences in approval of the policy

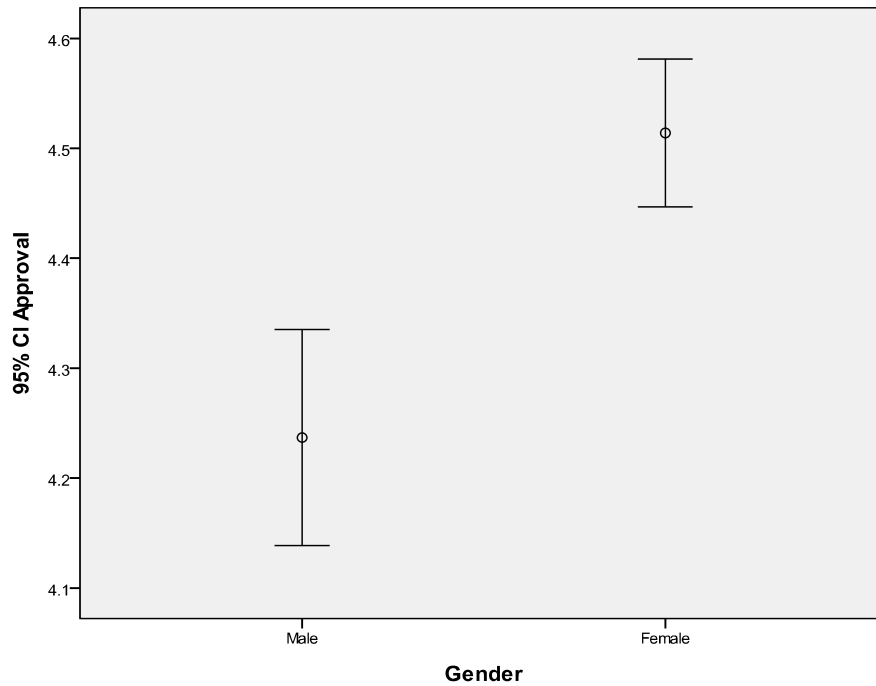
The following sections examined group differences in students’ perception of the English graduation benchmark policy. The confidence interval (CI) method and the statistical testing based on *p* values were used to investigate the difference by gender, year, discipline, English proficiency, and test status.

Gender differences

Figure 4.1 shows 95% CI bars for students’ approval of the English graduation benchmark policy between the male and female students. As seen in Figure 4.1, the two 95% CI bars did not overlap, indicating a significant difference between the two

groups. An inspection of the mean scores showed that the females ($M = 4.51$; 95% CI = 4.45 - 4.58) reported a higher level of approval of the policy than males ($M = 4.24$; 95% CI = 4.14 - 4.34).

Figure 4.1 95% CI Bars for Approval of the Policy Between Males and Females



Note. Variable was assessed using a 6-point Likert scale.

Table 4.2 presents between-group mean difference and effect size¹² (with the CIs) for students' approval of the policy between the groups. As seen in the table, the CI of the mean difference did not contain zero, confirming that the males differed from the females in terms of their scores on the approval measure. Despite reaching statistical significance, the magnitude of the difference was small (Hedges' $g = .30$).

¹² Effect sizes are calculated using Effect Size Calculator, downloaded from: <http://www.cemcentre.org/evidence-based-education/effect-size-calculator>. Data entry includes the number of values, mean, and standard deviation.

Table 4.2 Between-group Mean Difference and Effect Size (With the CIs) for Approval of the Policy Between Males and Females

Dependent Variable	Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Approval of the policy	1 Male 2 Female	-.27*	(-.39, -.15)	-.30	(-.43, -.17)

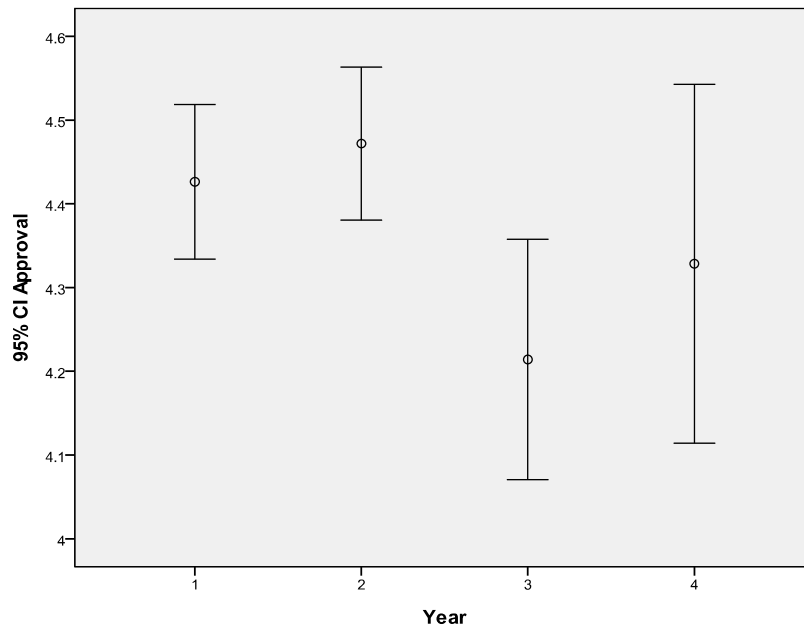
*The mean difference is significant at the .05 level

An independent-samples t-test was also performed to examine the gender difference (see Appendix Q). The t-test result confirmed a significant difference in the mean approval scores for males and females, $t_{(740)} = -4.57, p < .001$. The effect size was also found to be small (eta squared = .02), using Cohen's (1988, pp. 284–7) criterion of .01 for small effect, .06 for medium effect, and .14 for large effect.

Year differences

Figure 4.2 presents the 95% CI bars for students' approval of the policy across four different year groups. The second and third bars did not overlap, indicating there was a significant difference between 2nd and 3rd year students. An inspection of the mean scores indicated that 2nd year students (M= 4.47; 95% CI = 4.38 - 4.56) showed a higher level of approval of the policy than 3rd year students (M= 4.21; 95% CI = 4.07 - 4.36), but the actual difference was small. It is evident in the small effect size received (Hedges' $g = .3$), as seen in Table 4.3.

Figure 4.2 95% CI Bars for Approval of the Policy Across Four Different Year Groups



Note. Variable was assessed using a 6-point Likert scale.

Table 4.3 Between-group Mean Differences and Effect sizes (With the CIs) for Approval of the Policy Across Four Different Year Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected	CI for Effect Size
					Effect Size (Hedges' g)	
Approval of the policy	Year 1	Year 2	-.04	(-.21, .13)	-.05	(-.24, .14)
		Year 3	.22	(.00, .44)	.24	(.00, .47)
		Year 4	.10	(-.20, .40)	.11	(-.22, .43)
	Year 2	Year 3	.26*	(.05, .47)	.30	(.06, .54)
		Year 4	.14	(-.14, .42)	.17	(-.16, .50)
	Year 3	Year 4	-.12	(-.45, .21)	-.13	(-.48, .23)

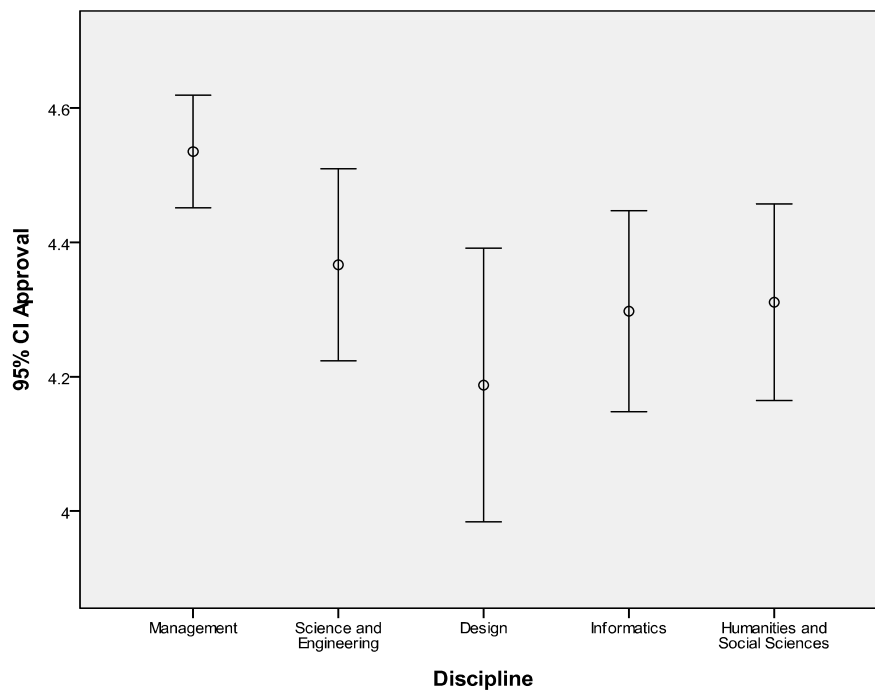
*The mean difference is significant at the .05 level

A one-way between-groups analysis of variance (ANOVA) was also conducted to explore the impact of year on levels of approval of the policy. The result showed a difference at the $p < .05$ level in approval scores for the four different year groups, $F(3, 935) = 3.34, p = .019$. The Tukey HSD, Scheffé, and Gabriel tests confirmed that the only group difference to reach statistical significance was between 2nd and 3rd year students (see Appendix Q).

Disciplinary differences

The 95% CI bars for approval of the policy across five different discipline groups are presented in Figure 4.3. As seen in the figure, the first did not overlap the others except for the second bar, indicating that students in Management differed from those in Design, Informatics, and Humanities and Social Sciences. An inspection of the mean scores showed that that Management students (M= 4.54; 95% CI = 4.45 - 4.62) were more likely to support the policy than Science and Engineering students (M= 4.37; 95% CI = 4.22 - 4.51), Design students (M= 4.19; 95% CI = 3.98 - 4.39), Informatics students (M= 4.30; 95% CI = 4.15 - 4.45), and Humanities and Social Sciences students (M= 4.31; 95% CI = 4.16 - 4.46). The magnitudes of these differences were somewhere between small and medium (Hedges' *g* ranging from .27 to .41), as shown in Table 4.4.

Figure 4.3 95% CI Bars for Approval of the Policy Across Five Different Discipline Groups



Note. Variable was assessed using a 6-point Likert scale.

Table 4.4 Between-group Mean Differences and Effect Sizes (With the CIs) for Approval of the Policy Across Five Different Discipline Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Approval of the policy	1 Management	2 Science & Engineering	.17	(-.03, .37)	.20	(-.03, .42)
		3 Design	.35*	(.09, .61)	.41	(.11, .72)
		4 Informatics	.24*	(.03, .45)	.28	(.04, .52)
		5 Humanities & Social Sciences	.23*	(.02, .44)	.27	(.03, .52)
	2 Science & Engineering	3 Design	.18	(-.14, .50)	.19	(-.14, .52)
		4 Informatics	.07	(-.19, .33)	.07	(-.20, .35)
		5 Humanities & Social Sciences	.06	(-.20, .32)	.06	(-.21, .34)
	3 Design	4 Informatics	-.11	(-.43, .21)	-.12	(-.46, .22)
		5 Humanities & Social Sciences	-.12	(-.43, .19)	-.13	(-.47, .21)
	4 Informatics	5 Humanities & Social Sciences	-.01	(-.28, .26)	-.01	(-.30, .28)

*The mean difference is significant at the .05 level

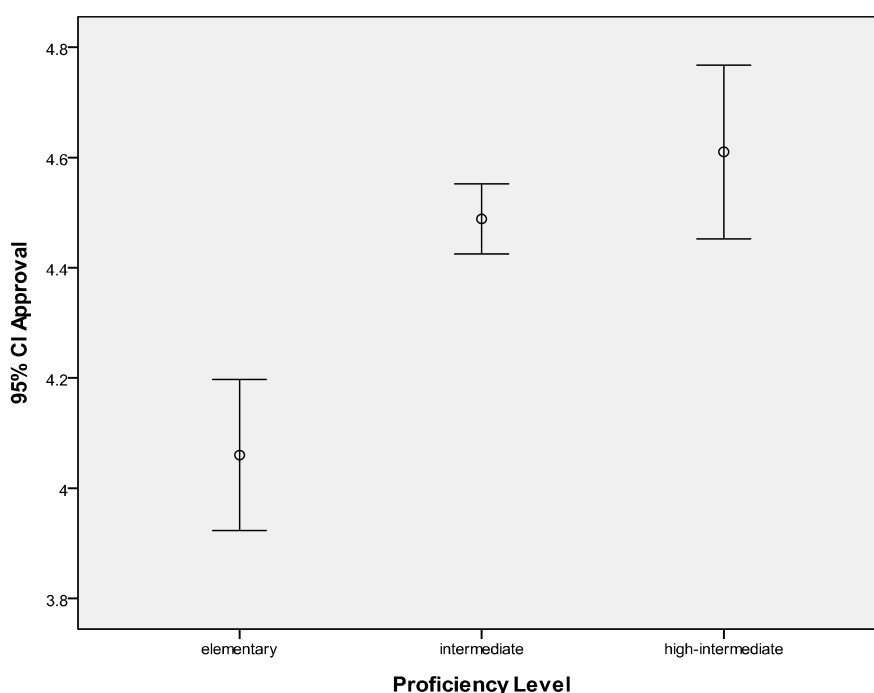
The results of ANOVA (see Appendix Q) confirmed a difference at the $p < .05$ level, $F(4, 927) = 4.3$, $p = .002$. Tukey HSD, Scheffé, and Gabriel were applied as post hoc comparisons methods. All of the three tests showed that Management students were not significantly different from Humanities and Social Sciences students in terms of their mean scores on approval of the policy. However, the CI method suggested that the difference was significant between the groups. Such a test-CI inconsistency occurs probably because post-hoc tests tend to be more conservative or repeated CI comparisons do not allow for multiple effect on alpha (e.g., Bonferroni) (Fay, 2010).

English proficiency differences

Figure 4.4 presents the 95% CI bars for approval of the policy across three different English proficiency groups (i.e., Elementary, Intermediate, and High-Intermediate) according to the results of the English placement test taken in the first year. As seen in the figure, the first bar did not overlap the other two bars, indicating that students in elementary English classes ($M = 4.06$; 95% CI = 3.92 - 4.20) were less

likely to support the policy than those in intermediate ($M= 4.49$; 95% CI = 4.42 - 4.55) and high-intermediate English classes ($M= 4.61$; 95% CI = 4.45 - 4.77). The effect sizes obtained were somewhere between medium and large (Hedges' $g = -.49$ and $-.59$, respectively), as seen in Table 4.5.

Figure 4.4 95% CI Bars for Approval of the Policy Across Three Different Proficiency Groups



Note. Variable was assessed using a 6-point Likert scale.

Table 4.5 Between-group Mean Differences and Effect Sizes (With the CIs) for Approval of the Policy Across Three English Proficiency Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Approval of the policy	1 Elementary	2 Intermediate	-.43*	(-.60, -.26)	-.49	(-.69, -.30)
		3 High-intermediate	-.55*	(-.73, -.37)	-.59	(-.79, -.39)
	2 Intermediate	3 High-intermediate	-.12	(-.24, .00)	-.15	(-.29, .00)

*The mean difference is significant at the .05 level

The results of ANOVA (see Appendix Q) also showed a difference at the $p < .05$ level, $F(2, 919) = 24.39, p < .001$. The post hoc tests also confirmed that students in elementary English classes were statistically significant from the other two groups in

terms of the approval of the policy.

Test status differences

Another 95% CI was performed to assess the mean differences in students' approval of the policy between the four groups according to students' English proficiency test status: (1) PB (students who passed the standardised English proficiency test before university), (2) PA (students who passed the test after university), (3) F (students who failed the test after university), and (4) NT (students who had not taken the test yet). The 95% CI for approval, as presented in Figure 4.5, revealed that the first bar did not overlap the last two, indicating that PB (M= 4.65; 95% CI = 4.54 - 4.77) were significantly different from F (M= 4.16; 95% CI = 4.04 - 4.28) and NT (M= 4.34; 95% CI = 4.22 - 4.45). Furthermore, the second and third bars did not overlap either, indicating that there was a significant difference in scores for PA (M= 4.52; 95% CI = 4.43 - 4.61) and F (M= 4.16; 95% CI = 4.04 - 4.28).

Figure 4.5 95% CI Bars for Approval of the Policy Across Four Different Test Status Groups

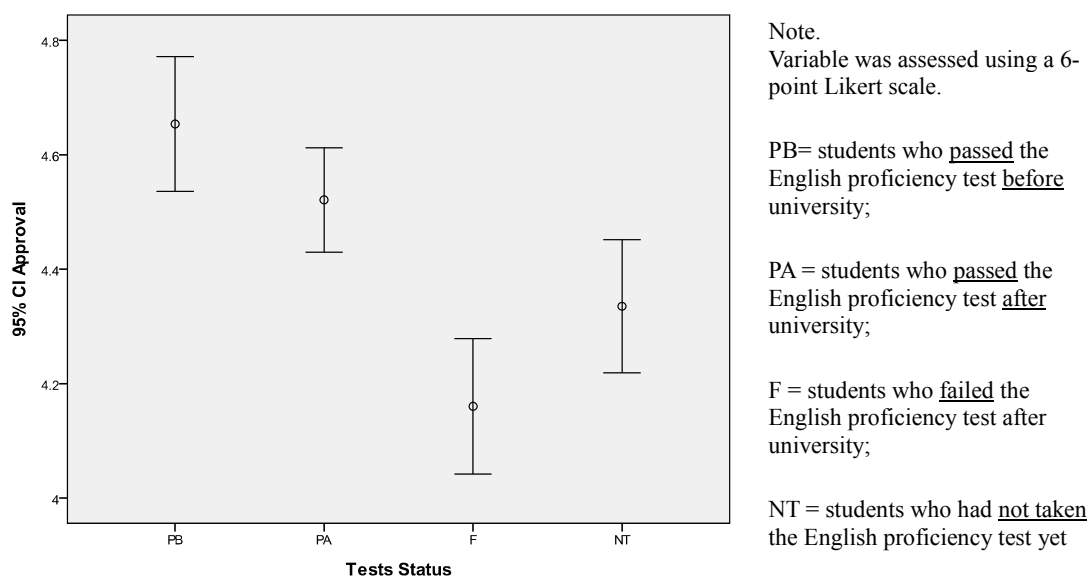


Table 4.6 revealed that the group difference between PB and F was larger than the other group differences; the effect size obtained was moderate (Hedge's $g = .53$).

Table 4.6 Between-group Mean Differences and Effect Sizes (With the CIs) for Approval of the Policy Across Four Different Test Status Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Approval of the policy	1 PB	2 PA	.13	(-.06, .32)	.17	(-.07, .42)
		3 F	.49*	(.27, .71)	.53	(.29, .77)
		4 NT	.31*	(.10, .52)	.35	(.11, .59)
	2 PA	3 F	.36*	(.16, .56)	.41	(.19, .64)
		4 NT	.18	(-.01, .37)	.22	(-.01, .45)
	3 F	4 NT	-.18	(-.39, .03)	-.19	(-.41, .03)

*The mean difference is significant at the .05 level

The results of ANOVA (see Appendix Q) also revealed a statistically significant difference in approval scores, $F(3, 934) = 13.94, p < .001$, partial eta squared = .04. The post hoc tests also confirmed that students who passed the test were more likely to support the policy than those who had not.

Test anxiety

The following sections examined students' test anxiety under the English benchmark policy. Students who already passed the English exit exam were excluded from the subsequent analysis of test anxiety because they did not have to be worried about the negative consequences of failing the exit exam (e.g., denial of university's degree). Table 4.7 presents the descriptive statistics of students' test anxiety. The remaining 520 students (i.e., those who failed and those who had not taken the exit exam yet) reported a slightly above-average level of test-induced fear.

Table 4.7 Descriptive Statistics for Students' Test Anxiety

Dependent Variable	N	Minimum	Maximum	Mean	Std. Deviation
Test anxiety	520	1	6	3.59	1.224

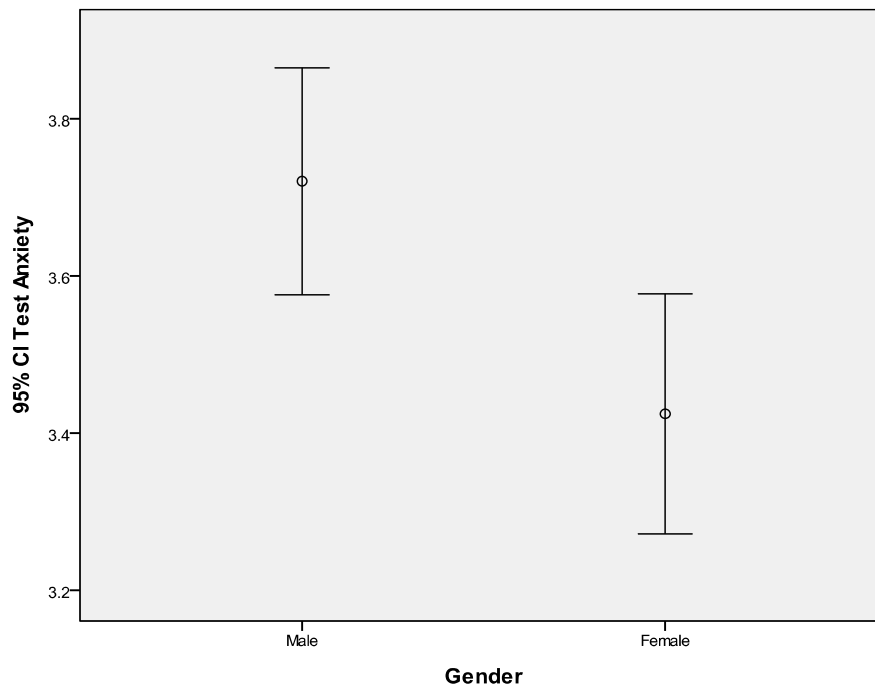
Group differences in test anxiety

The following sections examined the group differences by gender, year of study, discipline, English proficiency, and test status.

Gender differences

95% CI bars for test anxiety between males and females is presented in Figure 4.6. The figure showed that the two CI bars did not overlap, indicating a significant difference at the 5% level. An inspection of the mean scores indicated that the male students ($M = 3.72$; 95% CI = 3.58 – 3.87) reported a higher level of test anxiety than the female students ($M = 3.42$; 95% CI = 3.27 – 3.58).

Figure 4.6 95% CI Bars for Test Anxiety Between Males and Females



Note. Variable was assessed using a 6-point Likert scale.

Table 4.8 presents between-group mean differences and effect sizes (With the CIs) for test anxiety between the male and female students. The CIs did not contain zero, confirming that males experienced a higher level of test anxiety than females, but the

magnitude of the difference was small (Hedges' $g = .25$).

Table 4.8 Between-group Mean Difference and Effect Size (With the CIs) for Test Anxiety Between Males and Females

Dependent Variable	Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Test anxiety	1. Male	.30*	(.09, .51)	.25	(.07, .42)
	2. Female				

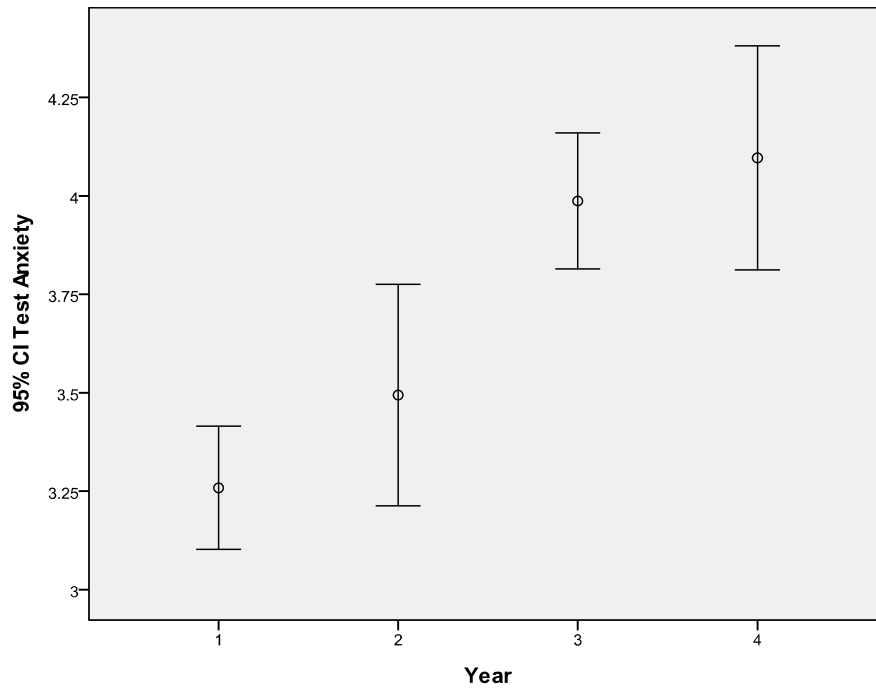
*The mean difference is significant at the .05 level

An independent-samples t-test was also performed to examine the gender difference in test anxiety and the results confirmed a significant difference, $t_{(517)} = 2.75, p = .006$ (see Appendix Q).

Year differences

95% CI bars for test anxiety across four different year groups, presented in Figure 4.7, showed that the first two bars did not overlap the last two bars, indicating that 1st year students ($M = 3.26$; 95% CI = 3.10 – 3.41) and 2nd year students ($M = 3.49$; 95% CI = 3.21 – 3.78) were different from 3rd year students ($M = 3.99$; 95% CI = 3.81 – 4.16) and 4th year students ($M = 4.10$; 95% CI = 3.81 – 4.38).

Figure 4.7 95% CI Bars for Test Anxiety Across Four Different Year Groups



Note. Variable was assessed using a 6-point Likert scale.

Table 4.9 confirmed that higher year students (years 3 and 4) showed a higher level of test anxiety than lower year peers (years 1 and 2). The effect size between 1st and 4th year students was larger (Hedges' $g = .70$) than the effect sizes between other group comparisons. The result was expected. 4th year students were assumed to face immediate pressure and consequences attached to the test results, while 1st year students could take their time to prepare for the English exit exam.

Table 4.9 Between-group Mean Differences and Effect Sizes (With the CIs) for Test Anxiety Across Four Different Year Groups

Dependent Variable	Groups to Be Compared		Mean Difference	95% CI for Difference	Biased-corrected Effect Size (Hedges' g)	95% CI for Effect Size
Test anxiety	Year 1	Year 2	-.23	(-.54, .08)	-.18	(-.43, .06)
		Year 3	-.73*	(-.97, -.49)	-.63	(-.85, -.42)
		Year 4	-.84*	(-1.18, -.50)	-.70	(-.98, -.41)
	Year 2	Year 3	-.50*	(-.81, -.19)	-.44	(-.71, -.16)
		Year 4	-.61*	(-1.02, -.20)	-.49	(-.82, -.16)
	Year 3	Year 4	-.11	(-.43, .21)	-.10	(-.40, .20)

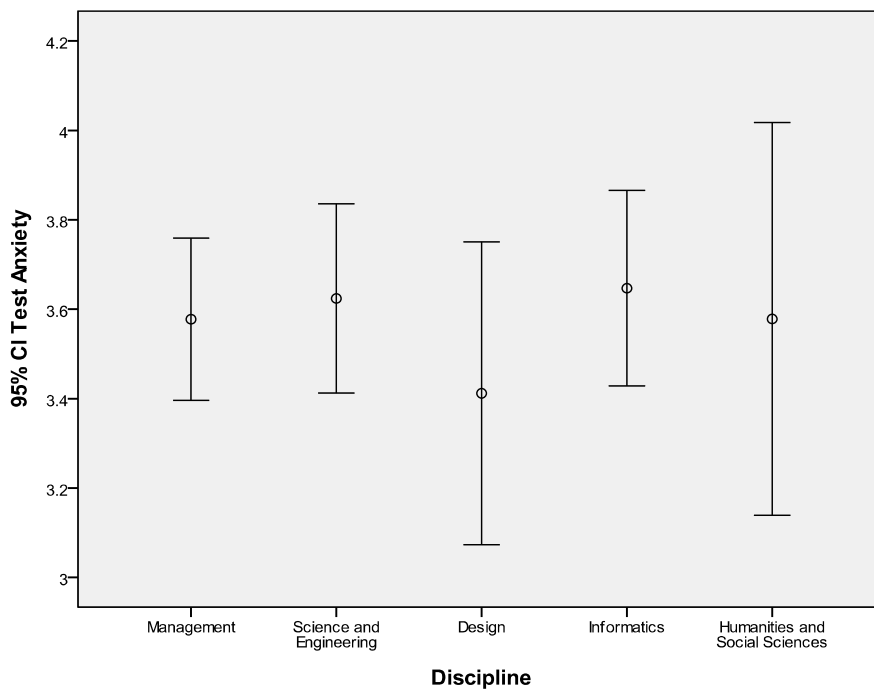
*The mean difference is significant at the .05 level

An ANOVA was also conducted to explore the impact of year on levels of anxiety. Since the homogeneity of variance assumption was violated (Sig. = .008), Welch and Brown-Forsythe were used (see Appendix Q). Both tests also indicated a statistically significant difference for the four groups ($p < .001$). The results produced by three post-hoc tests were consistent with the ones concluded by the CI method. That is, higher year students on average had a higher test anxiety than lower year peers under the policy.

Disciplinary differences

Figure 4.8 shows that all of the individual CI bars for test anxiety across five different discipline groups were all overlapped. The overlapping confidence intervals indicate that the mean differences between groups might or might not be statistically significant (Cumming et al., 2007).

Figure 4.8 95% CI Bars for Test Anxiety Across Five Different Discipline Groups



Note. Variable was assessed using a 6-point Likert scale.

Table 4.10 provides more clear information about the significance and precision of the group differences. Since all of the CIs included zero, it can be concluded that none of the group differences was significant in terms of their mean scores on test anxiety.

Table 4.10 Between-group Mean Differences and Effect Sizes (With the CIs) for Test Anxiety Across Five Discipline Groups

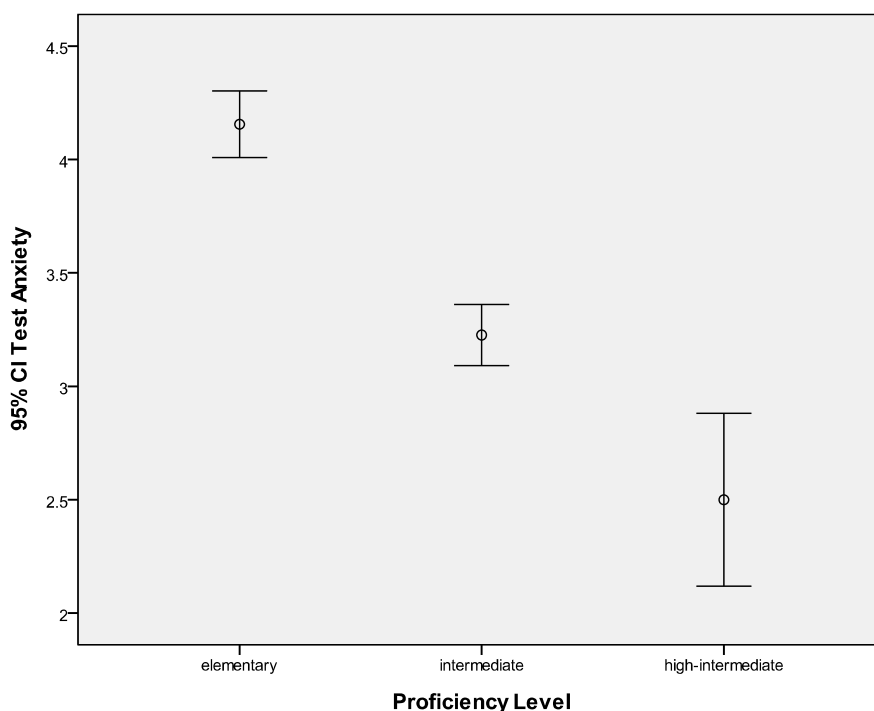
Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Test anxiety	1 Management	2 Science & Engineering	-.04	(-.32, .24)	-.03	(-.26, .20)
		3 Design	.17	(-.21, .55)	.14	(-.17, .45)
		4 Informatics	-.07	(-.35, .21)	-.06	(-.29, .18)
		5 Humanities & Social Sciences	.00	(-.41, .41)	.00	(-.32, .32)
	2 Science & Engineering	3 Design	.21	(-.18, .60)	.17	(-.15, .50)
		4 Informatics	-.03	(-.28, .22)	-.03	(-.26, .29)
		5 Humanities & Social Sciences	.04	(-.21, .29)	.04	(-.20, .28)
	3 Design	4 Informatics	-.24	(-.56, .08)	-.24	(-.55, .08)
		5 Humanities & Social Sciences	-.17	(-.49, .15)	-.17	(-.49, .15)
	4 Informatics	5 Humanities & Social Sciences	.07	(-.14, .28)	.08	(-.15, .30)

The results of ANOVA (see Appendix Q) confirmed no statistically significant difference between these individual groups, $F(4, 508) = .354, p = .841$.

English proficiency differences

Figure 4.9 presents 95% CI bars for test anxiety across three different English proficiency groups (i.e., Elementary, Intermediate, and High-Intermediate) according to the results of the English placement test taken in the first year. Since none of the individual bars overlapped, every one of the group differences was significant. An inspection of the mean scores showed that students in elementary English classes ($M = 4.16$; 95% CI = 4.01 - 4.30) showed a much higher level of test anxiety than those in intermediate ($M = 3.23$; 95% CI = 3.09 - 3.36) and high-intermediate English classes ($M = 2.50$; 95% CI = 2.12 - 2.88).

Figure 4.9 95% CI Bars for Test Anxiety Across Three Different English Proficiency Groups



Note. Variable was assessed using a 6-point Likert scale.

As seen in Table 4.11, the effect sizes obtained tended to be large, especially the one between elementary and high-intermediate English classes, indicating that the degree of test anxiety was related to students' English proficiency levels.

Table 4.11 Between-group Mean Difference and Effect Size (With the CIs) for Test Anxiety Across Three English Proficiency Groups

Groups to Be Compared	N	Mean	SD	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Elementary Intermediate	233 232	4.16 3.23	1.135 1.038	.93*	(.68, 1.18)	.85	(.61, 1.10)
Elementary High-intermediate	233 44	4.16 2.50	1.135 1.254	1.66*	(1.18, 2.14)	1.43	(1.00, 1.87)
Intermediate High-intermediate	232 44	3.23 2.50	1.038 1.254	.73*	(.29, 1.17)	.68	(.26, 1.09)

*The mean difference is significant at the .05 level

The results of ANOVA (see Appendix Q) confirmed a statistically significant

difference between the individual groups, $F(2, 506) = 64.75, p < .001$. The post hoc tests also showed that all of the comparisons were significantly different.

Test status differences

95% CI bars for test anxiety for groups F and NT are presented in Figure 4.10. Just to repeat, groups PB and PA were excluded from the analysis because they already passed the benchmark and were no longer worried about the contingent punishment attached to the test outcome. As seen in Figure 4.10, the two CI bars did not overlap, indicating a significant difference between the F group (M= 3.85; 95% CI = 3.71 - 3.99) and the NT group (M = 3.31; 95% CI = 3.15 - 3.46). The effect size obtained was about medium (see Table 4.12).

Figure 4.10 95% CI Bars for Test Anxiety Between Groups F and NT

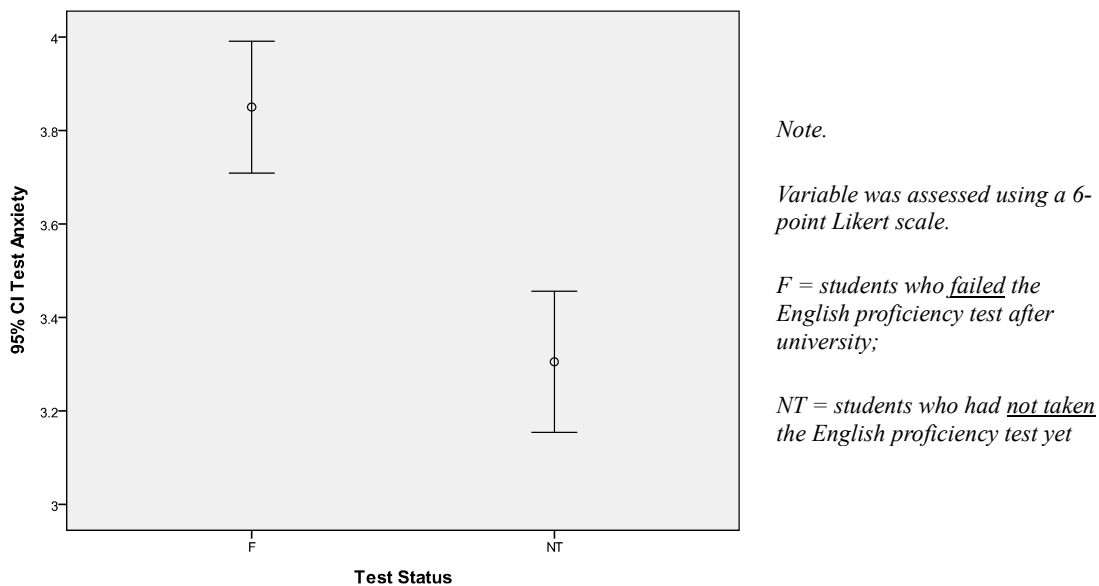


Table 4.12 Between-group Mean Difference and Effect Size (With the CIs) for Test Anxiety Between Groups F and NT

Groups to Be Compared	N	Mean	SD	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
F	270	3.85	1.179	.54*	(.34, .74)	.47	(.29, .64)
NT	250	3.31	1.121				

*The mean difference is significant at the .05 level

An independent-samples t-test (See Appendix Q) confirmed a statistically

significant difference at the $p < .05$ level in test anxiety scores for the two groups, $t_{(518)} = 5.2, p < .001, \eta^2 = .05$.

Summary of effect sizes

For readers' convenience, a comparison of significant outcomes with effect sizes is summarized in Table 4.13. The comparison provides clearer information about the relative strength of the difference between groups in terms of students' approval of the policy and test anxiety. Generally speaking, (1) the extent of the approval seemed to be more related to students' English abilities than to other characteristics, and (2) the degree of test anxiety was more related to students' year and their English abilities than to other characteristics.

Table 4.13 Comparison of Effect Size Estimates for Perception of the Policy

Dependent variable	Independent variable	Groups to be compared	Effect Size (Hedges' g)	CI for Effect Size
Approval of the policy	Gender	Female > Male	.30	(.17, .43)
		Year	Year 2 > Year 3	.30
	Year 1 > Year 3		.24	(.05, .42)
	Discipline		Management > Design	.41
		Management > Informatics	.28	(.09, .47)
		Management > Humanities and Social Sciences	.27	(.08, .46)
		Management > Science and Engineering	.20	(.02, .38)
	Proficiency level	High-intermediate > Elementary	.59■	(.39, .79)
		Intermediate > Elementary	.49■	(.30, .69)
	Test status	Passed before university > Failed	.53■	(.34, .72)
		Passed after university > Failed	.41	(.24, .59)
		Passed before university > Not taken	.35	(.16, .54)
		Passed after university > Not taken	.22	(.04, .40)
Not taken > Failed		.19	(.01, .36)	
Test anxiety	Gender	Male > Female	.25	(.07, .42)
		Year	Year 4 > Year 1	.70■
	Year 3 > Year 1		.63■	(.42, .85)
	Year 4 > Year 2		.49■	(.16, .82)
	Year 3 > Year 2		.44	(.16, .71)
	Proficiency level		Elementary > High-intermediate	1.43▲
		Elementary > Intermediate	.85▲	(.61, 1.10)
		Intermediate > High-intermediate	.68■	(.26, 1.09)
	Test status	Failed > Passed before university	.47■	(.29, .64)

■ Moderate effect size

▲ Large effect size

Analysis of the interview data with students

The meaning categorization approach (Kvale, 1996) was used to analyze the interview data. Kvale (1996, p. 194) proposes five steps in this approach: (1) after the entire interview is transcribed in full, the researcher reads it through to get a sense of the whole; (2) the researcher determines the natural meaning units; (3) the natural meaning unit should be restated as simply as possible; (4) the researcher interrogates the meaning units in terms of the specific purpose of the study; and (5) essential non-redundant themes of the whole interview should be tied together into a descriptive statement. These five steps were adopted for the present study to analyze the interview data. For the first research question concerning students' views of the English benchmark policy for graduation, reasons were chosen as the meaning unit of analysis.

Approval of the policy

Of all the students interviewed, most students (eight out of nine) supported the graduation benchmark policy for English. Two common main reasons that the students gave were: first, their motivation for learning would be increased under the policy, and second, the policy met social expectations.

Increasing motivation for learning English

The students, regardless of their English proficiency levels, generally perceived that the policy would push them to study English harder. The students' quotations presented below showed this perception.

Excerpt 1

Student A: I think it's a very good policy. If there were no such a policy, few students would study English hard.

(1st year, Intermediate English class, PA)

Excerpt 2

Student G: Because the benchmark will... it makes me feel like I am given a goal that I must achieve... Without the policy, I wouldn't be very motivated to study English.

(1st year, Intermediate English class, PB)

Excerpt 3

Student C: ...because students will take the English exam more seriously... {laughs} and take more efforts to prepare for it [under the policy].

(2nd year, High-intermediate English class, PA)

Excerpt 4

Student I: I don't study English in my free time and I don't like English, so I think the establishment of the policy should force me to spend more time studying English.

(1st year, Elementary English class, F)

The students' comments seemed to echo the views of Finn (1991) and Shanker (1993) that a high-stakes testing policy can motivate students and make them work harder. However, such motivation appeared to be controlled, rather than autonomous. The students' responses indicated that their learning behaviours were strongly controlled by the policy, but interestingly, they did not feel upset about it. It seemed that the students wanted to be forced to study English. Student I, for instance, did not like English, but still supported the policy. The students' responses raised a question: *Why were the students willing to be pressured to study English?* The tight link between the policy and social expectations might be the reason.

Satisfying social expectations

The students seemed to recognize and believe in the usefulness and importance of a certified English ability for their future employment. The excerpts below illustrated their view.

Excerpt 5

Student A: An official certificate of English proficiency is the key to landing a job.

(1st year, Intermediate English class, PA)

Excerpt 6

Student E: When you hold official certificates of English proficiency, your competitiveness is enhanced in the job market.

(2nd year, Intermediate English class, PB)

Excerpt 7

Student I: Yes, I am [worried that I may not be able to pass the English exit exam]. But I'm much more worried that I cannot find a good job if I don't have any official certificate of English proficiency.

(1st year, Elementary English class, F)

The students' view seemed to be supported by Pan's (2009b) synthesized report and some human resources companies in Taiwan (e.g., 104 Job Bank and 1111 Job Bank) that the possession of English proficiency test certificates, such as TOEIC and GEPT certificates, has been shown useful for gaining more job opportunities. In addition to better employment, two other socially-related reasons (i.e., the social trend and university images) were also given. Students B and H said in the interview:

Excerpt 8

Student B: I think the establishment of the graduation benchmark policy is an inevitable trend for universities in Taiwan.

(1st year, Elementary English class, NT)

Excerpt 9

Student H: I think the English benchmark policy for graduation is important for the university's reputation.

(3rd year, Elementary English class, F)

These findings were very similar to Chu's (2009) study. The students in her study agreed that the policy was "socially-justified" (Chu, 2009, p.158).

Low effort

A closer look at students' interview data shows that although most students perceived that their motivation was enhanced under the English benchmark policy, they did not in fact invest greater effort in learning English. For instance, several students interviewed admitted that they would only study harder before taking the English exit exam. This gives rise to the question: *Why did the students report an increased level of motivation but did not exert more effort?* Four possible answers are proposed as follows.

1. Being motivated in controlled ways

Many students in this present study claimed that they were more motivated for learning English under the benchmark policy. However, as noted earlier, the increased motivation these students perceived was extrinsic rather than intrinsic. Student B's response shows this distinction, as presented below.

Excerpt 10

Interviewer: You mentioned earlier that you would be more motivated to learn English due to the policy. Will you study hard only for the exam? Or will you keep studying English after the exam?

Student B: Only for the exam.

(1st year, Elementary English class, NT)

Student B claimed that his motivation for learning was enhanced, but he also noted that he would no longer put efforts into English after the exam, indicating that he was "motivated to learn in more controlled ways" (Deci & Ryan, 1994, p. 11). Student B's response reflected the lack of an intrinsic orientation in learning English. In other words, he did not study English for pleasure, but for passing the tests. Ryan and Weinstein (2009) suggest that when students are not motivated in more self-determined or autonomous ways, they tend to "exert the least effort required" (p. 226)

to attain a specified outcome.

2. *Lack of immediate concerns*

Second, the lack of immediate concerns about the English exit exam and the multiple opportunities to take the exam might also account for students' relatively low effort in response to the policy. The university students were allowed to take the English exit exam as many times as they needed before graduation. As a result, some students might take their time to prepare for the exam or wait until before the exam to begin studying. The excerpts below reflected the lack of imminent pressure.

Excerpt 11

Interviewer: Are you currently preparing for the standardised English proficiency test?

Student F: No. I will do it later.

(2nd year, Intermediate English class, PB)

Excerpt 12

Interviewer: Are you preparing for the English exit exam now?

Student H: No. I haven't decided when to take the test, so I haven't started to study yet. I still have time.

Interviewer: Do you study English in your free time?

Student H: No. Not at all. I only study English before the test.

(3rd year, Elementary English class, F)

Excerpt 13

Student I: ...I will study English much harder before the exam... I don't spend much time studying English [in my free time]...less than an hour. {chuckles}

(1st year, Elementary English class, NT)

A closer look at the students' responses above reveals that students' actual experience of past successes and failures might be an important factor associated with the lack of immediate concerns about the English exit exam. Take student F (who

already passed the exam before entering university) and student H (who failed the exam twice after entering university) for example. Student F had to take the exam again since her official certificate had expired, but she did not plan on taking the exam immediately. It is likely that she was not under imminent pressure and felt confident that she would successfully reach the cutoff again. Student H was also not ready to prepare for the exam immediately although she had failed the exam twice. She believed that she still had time to prepare for the exam, but it is likely that her experience of two failures might keep her from the engagement to avoid another possible negative outcome.

3. *Lack of optimal challenges*

Third, the lack of optimal challenges might also help explain why students did not exert strong effort in response to the English benchmark policy. Ryan and Brown (2005) have argued that high-stakes testing policies do not provide most students with an optimal challenge. Ryan and Weinstein (2009) also argue that under high-stakes testing policies, most students are either over-challenged or under-challenged, and only a few optimally challenged. The higher- and lower-performing students in the present study seem to support these authors' claims. The excerpts below illustrated that students with better English skills were under-challenged under the policy.

Excerpt 14

Student A: ...But I didn't really prepare for the test before I took the CSEPT... I think the bar is set too low on the English exit exam... The students in intermediate and high-intermediate English classes can easily pass the CSEPT.

(1st year, Intermediate English class, PA)

A similar view was also shared by two other students who already passed the benchmark. Students C and D said in the interviews:

Excerpt 15

Student C: I hope that the standard could be set a little higher, so I would be more motivated [to study English harder]...For me, a more appropriate level should be...Take the GEPT for example. The standard should be like... the intermediate level...the first stage.
(2nd year, High-intermediate English class, PB)

Excerpt 16

Student E: I think an appropriate level should be more like the first stage of GEPT Intermediate level, instead of the second stage of GEPT elementary level.
(2nd year, Intermediate English class, PB)

For those with lower English abilities, passing the English benchmark was regarded as difficult. Student H, for example, who failed the English exit exam twice, had a typical view in this regard:

Excerpt 17

Student H: The students, like me, with poor English proficiency have been really struggling with passing the English exam... I just don't know how to prepare for it.
(3rd year, Elementary English class, F)

Ryan and Brown (2005) and Ryan and Weinstein (2009) warn that when students perceived the goal as too challenging for them to attain, they might make little or even withdraw their effort.

4. *Perceived difficulty level of the test*

Finally, the perceived difficulty level of English proficiency tests might also determine students' degree of effort. Just to repeat, the university students had the flexibility to choose from any of the available standardised tests (see Appendix C) they regarded as appropriate or important for their personal or professional needs as their English exit exam. The student interview selections below showed that the

perceived difficulty level of the test seemed to be a key consideration for some students when they chose a test.

Excerpt 18

Interviewer: In the questionnaire, you mentioned that you haven't attended the English exit exam yet. Which standardised English proficiency test you will choose as your English exit exam?

Student B: The CSEPT.

Interviewer: Why?

Student B: I don't know...I was told it was the easiest, compared to other standardised English proficiency tests.

(1st year, Elementary English class, NT)

Excerpt 19

Interviewer: Why did you choose to take the CSEPT if you think the TOEIC is more useful for you?

Student A: Because it was easier. {laughs} To be honest, I don't think I can pass the TOEIC 350 now.

Interviewer: Were you confident that you would pass the CSEPT?

Student A: Yes. The CSEPT was really easy. I didn't prepare for it and I still passed it.

(1st year, Intermediate English class, PA)

Student B would choose the CSEPT (College Student English Proficiency Test) to fulfil the English graduation requirements because it was perceived as relatively easy. Similarly, student A chose the CSEPT because it required little effort although the TOEIC was more useful for his future needs.

The MOE's intention of providing a variety of standardised English proficiency tests is to give students power to select a test matching their future needs, but since high stakes (i.e., graduation decisions) were placed behind test outcomes, it was not surprising that some students would choose the tests that were relative easy to meet the graduation benchmark. Besides the students, some English teachers also seemed to be "controlled" by the stakes of the policy. The excerpt below illustrates this situation.

Excerpt 20

Interviewer: Which standardised English proficiency test will you choose as an English exit exam?

Student I: The CSEPT. But I will take the TOEIC in my third year.

Interviewer: Why?

Student I: The teacher will register for the CSEPT for the whole class. My teacher recommended that one. The teacher said it was easy. But I don't know...I understand the CSEPT was easy to pass, but not useful for the future job career.

(1st year, Elementary English class, F)

The interviews responses above indicated that the levels of difficulty of international language tests (e.g., TOEIC) and locally-developed general English proficiency tests (e.g. CSEPT) were perceived differently, although the MOE in Taiwan claimed that they used the Common European Framework of Reference for Languages: learning, teaching, assessment (CEFR; Council of Europe, 2001) as a source to establish the target English levels for English learners in Taiwan.

According to the table of score equivalences (also see Appendix C), a score of 130 for Level One or a score of 120 for Level Two in the CSEPT should be equal to 350 in the TOEIC. However, the students held different viewpoints. As mentioned earlier, student A claimed that much effort was required to pass TOEIC 350, but little effort was needed to pass the required score of the CSEPT. Student A's comments indicated the issue of comparability of test scores might be oversimplified.

The nature, purpose, and characteristics of these standardised English proficiency tests vary. For example, the CSEPT and the TOEIC assess different knowledge of English in different settings. The CSEPT, according to the LTTC (2012a), is used to measure students' "abilities to understand spoken and written English in the context of student life as well as their knowledge of English grammar and usage" while the TOEIC, according to the ETS (2012), is used to measure

achievement in using English in business and commerce settings. Students who were not business-related majors might find the TOEIC challenging. Take Student D, majoring in Applied Chemistry, for example.

Excerpt 21

Interviewer: Which test did you choose as an English exit exam?

Student D: The TOEIC.

Interviewer: Why the TOEIC?

Student D: I was told it was the easiest among English proficiency tests. But after I took it, I found that it was not easy at all. {Laughs}

(1st year, Elementary English class, F)

Different language skills tested might also help explain why direct comparisons were difficult. Take the GEPT and the CSEPT for instance. As mentioned in Chapter One, the GEPT required test-takers to pass the first stage (listening and reading sections) before they proceeded on to the second stage (speaking and writing sections); they also had to pass both stages of each level to obtain a certificate of achievement. Unlike the GEPT, the CSEPT did not test speaking and writing skills. In this regard, the test results cannot really support the comparability of scores on the GEPT and the CSEPT. More research and empirical evidence are needed to demonstrate the comparability (Chu, 2009; Liu, 2011).

Perceived Test anxiety

In line with the survey data, the interview data confirmed that test anxiety was common among low English achievers (i.e., students in elementary English classes or those who failed). The excerpts below explained why these students had a relatively high level of test anxiety.

Excerpt 22

Student D: I don't [agree with the policy]... My English is really bad. I am

really worried [that I will never pass the benchmark]...It was not a fair policy. I mean, some students are just bad at language subjects, but they are good at specialized subjects.

(1st year, Elementary English class, F)

Excerpt 23

Student B: I just have no confidence at all [on passing the English exit exam].

Student B: To be honest, I wish there were no English exit exam.

Student B: I just don't want to face the English exit exam.

(1st year, Elementary English class, NT)

Excerpt 24

Student H: Yes, I'm very worried. I don't want to be held back in the university just because I don't pass the benchmark policy.

(3rd year, Elementary English class, F)

According to these students' responses, the fear of failure seemed to be related to the lack of confidence and perceived low English proficiency. The finding seemed to echo the findings of Putwain and Symes (2012) and Putwain, Sander and Larkin (2013) that the anticipation of failure is usually related to low competence beliefs.

For those with better English abilities, a different pattern of responses was given. Student E, for instance, said in the interview:

Excerpt 25

Student E: Yes, I was very nervous [when I took the standardised English proficiency test] because I was worried that I couldn't perform as well as I expected.

(2nd year, Intermediate English class, PB)

It is interesting to note that when asked about whether they experienced test anxiety before/during the test, the students, regardless of their English proficiency levels, claimed that they had test-induced fear; however, the fear came from different

sources. Just to repeat, for those who failed or had not passed the test yet, the perceived low English skills and low self-confidence seemed to be the two main reasons that initiated or increased test anxiety; in contrast, for those who passed the test, test anxiety came from their own expectation of success. It can be inferred that the former were worried about failing the standard set by the university, while the latter were concerned about failing the standard set by themselves.

An additional finding – Supporting measures

To help students pass the English benchmark, many supporting measures were provided by the university, such as ability grouping, short-term intensive preparation courses for English proficiency tests, and make-up courses and a make-up exam (i.e., school-based internal English exit exam). Some were perceived effective while some were not. The excerpts below present students' different views about these supporting measures.

Ability grouping instruction

In this technological university sampled, non-English majors were placed into different English classes according to the results of the English placement test. For students with lower English skills, ability grouping instruction seemed useful for improving their English skills. For example, student D who failed the English exit exam said in the interview,

Excerpt 26

Student D: Actually, I think my English skills have been enhanced after university. The university adopts ability grouping. I like ability grouping because the course materials are not very difficult. English learning seems to be less challenging. I think I've paid more attention to the English teacher, and tried to understand what the teacher has taught.

(1st year, Elementary English class, F)

Research evidence also supports the assumption that ability grouping can be beneficial for learning (Chen, Lin, & Feng, 2004). However, for those with better English abilities, ability grouping seemed not very effective. Student A, for instance, indicated that he was under-challenged in his regular English class. He said,

Excerpt 27

Student A: ...Although the university adopts ability grouping, General English courses were quite easy.

(1st year, Intermediate English class, PA)

Preparation courses for the English exit exam

The purpose of the test preparation programs was to help students pass a target English proficiency test, such as the TOEIC and the CSEPT. The courses were typically free, short, intensive, and highly test-oriented. Student G agreed on the exam preparation courses due to financial reasons. She said,

Excerpt 28

Student G: ...Besides, the university has offered many test preparation courses. I don't have to pay extra money to go to a cram school. I can just attend the TOEIC course in the evening.

(1st year, Intermediate English class, PB)

Student E, however, held more negative attitudes towards the English test preparation course. He perceived that it was too test-orientated. He said in the interview,

Excerpt 29

Student E: Umm... The TOEIC course I attended was not really helpful.

Interviewer: Why not?

Student E: Because ...the purpose of the course was to train your reading and

listening skills, but you don't really understand the content...not in meaningful ways.

(2nd year, Intermediate English class, PA)

Student E's view led to a further consideration of "genuine gains in learning" (Ryan & Weinstein, p. 230); that is, students can be drilled toward higher scores on the English exit exam, but there is no guarantee that students also have the ability to use the English language. Nash (2005) also argues that even though students are crammed for a body of knowledge about English grammar rules and vocabulary, it is still essentially useless if students do not have the ability to actually use it in real-life situations. Student H expressed a similar view. She said,

Excerpt 30

Student H : Some standardised English proficiency tests only test your listening and reading skills. If you pass this kind of test, it doesn't mean that your speaking skill is equally good.

(3rd year, Elementary English class, F)

Student H's view raises the question of whether the available standardised English proficiency tests that do not test four skills (i.e., listening, speaking, reading, and writing) are appropriate to be used as an English exit exam. Since the MOE's main purpose behind the implementation of the English benchmark policy is to improve students' overall English proficiency and their competitiveness in the job market, all language skills should be all equally stressed (Chu, 2009). If listening and reading are the only skills to be tested, many students would not attempt to improve speaking and writing. Student F had the following answer typical of most students:

Excerpt 31

Interviewer: ...the TOEIC only tests your listening and reading skills. Will you try to enhance your speaking and writing abilities as well?

Student F: I don't think so... {laughs}

(2nd year, Intermediate English class, PB)

Make-up measures

For students who cannot pass the benchmark on time, make-up measures were offered, including a 36-hour make-up course and a school-based internal English exit exam. Those with lower English abilities held positive attitudes towards the measures. For example, Student H who had failed the external English exit exam twice said,

Excerpt 32

Interviewer: The university has provided some make-up courses or remedial courses. Do you think they are helpful?

Student H: Yeah, they are.

Interviewer: Finally, do you have any comments or opinions about the implementation of the graduation benchmark policy?

Student H: Not really. The university has provided some courses. They have put efforts [to help students pass the benchmark]. I'm the one who decides if my English gets better or worse.

(3rd year, Elementary English class, F)

For students who already passed the English benchmark, they also agreed on the make-up measures for low English achievers. Student F said,

Excerpt 33

Student F: Such courses can help students enhance their English knowledge. It's good.

(2nd year, Intermediate English class, PB)

Student E also recognized the necessity of make-up measures for lower-performing students, but he was not convinced that the measures could actually lead to true English competence. He said,

Excerpt 34

Student E: I think that this university is doing the right thing, providing some make-up courses and make-up exams for at-risk students.

Interviewer: *Do you think the make-up courses can enhance these students' English abilities?*

Student E: No. But they can graduate, at least. {chuckles}
(2nd year, Intermediate English class, PA)

Student E's view echoes Chu's (2009) argument that a student can pass a make-up course and/or a make-up exam does not guarantee that he or she has the ability of passing an external exam (e.g., the TOEIC or the GEPT). Chu (2009) proposes that such make-up measures should be cancelled. She criticizes that university administrators or authorities cannot require the students to pass a certain level of English, but at the same time provide a "backdoor" (i.e., make-up course or make-up exam) for those who cannot pass.

For readers' convenience, the main findings drawn from the interview data with students are summarized in Table 4.14.

Table 4.14 Summary of the Interview Results Regarding Students' Perception of the Policy

Key findings		Reasons
1.	Approval of the policy	- Increasing motivation for learning English - Satisfying social expectations
2.	Low effort	- Being motivated in controlled ways - Lack of immediate concerns - Lack of optimal challenges - Perceived difficulty level of the test
3.	Test anxiety	- Lack of confidence - Perceived low English abilities
Additional finding		
4.	Supporting measures	- Ability grouping instruction - Preparation courses for the English exit exam - Make-up measures

Teachers' Perception of the English Graduation Benchmark Policy

Teachers' perception of the policy consisted of three parts: approval of the policy, concern about their students' performance on the English exit exam, and the perceived impact of the policy on their teaching.

Analysis of the teacher questionnaire data

Table 4.15 shows a list of mean scores for the teacher questionnaire items. For teachers' approval of the English benchmark policy, a mean score high at 4.63 on a six-point scale was reported, indicating that the teachers in general supported the policy, believing that students' motivation for learning and their English proficiency would be improved in a high-stakes testing context. It is interesting to note that the mean score for item (13) was very high at 5.50, indicating that despite the approval of policy, the teachers doubted the appropriateness or accurateness to use the English exit exam as the a single assessment instrument to assess students' English skills.

For teachers' concerns about their students' performance on the English exit exam, a low mean score at 2.37 was reported, indicating that the teachers had a low level of concern about the negative consequences of students' poor test outcomes on their teaching evaluation and on their holding a teaching post in the university.

For teachers' perceived impact of the English exit exam on their teaching practices, a medium mean score at 3.70 was reported. Among all the teaching aspects, the impact on classroom activities had the lowest mean score at 3.47 while the impact on supplementary materials had the highest mean score at 4.07, indicating that the teachers did not prepare their students for the English exit exam through many test-preparation activities; rather, they would provide more supplementary materials. As for other teaching aspects (e.g., syllabus, method, content, and assessment), most items show a similarly medium degree, ranging from 3.57 to 3.87, indicating that

these teachers' classes were not test-oriented.

Table 4.15 List of Mean Scores for the Teacher Questionnaire Items

No.	Item	Mean
Teachers' approval of the policy		(1-6)
13	I think the English exit exam should not be the only assessment to assess students' English abilities (reversed).	5.50
11	I think the graduation benchmark can improve students' overall English abilities.	4.13
10	I think the graduation benchmark can enforce students to study English hard.	4.80
9	I think the graduation benchmark can enhance students' English learning motivation.	4.40
12	I think the standardised English proficiency tests can appropriately assess students' English abilities.	4.47
Teachers' concern		(1-6)
14	I am worried my students' performance on the English exit exam affects my teaching evaluation this university.	2.33
15	I am worried my students' performance on the English exit exam affects my holding a teaching post in this university.	2.40
Perceived impact of the policy on teaching		(1-6)
16	teaching syllabus	3.80
18	teaching methods	3.60
17	teaching content	3.67
24	assessment	3.57
21	classroom activities	3.47
19	textbook selection	3.73
23	homework/assignments	3.67
20	supplementary materials	4.07
22	Quizzes	3.87

Analysis of the interview data with teachers

The interview data with teachers were analyzed in the following section. The data showed that teachers' perception of the English benchmark policy was very much similar to students'.

Approval of the policy

As noted earlier in the chapter, interview data with students showed that most students approved the policy. They perceived that the policy would enhance motivation for learning and meet social expectations (e.g., employment requirements).

The students' views were shared by the teachers. The teachers' quotations presented below illustrated the similarities.

Excerpt 35

Interviewer: Do you support the English graduation benchmark policy?

Teacher A: Yes, I do. It gives students a goal to pursue. More students might be more motivated to study English harder.

Excerpt 36

Teacher B: I think students' motivation [under the policy] is enhanced. That is for sure. The students have to pass the benchmark. It is a rule they have to follow. Of course they will be more motivated.

Excerpt 37

Teacher C: I think students are more motivated under the policy, but it does not mean that students are more interested in learning English. I mean, they have to pass the benchmark; they have to meet the benchmark in order to graduate.

Teachers B and C believed that students would be more motivated under the policy, but they perceived such enhanced motivation as quite controlled or external. Both teachers used controlling language (i.e., "have to") to emphasize that students' study behaviours were externally controlled by the policy. However, the teachers still supported the policy although the policy might lead students to be more and more extrinsically motivated. The link between the social expectations and the policy might play an important role in determining teachers' attitudes towards the policy. Like the majority of the students interviewed, all of the three teachers agreed on the utility value of the English certificates in job markets. The excerpts below presented these teachers' views:

Excerpt 38

Teacher B: ...One of the main reasons I support the policy is because it is

useful for students for their job hunting...

Excerpt 39

Teacher C: Because...because English is important to students, regardless of their academic backgrounds.

Interviewer: In which aspects?

Teacher C: Better employment opportunities.

Excerpt 40

Interviewer: Do you think official certificates of English proficiency are useful for students' future career?

Teacher A: It depends on students' career paths. But in general, yes, I think they [English certificates] are beneficial for better employment opportunities.

The perceived impact of the policy on classroom practices

Teacher A who taught regular English classes perceived some changes in her class after the policy was implemented. She said in the interview:

Excerpt 41

Teacher A: [My] Teaching materials, test content, and test formats [were affected by the policy].

Interviewer: Could you be more specific?

Teacher A: I focus on the vocabulary development and grammar. Maybe I teach grammatical rules more quickly or cover more grammatical rules.

Interviewer: Would you say your teaching practice has been greatly influenced by the policy?

Teacher A23: Not really. I would say...I just increase the amount of the teaching content. For example, when I design tests or quizzes, the test format is like the standardised English proficiency tests. So students can be more familiar with the kind of test format.

Teacher A's responses indicated that the test-preparation practice she provided was mainly to help her students become familiarized with the test, rather than focusing only on raising scores on the target test. The changes due to the policy seemed to be

consistent with the survey data with teachers. According to the survey results, the teachers showed a mean score between 3.5 and 4 on a six-point scale for the perceived impact of the policy on their teaching practice, such as teaching content, assessment, classroom activities, textbook selection, etc. The finding indicated that although there were some perceived changes in regular English classes due to the implementation of the policy, the classes were not test-oriented. The finding was in line with Pan's (2011). In her study, 81 teachers at exit schools on average were found to conduct more test-preparation instruction than 79 teachers at non-exit schools, but the former did not teach to the test or conduct a large amount of in-class test preparation.

The responses of teachers B and C who taught test-preparation courses, on the other hand, suggested that test-driven instruction seemed to dominate their classes.

Teacher B said in the interview:

Excerpt 42

Teacher B: ...I just wish that I could have more teaching hours. I always have difficulty finishing my classes on time. I am too greedy. I want to teach them English knowledge but at the same time I also want to teach them many test-taking skills. I have to teach many test-taking skills because there is limited time for this course, but it is not consistent with my teaching beliefs. I always write the same suggestions or feedback to the test-preparation courses: give me more teaching hours.

The same viewpoint was shared by teacher C. She said:

Excerpt 43

Teacher C: ...My [test-preparation] course is forced to be test-oriented. I do not like it, but I do not have enough time, and, and the students were more concerned about passing the test. As a result, you are forced to spend more time on teaching test-taking skills.

Teacher C further described her different teaching practices in regular English classes and test-preparation classes. She said,

Excerpt 44

Teacher C: I usually spend much more time guiding students in regular English classes. It is more interactive. But I cannot employ the same techniques in the test-preparation classes. It takes too much time. In my test-preparation courses, it is more traditional and teacher-centred. I mean, I talk, and the students listen. If I had more teaching hours in test-preparation classes, perhaps I could spend more time guiding students to do the tasks, and employ more different teaching techniques to... to make the classes less test-oriented and more interactive or more interesting.

Both teachers' responses above illustrated that the amount of test-related practice in test-preparation classes was relatively large. Although "teaching to the test" (Pan, 2011, p.36) was not these teachers' educational beliefs, the limited hours of the class seemed to carry more weight in determining their teaching approaches

Teachers' concerns about the policy

Although the teachers showed their approval of the English graduation benchmark policy, they also pointed out some issues regarding the policy: (1) poor quality of the CSEPT, (2) test interpretation, (3) low standard of the English exit exam, (4) inappropriate learning strategies, and (5) the use of one-size-fits-all assessment.

1. *Poor quality of the CSEPT*

Teachers A and B suggested that not all of the standardised English proficiency tests were appropriate to be used as an English exit exam, especially the College Student English Proficiency Test (CSEPT), the locally-developed general English proficiency test. The teachers' quotations presented below illustrated the reasons why they perceived that the CSEPT was inadequate.

Excerpt 45

Teacher A: ...If the test is the TOEIC or the TOEFL, it probably can [appropriately reflect students' actual English competence], but if it is the CSEPT, no. It is relatively easy in terms of the content, but it can help more low-English achievers meet the English exit requirements and graduate on time.

Excerpt 46

Teacher B: It [the CSEPT] is a really easy test. I don't think many students would be held back. They can just choose the CSEPT to satisfy the English graduation requirements.

Teacher B: ...they [official English certificates] are very important and highly valued, but not the certificates of the CSEPT...I mean, it is too easy and it cannot appropriately reflect students' English abilities. The quality of the CSEPT is very poor, much poorer than the GEPT.

Teachers A and B questioned the quality of the CSEPT and indicated the test results might not appropriately reflect students' real English abilities. Both teachers' responses also implied that the inclusion of the CSEPT could increase the passing rate. The teachers' views seemed to be consistent with the students'. As mentioned earlier in this chapter, several students interviewed claimed that they would take the CSEPT to fulfil the graduation requirements because it was relatively easy and required relatively low effort. According to teachers' and students' perception of the CSEPT, the graduation decisions based on the score of the CSEPT may not be able to be justified. More validity evidence needs to be provided to support the interpretation and use of the CSEPT scores.

2. Concern for interpretations of test scores

The teachers also doubted whether the scores could appropriately reflect students' overall English proficiency since many standardised English proficiency tests used as an English exit exam do not test four language skills. The excerpts below presented the teachers' views in this regard.

Excerpt 47

Teacher A: The TOEIC and the CSEPT don't test speaking and writing skills. It's possible that some students are good at listening and reading, but bad at speaking and writing. So maybe these students already passed the benchmark, but in fact, they still have difficulty communicating with others.

Excerpt 48

Teacher C: ...I think students should pass both stages [of the GEPT-Intermediate level]. If only reading and listening skills are tested, I don't think the test results actually reflect students' overall English abilities.

Excerpt 49

Teacher B: ...They might do well on English tests. They might get good scores on English grammar or vocabulary. But I think their English oral skills are in general not satisfactory.

Indeed, a student might perform well on listening and reading (i.e., receptive skills), but perform poorly on speaking and writing (i.e., production skills). The students' responses seemed to confirm this view. Take student G for example. She said in the interview:

Excerpt 50

Student G: ...I think I am not good at speaking. The GEPT has a speaking section. I always failed in that section.

Student G: ...But I think maybe now it's more possible for me to do very well on the tests which do not contain speaking sections.

(1st year, Intermediate English class, PB)

Several other students who had experience of taking the GEPT also indicated that they had to exert much more effort to pass the second stage (i.e., speaking and writing) than to pass the first stage (i.e., listening and reading). Therefore, to improve

the validity of test interpretation, any test which does not directly test production skills should provide evidence to illustrate that the test scores of listening and reading skills can be used to successfully predict students' speaking and writing skills.

3. *Low standard of the English exit exam*

All of the three teachers also expressed their concern about the low standard of the English exit exam (i.e., at least 350 on the TOEIC or GEPT elementary level). They noted that the standard was too low to meet the minimum requirements for English proficiency in workplace settings. The teacher interview selections presented below showed this concern.

Excerpt 51

Teacher A: I think such a standard is too low to meet the job requirements.

Interviewer: *So which level do you think is more appropriate?*

Teacher A: Intermediate, at least.

Excerpt 52

Teacher B: ...Many middle schools, even secondary schools have required their pupils to pass the GEPT-Elementary level. Many technological universities have also required their students to pass the GEPT-Elementary level. Do you know how wrong it is? The standard is set too low and...and I don't think the certificate of the GEPT-Elementary level can actually help new university graduates gain better employment opportunities.

Excerpt 53

Teacher C: ...If students wish their English certificates to be more useful in job markets, they should obtain at least TOEIC 550... or the GEPT-Intermediate level.

Teachers A and C regarded that the Intermediate level was the minimum requirement in job markets. Their view was supported by a local survey revealing that half of the 526 businesses investigated in Taiwan required their job applicants to attain

“either GEPT intermediate level or at least 405 on the TOEIC” (Pan, 2009, p. 124). Although being aware that the low standard for English proficiency could not satisfy many current employment requirements, the teachers seemed to understand why this technological university did not set a higher standard for the students. As teacher C had mentioned in the interview,

Excerpt 54

Teacher C: The standard is kind of low, but I think I understand why the university set such a low standard for the students. {Pause} The students in technical institutes are usually regarded as poorer English learners, I mean, compared to those in comprehensive universities.

Teacher C’s view seemed to echo what was described in Chapter One about the overall situation of English education in the Technological and Vocational Education (TVE) system. Just to repeat, the technical institutes in the TVE system usually focus on providing students with more in-depth vocational training and hands-on experience (Technological and Vocational Education, 2011). Since TVE has dedicated itself to help students enter the workforce with qualified vocational skills, English education in the TVE system has been paid insufficient attention (Chu, 2009).

4. *Inappropriate learning strategies*

Teacher B who taught TOEIC-preparation courses noted that,

Excerpt 55

Teacher B: ...Let me tell you something. The students do not have appropriate learning strategies. So I have to teach them how to study English more effectively, how to take notes, how to memorize vocabulary in more effective ways. The students need to be taught!

Teacher B: My students in the TOEIC and the IELTS classes are usually those with better English skills, but I also found that they are also not very good at taking notes or other strategies.

Teacher B's view echoed the view of the students interviewed. As discussed earlier in this chapter, many students, including those who already passed the English exit exam, claimed that they were not familiar with effective or appropriate learning strategies and thus they tended to spend much time on vocabulary memorization through repetition. As Biggs (1996) has argued, students do not know how to use appropriate approaches to learning unless they are taught. Some other researchers (Chamot, 2004, 2005; Cohen, 1998; Grenfell & Harris, 1999; Oxford, 1990) also suggest that explicit strategy instruction can help students become better language learners.

5. *Concern of one-size-fits-all assessment*

Teacher A described the problems of the use of standardised assessment, especially for lower and higher English achievers. She said in the interview:

Excerpt 56

Teacher A: For beginners, the benchmark is actually very high. They might think that even though they prepare very hard for the English exit exam, they still find it difficult to pass.

Teacher A: For high-intermediate students, although they...maybe they already passed the benchmark before entering university. I think most of them already did, so the policy does not really have effects on them. As for intermediate students, I think as long as they make an effort, most of them should be able to pass the benchmark. But for those with lower English abilities, even though they study very hard for the exit exam, they might still fail.

Teacher A's view was in line with the view of Ryan and Brown (2005) and Ryan

and Weinstein (2009) that when a uniform evaluative standard is applied for all of the students, most students are either over-challenged or under-challenged. In line with these authors, many Taiwanese researchers (e.g., Chang et al., 2004; Chu, 2009; Liauh, 2012; Pan, 2009b) have urged that the English exit requirements have to take students' different backgrounds into consideration. Teacher B also gave the same suggestion. She said in the interview:

Excerpt 57

Teacher B: It [the appropriate standard] depends on students' academic backgrounds or employment needs, and their English starting points.

Additional finding – Teachers' perception of students' lack of effort

It is interesting to note that all of the three teachers showed different reactions to students' lack of effort. Teacher B perceived students as passive language learners and considered external control in academic settings as necessary. She said in the interview:

Excerpt 58

Teacher B: ...Students are lazy. They need to be pushed to study harder.

Teacher C also mentioned her students' lack of response to assignments. However, unlike teacher B, she did not emphasize the value of external control; rather, she believed that students should take charge of their own learning. Teacher C said,

Excerpt 59

Teacher C: I asked my students to listen to the CD and get familiar with different accents as homework, but nobody did that.

Teacher C: To be honest, I am not surprised [that my students did not do

homework]. I also gave my students some websites where they could practice their listening. But I cannot force them to listen to these websites. You cannot monitor them all the time. I think my students are already adults. They are the ones who determine the degree of work efforts.

Teacher A, on the other hand, believed that students' low effort was because of their heavy workload. She said,

Excerpt 60

Teacher A: ... They have been given too many assignments related to their specialized subjects. I know they often have to stay up all night to finish a project. So even though I only ask them to do an easy assignment, they don't really have much time to do it...

Teacher A's responses indicated that students' lack of engagement should not be always perceived as evidence that the students were lazy or did not care about their learning.

CHAPTER FIVE

RESULTS AND ANALYSIS:

MOTIVATIONAL REGULATIONS AND ACHIEVEMENT GOALS

This chapter is aimed to answer the second research question, posed in Chapter One and repeated as follows:

2. *What types of motivational regulations (i.e., intrinsic motivation, external regulation, introjected regulation, identified regulation) and achievement goals (i.e., mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals) do students in this technological university report under the policy? To what extent is the same set of variables (i.e., gender, year, discipline, English proficiency, and test status) related to the adoption of regulations and goals?*

Both quantitative analysis of the questionnaire data and qualitative analysis of the interview data were conducted to answer the above research question.

Analysis of the student questionnaire data

A total number of 982 university students participated in the survey. Students' reported motivational regulations and achievement goals were first discussed, followed by the examination of group differences in terms of their scores on motivational regulations and achievement goals.

SDT's motivational regulations

The following sections explore the types of SDT's motivational regulations (i.e., intrinsic, external, introjected, and identified regulations) that technological university students reported under the English benchmark policy. As shown in Table 5.1, the mean score for identified regulation was relatively high at 5.03 on a six point scale. The result, however, did not confirm the hypothesis proposed by SDT. From the SDT perspective, students under high-stakes testing policies are pressured to attain a desirable result, and thus they are assumed to be more likely to adopt a less self-

determined form of motivation, such as external regulation (e.g., to avoid contingent punishments attached to test outcomes) or introjected regulation (e.g., to avoid feeling guilty) (Ryan & Brown, 2005; Ryan & Weinstein, 2009). However, the students in the present study self-reported a very high level of identified regulation (a more self-determined type of external motivation), indicating that the students had a strong desire to pass or to perform well on the English exit exam because it personally important for pursuing their future goals.

Although it is unexpected that identified regulation had the highest mean value in a high-stakes context, such findings are in line with results of several Taiwanese researchers' studies using SDT to examine student motivation. In her study with a sample of 364 non-English majors at a university in Taipei, Chu (2008) also found that students reported higher scores on identified regulation than they did on others regarding their English studies. In their series of case studies conducted from 2008 to 2012 on 402 Taiwanese students, Ling, Lee, Chuah, and Koo (2012) reported that identified regulation was perceived as the most dominant construct across the four cohorts in an online learning environment. Shih (2008) also applied SDT to examine 343 Taiwanese students' behavioural and emotional engagement in schoolwork. The results showed that identified regulation had the highest mean value than other types of regulations, indicating the personal relevance of schoolwork was recognized. Shih (2008) noted that "Taiwanese students are socialized to identify with the value of school activities" (p. 328) although they "are unlikely to find school activities enjoyable" (p.330). Shih's (2008) point of view might help explain the mean score for identified regulation was relatively high in this context.

Table 5.1 Descriptive Statistics for SDT's Motivational Regulations

Dependent Variable	N	Minimum	Maximum	Mean	Std. Deviation
Intrinsic	977	1	6	3.83	1.11
External	978	1	6	3.90	1.15
Introjected	977	1	6	4.12	1.06
Identified	978	1	6	5.03	.90

Group differences in SDT's motivational regulations

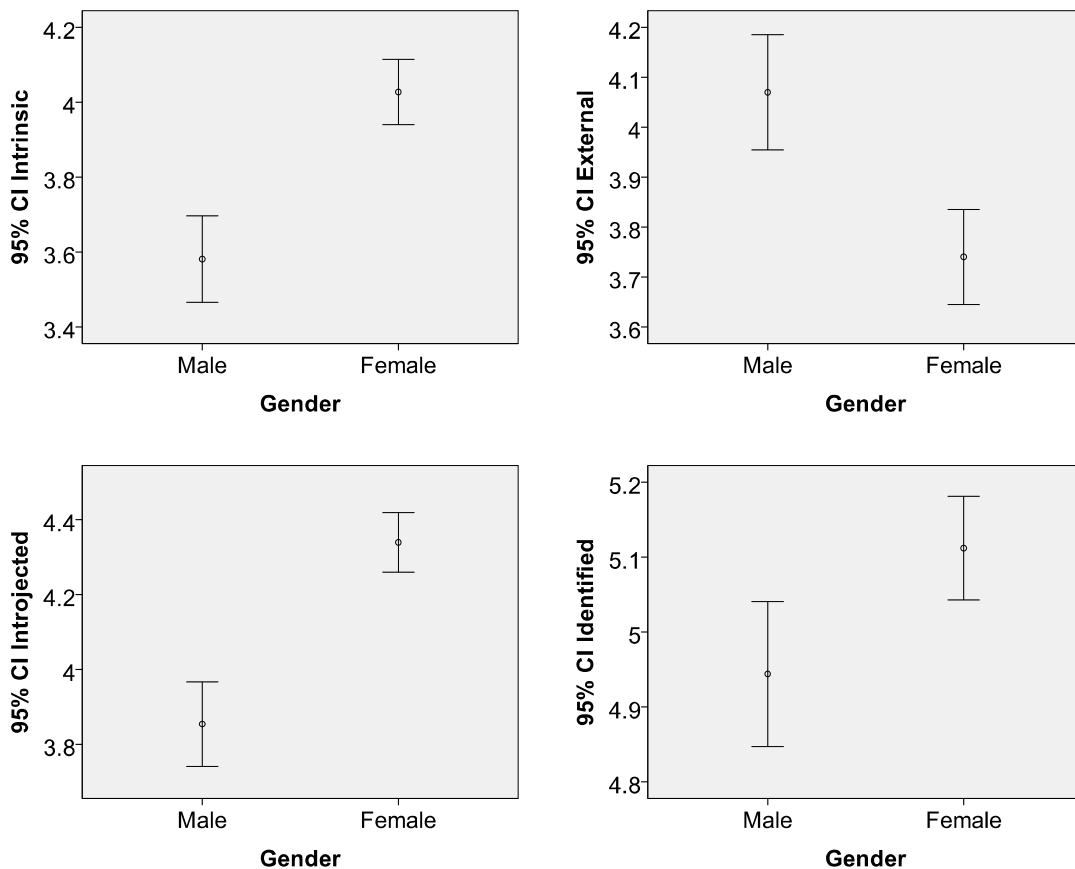
Besides attempting to understand the motivational regulations that technological university students reported under the English graduation benchmark policy, the present study was also interested in investigating whether the SDT's motivational regulations differed between/across various groups. Confidence intervals (CIs) and the statistical testing based on *p* values were employed to examine the differences between males and females, across four different year groups, across five different discipline groups, across three different English proficiency groups, across four different test status groups, in terms of their scores on four different motivational regulations (i.e., intrinsic motivation, external regulation, introjected regulation, and identified regulation).

Gender differences

Figure 5.1 shows 95% CI bars for SDT's motivational regulations between male and female students. As seen in Figure 5.1, none of the two 95% CI error bars for each motivational regulation overlapped, indicating that gender differences in intrinsic, external, introjected, and identified regulations were all significant. An inspection of the mean scores showed that the male students reported a higher level of external regulation ($M = 4.07$; 95% CI = 3.95 - 4.19) than female students ($M = 3.74$; 95% CI = 3.64 - 3.84), indicating that males felt more pressured and controlled to meet the benchmark. Females, on the other hand, reported higher levels of intrinsic motivation

($M = 4.03$; 95% CI = 3.94 - 4.11), introjected regulation ($M = 4.34$; 95% CI = 4.26 - 4.42), and identified regulation ($M = 5.11$; 95% CI = 5.04 - 5.18) than male students ($M = 3.58, 3.85, 4.94$, respectively; 95% CI = 3.47 - 3.70, 3.74 - 3.97, 4.85 - 5.04, respectively).

Figure 5.1 95% CI Bars for Motivational Regulations Between Males and Females



Note. All variables were assessed using a 6-point Likert scale.

Table 5.2 shows between-group mean differences and effect sizes for motivational regulations between males and females. None of the CI of the mean differences included zero, confirming that male students differed from female students in terms of intrinsic, external, introjected, and identified regulations. In other words, females appeared to be more interested in learning English (*intrinsic*), more obligated to pass the English exit exam, and more guilty for poor performance (*introjected*), and

had a stronger desire to do well on the exam (*identified*) than males. The magnitudes of these differences between two groups were somewhere between small and medium (Hedges' *g* ranging from .19 to .48).

Table 5.2 Between-group Mean Differences and Effect Sizes (With the CIs) for Motivational Regulations Between Males and Females

Dependent Variable	Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' <i>g</i>)	CI for Effect Size
Intrinsic	1. Male	-.45*	(-.63, -.27)	-.41	(-.58, -.24)
	2. Female				
External	1. Male	.33*	(.14, .52)	.29	(.12, .45)
	2. Female				
Introjected	1. Male	-.49*	(-.66, -.32)	-.48	(-.64, -.31)
	2. Female				
Identified	1. Male	-.17*	(-.32, -.02)	-.19	(-.36, -.02)
	2. Female				

*The mean difference is significant at the .05 level

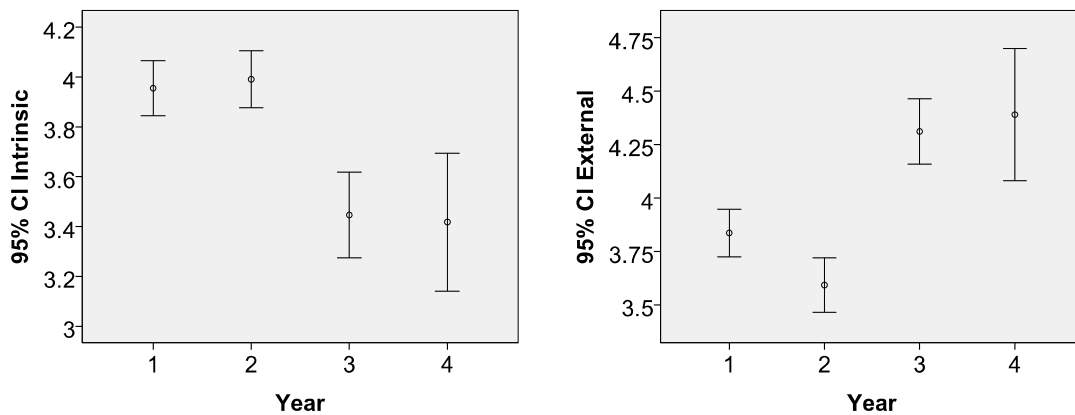
A one-way between-groups multivariate analysis of variance (MANOVA) was also conducted to investigate gender differences in SDT's motivational regulations (see Appendix R for selected output generated by MANOVA). The result showed a statistically significant difference between males and females on the combined dependent variables, $F(4, 930) = 17.30, p < .001$; Wilks' Lambda = .931, partial eta squared = .07. The differences between males and females for each dependent measure, using a Bonferroni adjusted alpha level of .0125, were all statistically significant: intrinsic motivation, $F(1, 933) = 38.34, p < .001$, partial eta squared = .04; external regulation, $F(1, 933) = 18.72, p < .001$, partial eta squared = .02; introjected regulation, $F(1, 933) = 52.02, p < .001$, partial eta squared = .05; identified regulation, $F(1, 933) = 8.03, p = .005$, partial eta squared = .01. These statistically significant results are consistent with the findings using the CI method.

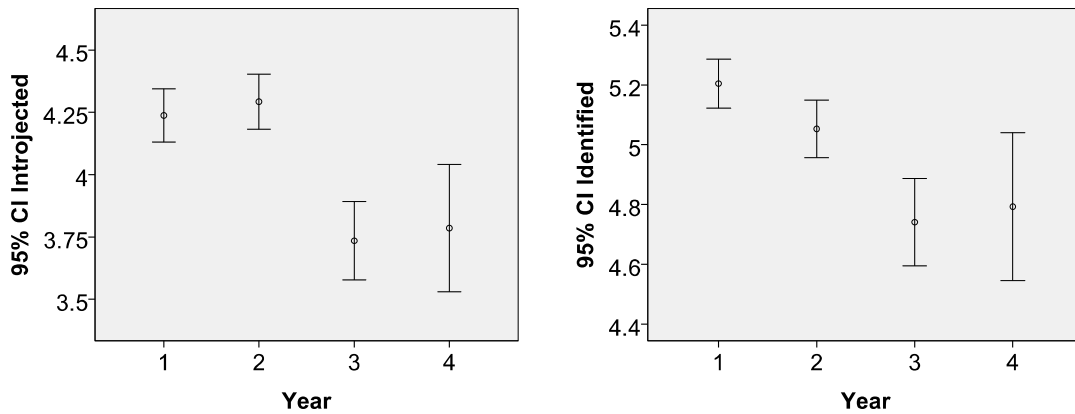
Year differences

Figure 5.2 shows CI bars for SDT's motivational regulations four different year

groups. When looking at CI bars for intrinsic motivation and introjected regulation, one can notice that the same patterns were produced, that is, the first two bars did not overlap the last two bars. The results indicated that four group comparisons (i.e., 1st year versus 3rd year, 1st year versus 4th year, 2nd year versus 3rd year, and 2nd year versus 4th year) were significantly different in both intrinsic motivation and introjected regulations. An inspection of the mean scores indicated that 1st year students showed higher levels of intrinsic motivation (M = 3.96; 95% CI = 3.84 – 4.07) and introjected regulation (M = 4.24; 95% CI = 4.13 – 4.34) than 3rd year students (M = 3.45; 95% CI = 3.27 – 3.62, and M = 3.73; 95% CI = 3.58 - 3.89, respectively) and 4th year students (M = 3.42; 95% CI = 3.14 – 3.69, and M = 3.79; 95% CI = 3.53 – 4.04, respectively). It is also found that 2nd year students reported higher levels of intrinsic motivation (M = 3.99; 95% CI = 3.88 – 4.10) and introjected regulation (M = 4.29; 95% CI = 4.18 – 4.40) than 3rd and 4th year students.

Figure 5.2 95% CI Bars for Motivational Regulations Across Four Different Year Groups





Note. All variables were assessed using a 6-point Likert scale.

As for external regulation, 95% CI bars showed that only the last two bars overlapped, indicating that five group comparisons (1st year versus 2nd year, 1st year versus 3rd year, 1st year versus 4th year, 2nd year versus 3rd year, and 2nd year versus 4th year) were significantly different at the 5% level. An inspection of the mean scores indicated that 1st year students (M = 3.84; 95% CI = 3.72 – 3.95) were more externally regulated than 2nd year students (M = 3.59; 95% CI = 3.47 – 3.72), but less externally regulated than 3rd year students (M = 4.31; 95% CI = 4.16 – 4.46) and 4th year students (M = 4.39; 95% CI = 4.08 – 4.70). 2nd year students (M = 3.99; 95% CI = 3.88 – 4.10) also displayed a lower level of external regulation than 3rd and 4th year students.

For identified regulation, the third bar did not overlap the first two, indicating that 3rd year students were significantly different from 1st and 2nd year students. Since the first and last bars also did not overlap, 1st and 4th year students also differed in terms of their scores on identified regulation. An inspection of the mean scores indicated that both 1st year students (M = 5.20; 95% CI = 5.12 – 5.29) and 2nd year students (M = 5.05; 95% CI = 4.96 – 5.15) were more likely to adopt identified regulation than 3rd year students (M = 4.74; 95% CI = 4.60 – 4.89). 1st year students also reported a higher level of identified regulation than 4th year students (M = 4.79; 95% CI = 4.55 – 5.04).

Between-group mean differences and effect sizes for four types of motivational regulations across four different year groups are presented in Table 5.3. The group difference between 2nd and 4th year students in external regulation was larger ($M = -.80$, Hedges' $g = -.68$) than the other group differences, indicating that 4th year students, on average, were under much more external pressure to pass the benchmark than 2nd year students.

Table 5.3 Between-group Mean Differences and Effect Sizes (With the CIs) for Motivational Regulations Across Four Different Year Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Intrinsic motivation	Year 1	Year 2	-.03	(-.23, .17)	-.03	(-.22, .16)
		Year 3	.51**	(.25, .77)	.46	(.22, .69)
		Year 4	.54**	(.18, .90)	.48	(.16, .81)
	Year 2	Year 3	.54**	(.28, .80)	.51	(.26, .75)
		Year 4	.57**	(.22, .92)	.54	(.21, .87)
	Year 3	Year 4	.03	(-.38, .44)	.03	(-.33, .38)
External regulation	Year 1	Year 2	.25*	(.04, .46)	.22	(.03, .41)
		Year 3	-.47*	(-.72, -.22)	-.43	(-.67, -.20)
		Year 4	-.55*	(-.92, -.18)	-.48	(-.81, -.15)
	Year 2	Year 3	-.72*	(-.98, -.46)	-.66	(-.90, -.41)
		Year 4	-.80*	(-1.19, -.41)	-.68	(-1.02, -.35)
	Year 3	Year 4	-.08	(-.47, .31)	-.07	(-.43, .28)
Introjected regulation	Year 1	Year 2	-.05	(-.25, .15)	-.05	(-.24, .14)
		Year 3	.51*	(.26, .76)	.48	(.25, .72)
		Year 4	.45*	(.10, .80)	.42	(.09, .75)
	Year 2	Year 3	.56*	(.32, .80)	.56	(.31, .80)
		Year 4	.50*	(.17, .83)	.50	(.16, .83)
	Year 3	Year 4	-.06	(-.43, .31)	-.06	(-.41, .30)
Identified regulation	Year 1	Year 2	.15	(-.01, .31)	.18	(-.01, .37)
		Year 3	.46*	(.26, .66)	.53	(.30, .77)
		Year 4	.41*	(.13, .69)	.48	(.15, .80)
	Year 2	Year 3	.31*	(.09, .53)	.34	(.10, .58)
		Year 4	.26	(-.04, .56)	.29	(-.04, .62)
	Year 3	Year 4	-.05	(-.40, .30)	-.05	(-.41, .30)

*The mean difference is significant at the .05 level

A MANOVA was also performed to examine year differences in motivational regulations, both individually and collectively (see Appendix R for selected output generated by MANOVA). There was an overall significant difference across four year groups, $F(12, 2460) = 8.86, p < .001$; Wilks' Lambda = .89, partial eta squared = .04. The differences for each dependent measure, using a Bonferroni adjusted alpha level

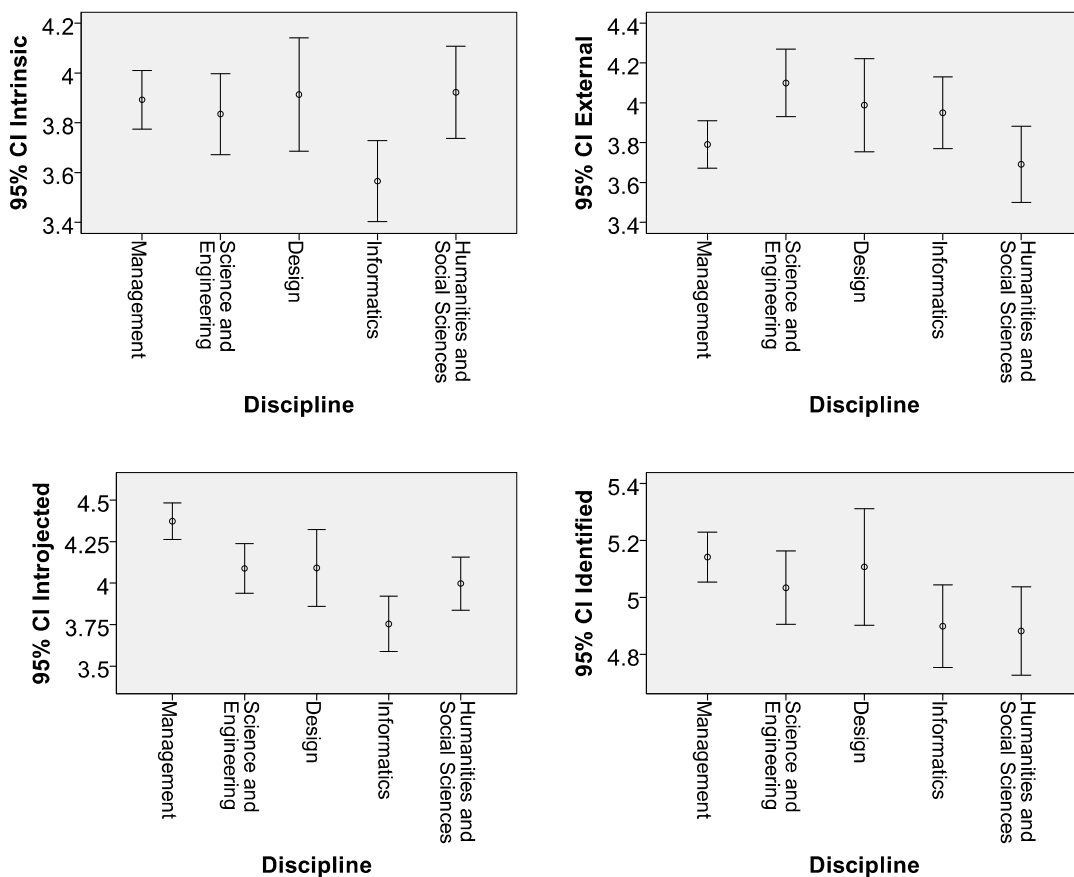
of .0125, were all statistically significant: intrinsic motivation, $F(3, 933) = 38.34$, $p < .001$, partial eta squared = .04; external regulation, $F(3, 933) = 18.72$, $p < .001$, partial eta squared = .06; introjected regulation, $F(3, 933) = 52.02$, $p < .001$, partial eta squared = .04; identified regulation, $F(3, 933) = 8.03$, $p < .001$, partial eta squared = .04. Tamhane's T2, Dunnett's T3, and Games-Howell were used as post-hoc comparisons due to the violation of the assumption of equal group variances. The tests produced the same results (see Table 5-7 in Appendix R) as the CI method. That is, lower year students (years 1 and 2), on average, were more intrinsically motivated to learn English, were more driven by internal pressure to pass the English exit exam, and were more likely to accept the policy and recognize the underlying value of passing the English exit exam than higher year peers (years 3 and 4). On the other hand, higher year students were under more external pressure to pass the benchmark to avoid contingent sanctions (i.e., denial of university degree) than lower year peers.

Disciplinary differences

95% CI bars for motivational regulations across five different academic discipline groups are presented in Figure 5.3. For intrinsic motivation, only the first and last bars did not overlap, indicating that Management students ($M = 3.89$; 95% CI = 3.77 – 4.01) differed from Informatics students ($M = 3.57$; 95% CI = 3.40 – 3.73). For external regulation, the second bar did not overlap the first and fourth bars, indicating that Science and Engineering students ($M = 4.10$; 95% CI = 3.93 – 4.27) were different from Management students ($M = 3.79$; 95% CI = 3.67 – 3.91) as well as Humanities and Social Sciences students ($M = 3.86$; 95% CI = 3.50 – 3.88). For introjected regulation, the first bar did not overlap the others, except for the third one, indicating that Management students ($M = 4.37$; 95% CI = 4.26 – 4.48) statistically differed from Science and Engineering students ($M = 4.09$; 95% CI = 3.94 – 4.24),

Informatics students ($M = 3.75$; 95% CI = 3.59 – 3.92), and Humanities and Social Sciences students ($M = 4.00$; 95% CI = 3.84 – 4.16). It is also found the second bar did not overlap the fourth bar, indicating that Science and Engineering students were also different from Informatics students. For identified regulation, only the first bar did not overlap the last two, indicating Management students ($M = 5.14$; 95% CI = 5.05 – 5.23) statistically differed from Informatics students ($M = 4.90$; 95% CI = 4.75 – 5.04) and Humanities and Social Sciences students ($M = 4.88$; 95% CI = 4.73 – 5.04).

Figure 5.3 95% CI bars for Motivational Regulations Across Five Different Discipline Groups



Note. All variables were assessed using a 6-point Likert scale.

Between-group mean differences and effect sizes across five different discipline groups are presented in Table 5.4. As seen in the table, the magnitudes of the differences were somewhere between small and medium (Hedges' g ranging from .27 to .58). The biggest mean difference was between Management students and Informatics students in introjected regulation ($M = .62$, Hedges' $g = .58$), indicating that Management students were more likely to have more self-imposed pressure to pass the English exit exam and felt more guilty for poor performance than Informatics students.

Table 5.4 Between-group Mean Differences and Effect Sizes (With the CIs) for Motivational Regulations Across Five Different Discipline Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size	
Intrinsic motivation	1 Management	2 Science & Engineering	.06	(-.20, .32)	.05	(-.18, .28)	
		3 Design	-.02	(-.29, .25)	-.02	(-.32, .28)	
		4 Informatics	.32*	(.05, .59)	.29	(.05, .53)	
		5 Humanities & Social Sciences	-.03	(-.31, .26)	-.03	(-.27, .22)	
	2 Science & Engineering	3 Design	-.08	(-.44, .28)	-.07	(-.33, .19)	
		4 Informatics	.26	(-.03, .55)	.24	(-.03, .52)	
		5 Humanities & Social Sciences	-.09	(-.40, .22)	-.08	(-.36, .20)	
	3 Design	4 Informatics	.34	(-.01, .69)	.33	(-.01, .67)	
		5 Humanities & Social Sciences	-.01	(-.39, .37)	-.01	(-.35, .33)	
	4 Informatics	5 Humanities & Social Sciences	-.35*	(-.66, -.04)	-.32	(-.61, -.03)	
	External regulation	1 Management	2 Science & Engineering	-.31*	(-.57, -.05)	-.27	(-.50, -.04)
			3 Design	-.20	(-.55, .15)	-.17	(-.48, .13)
4 Informatics			-.16	(-.44, .12)	-.14	(-.38, .10)	
5 Humanities & Social Sciences			.10	(-.18, .38)	.09	(-.16, .33)	
2 Science & Engineering		3 Design	.11	(-.26, .48)	.10	(-.23, .43)	
		4 Informatics	.15	(-.16, .46)	.13	(-.14, .41)	
		5 Humanities & Social Sciences	.41*	(.09, .73)	.35	(.07, .63)	
3 Design		4 Informatics	.04	(-.34, .42)	.04	(-.30, .38)	
		5 Humanities & Social Sciences	.30	(-.09, .69)	.26	(-.08, .60)	
4 Informatics		5 Humanities & Social Sciences	.26	(-.07, .59)	.23	(-.06, .51)	
Introjected regulation		1 Management	2 Science & Engineering	.28*	(.04, .52)	.27	(.09, .45)
			3 Design	.28	(-.04, .60)	.26	(-.04, .56)
	4 Informatics		.62*	(.36, .88)	.58	(.34, .83)	
	5 Humanities & Social Sciences		.37*	(.12, .62)	.36	(.12, .61)	
	2 Science & Engineering	3 Design	.00	(-.34, .34)	.00	(-.33, .33)	
		4 Informatics	.34*	(.06, .62)	.33	(.05, .61)	
		5 Humanities & Social Sciences	.09	(-.18, .36)	.09	(-.18, .37)	
	3 Design	4 Informatics	.34	(-.02, .70)	.32	(-.02, .66)	
		5 Humanities & Social Sciences	.09	(-.24, .42)	.09	(-.25, .43)	
	4 Informatics	5 Humanities & Social Sciences	-.25	(-.53, .03)	-.26	(-.55, .03)	
	Identified regulation	1 Management	2 Science & Engineering	.11	(-.09, .31)	.13	(-.10, .36)
			3 Design	.03	(-.23, .29)	.03	(-.27, .34)
4 Informatics			.24*	(.03, .45)	.27	(.03, .52)	
5 Humanities & Social Sciences			.26*	(.04, .48)	.29	(.05, .54)	
2 Science & Engineering		3 Design	-.08	(-.38, .22)	-.09	(-.42, .24)	
		4 Informatics	.13	(-.12, .38)	.15	(-.13, .42)	
		5 Humanities & Social Sciences	.15	(-.10, .40)	.16	(-.11, .44)	
3 Design		4 Informatics	.21	(-.10, .52)	.23	(-.11, .57)	
		5 Humanities & Social Sciences	.23	(-.10, .56)	.24	(-.10, .58)	
4 Informatics		5 Humanities & Social Sciences	.02	(-.25, .29)	.02	(-.27, .31)	

*The mean difference is significant at the .05 level

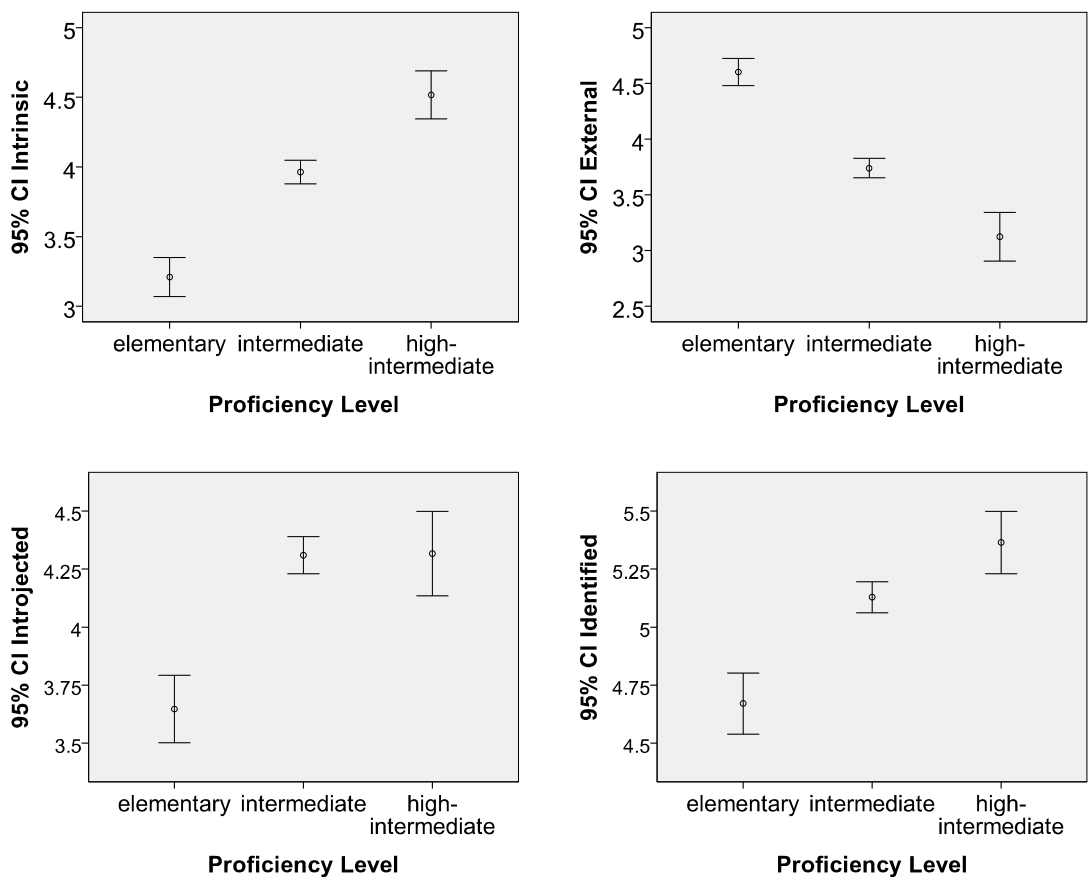
A MANOVA was also conducted to assess disciplinary differences in terms of their scores on SDT's motivational regulations. There was an overall significant difference across five different discipline groups, $F(16, 2817) = 4.73, p < .001$; Wilks' Lambda = .92, partial eta squared = .02. The differences for each dependent measure were all statistically significant: intrinsic motivation, $F(4, 925) = 2.87, p = .022$, partial eta squared = .01; external regulation, $F(4, 925) = 3.44, p = .008$, partial eta squared = .02; introjected regulation, $F(4, 925) = 11.08, p < .001$, partial eta squared = .05; identified regulation, $F(4, 925) = 3.42, p = .009$, partial eta squared = .02 (see Appendix R for selected output generated by MANOVA). Tukey HSD, Scheffé, and Gabriel were applied as post hoc comparison methods to four motivational regulations across the five different discipline groups. The post hoc comparison tests (see Table 5-11 in Appendix R) produced the same results as the CI method.

English proficiency differences

Figure 5.4 presents the 95% CI bars for motivational regulations across three different proficiency groups (i.e., Elementary, Intermediate, and High-Intermediate) according to the results of the English placement test taken in the first year. As seen in the figure, none of the individual bars for intrinsic, external, and identified regulations overlapped, indicating that all of the three groups were statistically different in terms of their mean scores on these three forms of motivational regulations. An inspection of the mean scores indicated that students in high-intermediate English classes showed the highest levels of intrinsic motivation ($M = 4.52, 95\% \text{ CI} = 4.33 - 4.70$) and identified regulations ($M = 5.36, 95\% \text{ CI} = 5.21 - 5.52$) whereas students in elementary English classes reported the lowest levels of intrinsic motivation ($M = 3.21, 95\% \text{ CI} = 3.08 - 3.34$) and identified regulations ($M = 4.67, 95\% \text{ CI} = 4.56 -$

4.78). The mean scores on external regulation produced the opposite pattern. In other words, students in elementary English classes were more likely to be extrinsically motivated ($M = 4.61$, 95% CI = 4.47 – 4.74) than those in intermediate ($M = 3.74$, 95% CI = 3.66 – 3.83) and high-intermediate English classes ($M = 3.12$, 95% CI = 2.93 – 3.32). As for introjected regulation, the first bar did not overlap the last two, indicating that students in elementary English classes differed from those in intermediate and high-intermediate English classes in terms of the mean scores on introjected regulation. An inspection of the mean scores showed that the former ($M = 3.65$, 95% CI = 3.52 – 3.78) reported a lower level of introjected regulation than the latter ($M = 4.31$ and 4.32, respectively; 95% CI = 4.23 – 4.40 and 4.13 – 4.50, respectively).

Figure 5.4 95% CI Bars for Motivational Regulations Across Three Different Proficiency Groups



Note. All variables were assessed using a 6-point Likert scale.

Table 5.5 presents the estimates of effect sizes for motivational regulations. The differences between students in elementary English classes and those high-intermediate English classes in terms of intrinsic motivation and external regulation received relatively large effect sizes (Hedges' $g = -1.25$ and 1.43 , respectively). The findings indicated that one's skills or abilities might be related to the adoption of particular motivational regulations.

Table 5.5 Between-group Mean Differences and Effect Sizes (With the CIs) for Motivational Regulations Across Three Different Proficiency Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected	CI for
					Effect Size (Hedges' g)	Effect Size
Intrinsic	1 Elementary	2 Intermediate	-.75*	(-.95, -.55)	-.72	(-.92, -.52)
		3 High-Intermediate	-1.31*	(-1.61, -1.01)	-1.25	(-1.55, -.94)
	2 Intermediate	3 High-Intermediate	-.56*	(-.82, -.30)	-.55	(-.81, -.30)
External	1 Elementary	2 Intermediate	.87*	(.67, 1.07)	.84	(.64, 1.04)
		3 High-Intermediate	1.49*	(1.20, 1.78)	1.43	(1.12, 1.74)
	2 Intermediate	3 High-Intermediate	.62*	(.34, .90)	-.57	(.31, .82)
Introjected	1 Elementary	2 Intermediate	-.66*	(-.86, -.46)	-.65	(-.85, -.45)
		3 High-Intermediate	-.67*	(-.98, -.36)	-.61	(-.90, -.32)
	2 Intermediate	3 High-Intermediate	-.01	(-.63, .24)	-.01	(-.26, .24)
Identified	1 Elementary	2 Intermediate	-.46*	(-.63, -.29)	-.52	(-.72, -.33)
		3 High-Intermediate	-.69*	(-.96, -.42)	-.73	(-1.02, -.44)
	2 Intermediate	3 High-Intermediate	-.23*	(-.43, -.03)	-.29	(-.54, -.03)

*The mean difference is significant at the .05 level

A MANOVA was also conducted to investigate differences in motivational regulations, both individually and collectively, across the three English proficiency groups. The results (see Appendix R for selected output generated by MANOVA) showed a statistically significant difference at the $p < .05$ level in motivational regulation scores for the three groups, $F(8, 1830) = 29.791$, $p < .001$; Pillai's Trace¹³ = .23; partial eta squared = .12. When each dependent variable separately for differences between groups was examined, all of the four individual tests reaching

¹³ Pillai's Trace is more robust when the assumption of homogeneity of covariances is violated (Hair et al., 2006, p. 414; Tabachnick & Fidell, 2007, p. 252).

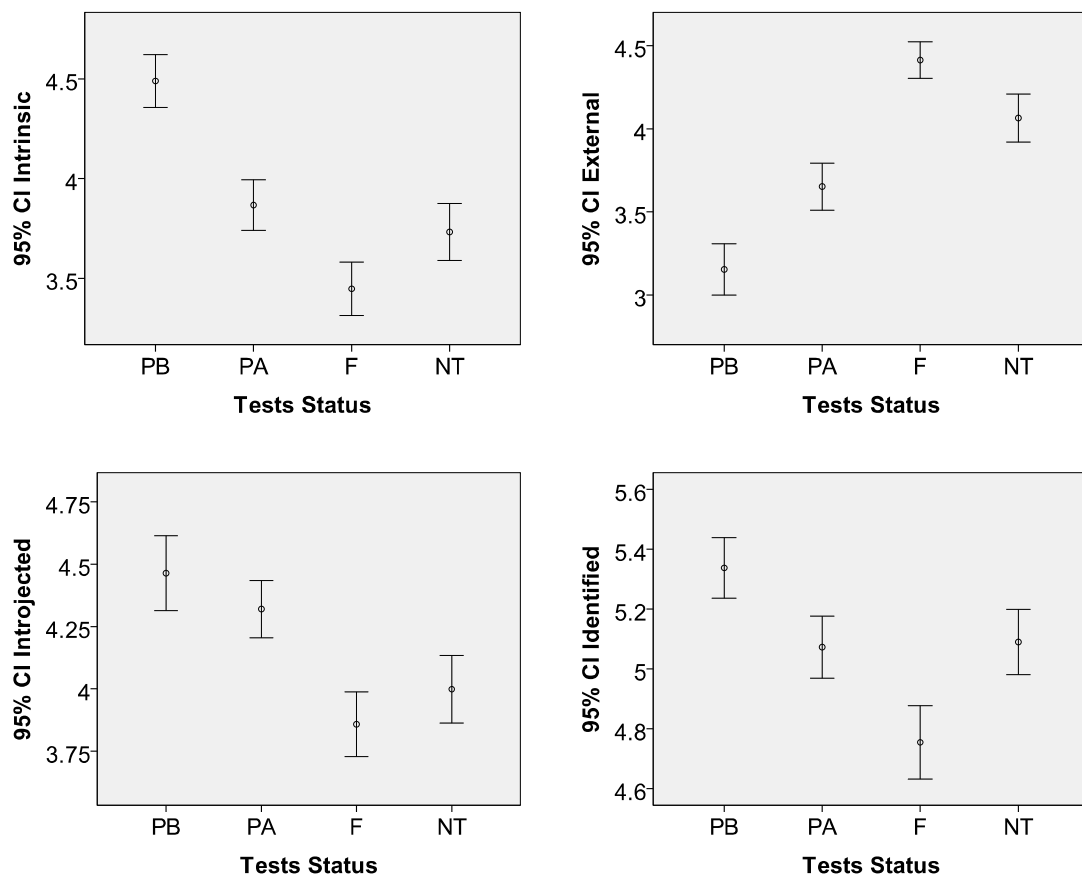
statistical significance, using a Bonferroni adjusted alpha level of .0125: intrinsic motivation, $F(2, 917) = 73.92, p < .001$, partial eta squared = .14; external regulation, $F(2, 917) = 90.58, p < .001$, partial eta squared = .16; introjected regulation, $F(2, 917) = 38.06, p < .001$, partial eta squared = .08; identified regulation, $F(2, 917) = 32.94, p < .001$, partial eta squared = .07. Tamhane's T2, Dunnett's T3, and Games-Howell tests were applied as post hoc comparison methods since the data did not meet the assumption of equal group variances. Table 5-15 in Appendix R contained these three post hoc comparison tests for motivational regulations across the three groups. The tests produced the same findings as the CI method. To sum up, students with higher English proficiency levels appeared to be more self-determined (i.e., higher intrinsic motivation and higher identified regulation) while those with lower English skills were less self-determined (i.e., higher external regulation).

Test status differences

Another 95% CI was performed to assess the mean differences in students' adoption of motivational regulations between the four groups split by students' test status on the English exit exam: (1) PB (students who passed the exam before university), (2) PA (students who passed the exam after university), (3) F (students who failed the exam), and (4) NT (students who had not taken the exam yet). The 95% CI for different four motivational regulations were presented in Figure 5.5. For intrinsic motivation, only the second and fourth bars did not overlap, indicating that every one of the group differences was significant except for PA versus NT. More specifically, the PB group ($M = 4.49$; 95% CI = 4.36 – 4.62), on average, was more intrinsically motivated than the PA group ($M = 3.87$; 95% CI = 3.74 – 3.99), F group ($M = 3.45$; 95% CI = 3.59 – 3.87), and NT group ($M = 3.73$; 95% CI = 3.59 – 3.87). The PA group also on average displayed more intrinsic motivation than the F and NT

groups. Finally, the F group reported a lower level of intrinsic motivation than the NT group. For external regulation, none of the intervals overlapped, indicating that all separate group differences for external regulation were significant. An inspection of the means scores indicated that the F group ($M = 4.41$; $95\% \text{ CI} = 4.30 - 4.52$) was more likely to be controlled by the contingent sanctions attached to test outcomes (i.e., denial of university degree) than the PB group ($M = 3.15$; $95\% \text{ CI} = 3.00 - 3.31$), PA group ($M = 3.65$; $95\% \text{ CI} = 3.51 - 3.79$) and NT group ($M = 4.06$; $95\% \text{ CI} = 3.92 - 4.21$). The NT group was also more likely to be externally regulated than groups PB and PA. Finally, the PA group showed a higher level of external regulation than the PB group under the policy.

Figure 5.5 95% CI Bars for Motivational Regulations Across Four Different Test Status Groups



Note.

1. PB= students who passed the standardised English proficiency test before university
2. PA = students who passed the test after university
3. F = students who failed the test after university

4. NT = students who had not taken the test yet
5. All variables were assessed using a 6-point Likert scale.

When looking at CI bars for introjected regulation, one can notice that the first two bars did not overlap the last two bars, indicating that students who had passed the exam (PB: $M = 4.46$, 95% CI = 4.31 - 4.61 and PA: $M = 4.32$, 95% CI = 4.20 - 4.44) were more likely to adopt introjected regulation than those who had not (F: $M = 3.86$, 95% CI = 3.73 - 3.99 and NT: $M = 4.00$, 95% CI = 4.06 - 4.20). In other words, the former imposed more pressure on themselves to pass or do well on the exam than the latter. Finally, for identified regulation, the first bar did not overlap the others, indicating that the PB group ($M = 5.34$, 95% CI = 5.24 - 5.44) was more likely to identify with the value or importance of holding an official certificate of English proficiency than the PA group ($M = 5.07$, 95% CI = 4.97 - 5.18), F group ($M = 4.75$, 95% CI = 4.63 - 4.88), and NT group ($M = 5.09$, 95% CI = 4.98 - 5.10). The third bar also did not overlap the others either, indicating that the F group was less likely to recognize or accept the underlying value of the English exit exam than either of the other three groups.

Table 5.6 presents between-group mean differences and effect sizes (with the CIs) across four different test status groups. As seen in the table, the mean differences between groups PB and F in both external regulation ($M = -1.26$, Hedges' $g = -1.27$) and intrinsic motivation ($M = 1.04$, Hedges' $g = 1.00$) were quite large.

Table 5.6 Between-group Mean Differences and Effect Sizes (With the CIs) for Motivational Regulations Across Four Different Test Status Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Intrinsic motivation	1 PB	2 PA	.62*	(.39, .85)	.65	(.40, .91)
		3 F	1.04*	(.79, 1.29)	.99	(.80, 1.24)
		4 NT	.76*	(.51, 1.01)	.73	(.48, .98)
	2 PA	3 F	.42*	(.18, .66)	.40	(.17, .63)
		4 NT	.14	(-.11, .38)	.13	(-.10, .36)
		3 F	4 NT	-.29*	(-.54, -.04)	-.25
External	1 PB	2 PA	-.49*	(-.76, -.22)	-.45	(-.70, -.20)

regulation	3 F	-1.26*	(-1.50, -1.02)	-1.27	(-1.53, -1.01)	
	4 NT	-.90*	(-1.17, -.63)	-.80	(-1.05, -.55)	
	2 PA	3 F	-.77*	(-1.00, -.54)	-.77	(-1.00, -.54)
	4 NT	-.41*	(-.67, -.15)	-.36	(-.60, -.13)	
Introjected regulation	3 F	4 NT	.36*	(.13, .59)	.34	(.12, .57)
	1 PB	2 PA	.16	(-.08, .39)	.17	(-.08, .41)
	3 F		.62*	(.37, .87)	.58	(.34, .82)
	4 NT		.48*	(.21, .75)	.43	(.19, .68)
	2 PA	3 F	.46*	(.24, .69)	.46	(.24, .69)
	4 NT		.32*	(.08, .56)	.31	(.08, .54)
	3 F	4 NT	-.14	(-.39, .11)	-.13	(-.35, .09)
	Identified regulation	1 PB	2 PA	.26*	(.08, .45)	.35
3 F			.58*	(.37, .80)	.64	(.40, .88)
4 NT			.25*	(.05, .44)	.30	(.06, .55)
2 PA		3 F	.32*	(.11, .53)	.34	(.17, .52)
4 NT			-.02	(-.21, .18)	-.02	(-.25, .21)
3 F		4 NT	-.34*	(-.55, -.13)	-.35	(-.57, -.13)

Note.

1. PB= students who passed the standardised English proficiency test before university
 2. PA = students who passed the test after university
 3. F = students who failed the test after university
 4. NT = students who had not taken the test yet
- *The mean difference is significant at the .05 level

A MANOVA was also conducted to investigate differences in motivational regulations, both individually and collectively, across the four groups based on their test status. The result showed a statistically significant difference in motivational regulation scores for the four groups, $F(12, 2793) = 17.86, p < .001$; Pillai's Trace¹⁴ = .21; partial eta squared = .07. The differences for each dependent measure were all statistically significant: intrinsic motivation, $F(3, 932) = 37.63, p < .001$, partial eta squared = .11; external regulation, $F(3, 932) = 58.17, p < .001$, partial eta squared = .16; introjected regulation, $F(3, 932) = 17.53, p < .001$, partial eta squared = .05; identified regulation, $F(3, 932) = 17.33, p < .001$, partial eta squared = .05 (see Appendix R for selected output generated by MANOVA). Tamhane's T2, Dunnett's T3, and Games-Howell were used as post hoc comparisons due to the violation of the assumption of equal group variances. The post hoc tests produced the same results (see Table 5-15 in Appendix R) as the ones using the CI method.

¹⁴ Pillai's Trace is more robust when the assumption of homogeneity of covariances is violated (Hair et al., 2006, p. 414; Tabachnick & Fidell, 2007, p. 252).

Summary of effect sizes

For readers' convenience, significant outcomes (with effect sizes) with regard to the group differences in motivational regulations by students' gender, year, discipline, proficiency level, and test status was summarized in Table 5.7. The main findings are summarized as follows. With respect to English learning or test preparation, (1) females in general were more self-determined (i.e., lower external regulation, higher intrinsic motivation, and higher identified regulation) than males; (2) lower year students (years 1 and 2), on average, were more self-determined than higher year peers (years 3 and 4); (3) Informatics students were less likely to be intrinsically motivated than other discipline groups, and Management students were more likely to be driven by the internal pressure and feel bad about themselves if performing badly on the exam; (4) students in elementary English classes (E) in general were less self-determined than those in intermediate (I) and high-intermediate (HI) English classes; finally, (5) students who already passed the benchmark before university (PB) and after university (PA), in general, were more self-determined than those who failed (F) and those had not passed (NT).

An inspection of the effect sizes showed that six group comparisons generated an effect size which reached large effect (Hedges' $g > .80$). These were HI versus E in external regulation, PB versus F in external regulation, HI versus E in intrinsic motivation, PB versus F in intrinsic motivation, E versus I in extrinsic motivation, and finally, PB versus NT in external regulation (Hedges' $g = 1.43, 1.27, 1.25, .99, .84,$ and $.80$, respectively). The results suggested that the magnitudes of the differences between higher- and lower- English achievers in intrinsic motivation and external regulation were on average larger than those in introjected and identified regulations.

Table 5.7 Significant Outcomes with Effect Sizes Between Groups on Four Motivational Regulations

Dependent variable	Independent variable	Groups to be compared	Effect Size (Hedges' g)	95% CI for Effect Size
Intrinsic motivation	Gender	Female > Male	.41	(.28, .54)
		Year	Year 2 > Year 4	.54
	Year 2 > Year 3		.51	(.26, .75)
	Year 1 > Year 4		.48	(.16, .81)
	Year 1 > Year 3		.46	(.22, .69)
	Discipline		Humanities and Social Sciences > Informatics	.32
		Management > Informatics	.29	(.05, .53)
	Proficiency level	High-intermediate > Elementary	1.25▲	(.94, 1.55)
		Intermediate > Elementary	.72	(.52, .92)
		High-intermediate > Intermediate	.55	(.30, .81)
	Test status	Passed before university > Failed	.99▲	(.80, 1.24)
		Passed before university > Not taken	.73	(.48, .98)
		Passed before university > Passed after university	.65	(.40, .91)
		Passed after university > Failed	.40	(.17, .63)
		Not taken > Failed	.25	(.03, .47)
External regulation	Gender	Male > Female	.29	(.12, .45)
		Year	Year 4 > Year 2	.68
	Year 3 > Year 2		.66	(.41, .90)
	Year 4 > Year 1		.48	(.15, .81)
	Year 3 > Year 1		.43	(.20, .67)
	Year 1 > Year 2		.22	(.03, .41)
	Discipline	Science and Engineering > Humanities and Social Sciences	.35	(.07, .63)
		Science and Engineering > Management	.27	(.04, .50)
	Proficiency level	Elementary > High-intermediate	1.43▲	(.94, 1.55)
		Elementary > Intermediate	.84▲	(.64, 1.04)
		Intermediate > High-intermediate	.57	(.31, .82)
	Test status	Failed > Passed before university	1.27▲	(1.01, 1.53)
		Not taken > Passed before university	.80▲	(.55, 1.05)
		Failed > Passed after university	.77	(.54, 1.00)
		Passed after university > Passed before university	.45	(.20, .70)
Not taken > Passed after university		.36	(.13, .60)	
Failed > Not taken		.34	(.12, .57)	
Introjected regulation	Gender	Female > Male	.47	(.31, .64)
		Year	Year 2 > Year 3	.56
	Year 2 > Year 4		.50	(.16, .83)
	Year 1 > Year 3		.48	(.25, .72)
	Year 1 > Year 4		.42	(.09, .75)
	Discipline		Management > Informatics	.58
		Management > Humanities and Social Sciences	.36	(.12, .61)
		Science and Engineering > Informatics	.33	(.05, .61)
		Management > Science and Engineering	.27	(.09, .45)
	Proficiency level	High-intermediate > Elementary	.65	(.45, .85)
		Intermediate > Elementary	.61	(.32, .90)
	Test status	Passed before university > Failed	.58	(.34, .82)
		Passed after university > Failed	.46	(.24, .69)
		Passed before university > Not taken	.43	(.19, .68)
		Passed after university > Not taken	.31	(.08, .54)
Identified regulation	Gender	Female > Male	.19	(.02, .36)
		Year	Year 1 > Year 3	.53
	Year 1 > Year 4		.48	(.15, .80)
	Year 2 > Year 3		.34	(.10, .58)
	Discipline	Management > Humanities and Social Sciences	.29	(.05, .54)
		Management > Informatics	.27	(.03, .52)
	Proficiency level	High-intermediate > Elementary	.73	(.44, 1.02)
		Intermediate > Elementary	.52	(.33, .72)
		High-intermediate > Intermediate	.29	(.03, .54)
	Test status	Passed before university > Failed	.64	(.40, .88)
		Passed before university > Passed after university	.35	(.10, .60)
		Not taken > Failed	.35	(.13, .57)

Passed after university > Failed	.34	(.17, .52)
Passed before university > Not taken	.30	(.06, .55)

▲ Large effect size

Achievement goals

The following sections examined the types of achievement goals that technological university students pursued and then investigated group differences in each achievement goal (i.e., performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance goals). The achievement goal scale was adapted from Elliot and McGregor's (2001) 2x2 Achievement Goal Questionnaire (AGQ). It is important to note that the AGQ was modified so that the question items were more specific and suitable for the high-stakes testing context in Taiwan. The questionnaire modifications can be seen in Table 3.2 in Chapter Three.

Descriptive statistics for achievement goals were presented in Table 5.8. As seen in the table, mastery-approach goals were the most likely to be adopted by the students, followed by mastery-avoidance, performance-approach, and performance-avoidance goals. The patterns indicated that the students in the present study were more interested in developing their English abilities than outperforming their peers.

Table 5.8 Descriptive Statistics for Achievement Goals

Dependent Variable	N	Minimum	Maximum	Mean	Std. Deviation
Performance-approach	980	1	6	3.67	1.014
Mastery-approach	978	1	6	4.60	.857
Performance-avoidance	980	1	6	2.90	1.072
Mastery-avoidance	978	1	6	4.13	.901

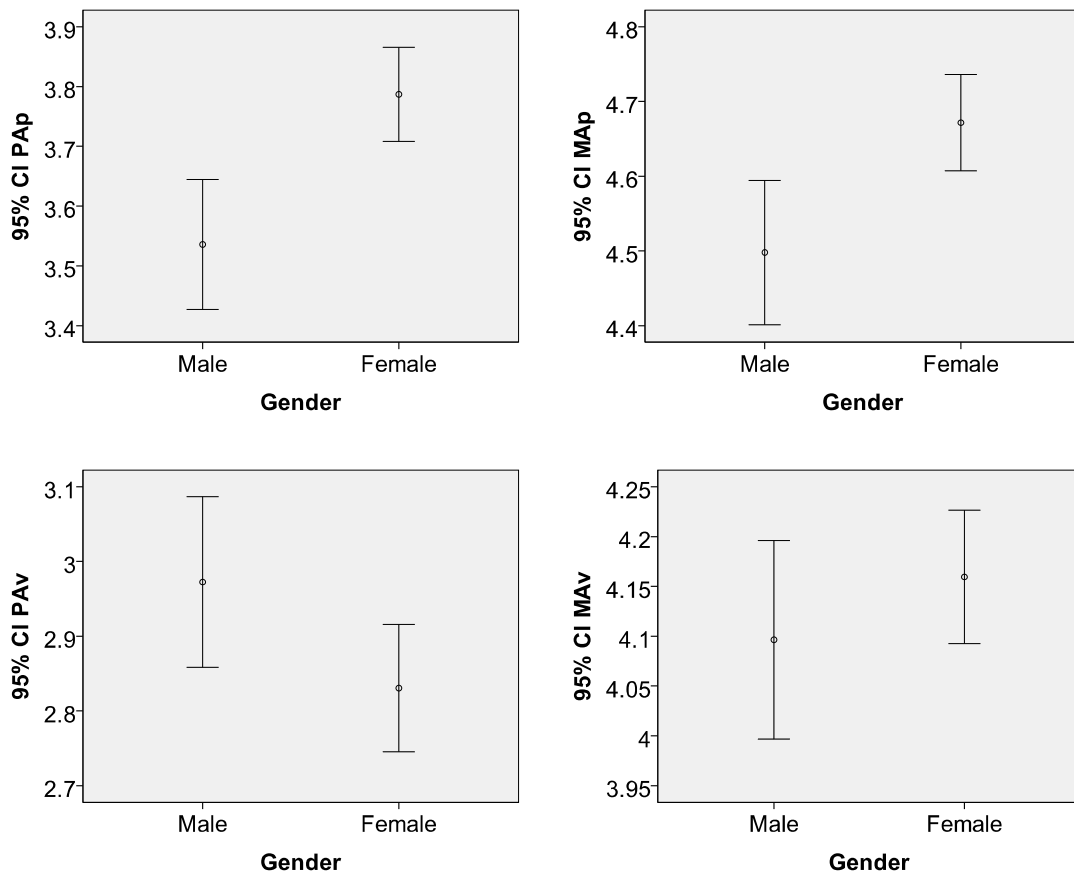
Group differences in achievement goals

In addition to examining the types of achievement goals that technological university students would adopt under the English graduation benchmark policy, the present study also explored whether the adoption of achievement goals differed between/across various groups. Again, both confidence intervals (CIs) and the statistical testing based on p values were used to examine the differences between males and females, across four different year groups, across five different discipline groups, across three different English proficiency groups, across four different test status groups, in terms of their scores on four achievement goals (i.e., performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance goals).

Gender differences

95% CI bars for achievement goals between the male and female students are presented in Figure 5.6. As seen in the figure, the bars for performance-approach goals and mastery-approach goals did not overlap, indicating a statistically significant difference between males and females in terms of their mean scores on both performance-approach goals and mastery-approach goals.

Figure 5.6 95% CI Bars for Achievement Goals Between Males and Females



Note.

All variables were assessed using a 6-point Likert scale.

PAP= performance-approach goals; MAP = mastery-approach goals;

PAV= performance-avoidance goals; MAV = mastery-avoidance goals.

An inspection of the mean scores showed that the difference between the groups in mastery-approach goals was .17, and the difference in performance-approach goals increased to .43, indicating that (a) females (M = 4.67; 95% CI = 4.61 - 4.74) were only slightly more interested in developing English proficiency than males (M = 4.50; 95% CI = 4.40 - 4.59), and (b) females (M = 3.79; 95% CI = 3.71 - 3.87) were more concerned about outperforming their peers than males (M = 3.54; 95% CI = 3.43 - 3.61). The estimates of their effect sizes with the CIs, as seen in Table 5.9, revealed that the magnitude of the group difference for performance-approach goals was about twice as large as the one for mastery-approach goals.

Table 5.9 Between-group Mean Differences and Effect Sizes (With the CIs) for Achievement Goals Between Males and Females

Dependent Variable	Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Performance-approach	1. Male 2. Female	-.43*	(-.60, -.26)	-.43	(-.59, -.26)
Mastery-approach	1. Male 2. Female	-.17*	(-.31, -.03)	-.20	(-.36, -.03)
Performance-avoidance	1. Male 2. Female	.14	(-.04, .32)	.13	(-.04, .30)
Mastery-avoidance	1. Male 2. Female	-.06	(-.21, .09)	-.07	(-.23, .10)

* The mean difference is significant at the .05 level

A one-way between-groups multivariate analysis of variance (MANOVA) was also conducted to investigate gender differences in achievement goals. The results showed a statistically significant difference between males and females on the combined dependent variables, $F(4, 930) = 5.97, p < .001$; Pillai's Trace¹⁵ = .025, partial eta squared = .03. When the results were considered separately, two individual tests reaching statistical significance, using a Bonferroni adjusted alpha level of .0125, were performance-approach goals, $F(1, 933) = 14.07, p < .001$, partial eta squared = .02, and mastery-approach goals, $F(1, 933) = 18.72, p = .002$, partial eta squared = .01 (see Appendix S for selected output generated by MANOVA). These statistically significant results were consistent with the findings using the CI method.

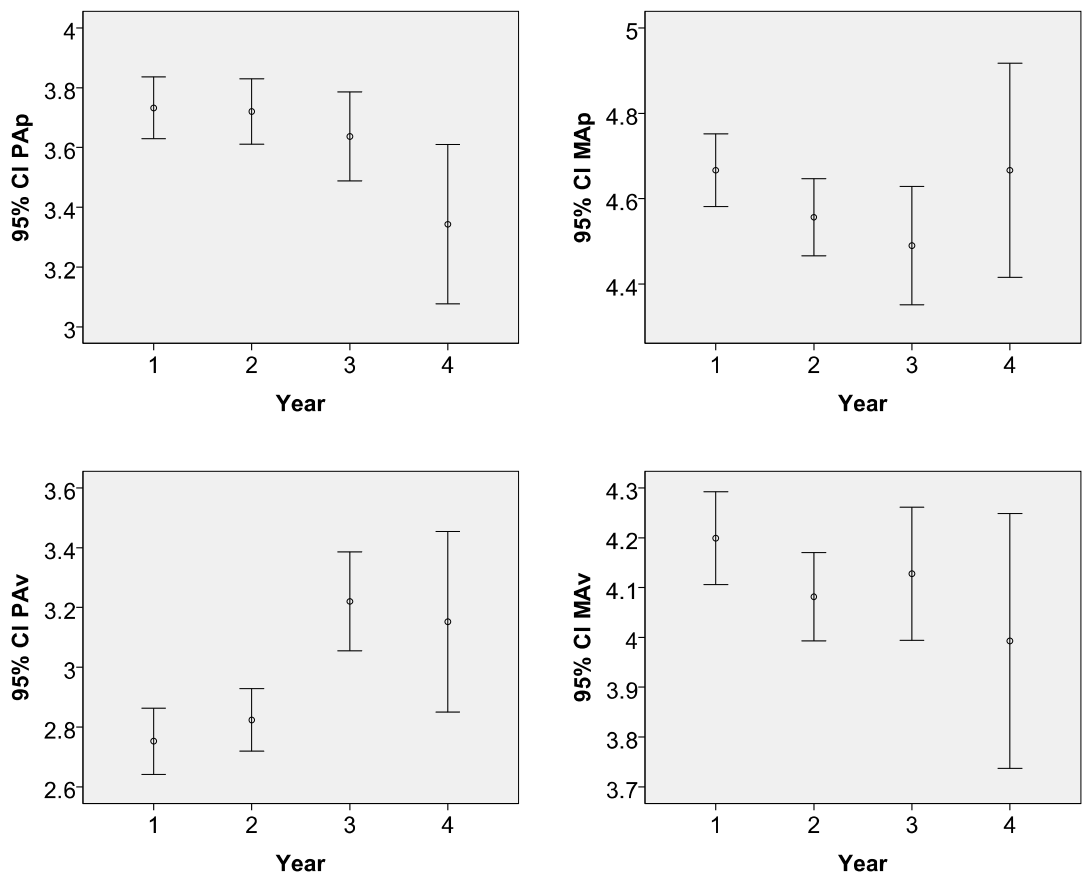
Year differences

95% CI bars for achievement goals across four different year groups are presented in Figure 5.7. For performance-approach goals, the last bar did not overlap the first two bars, indicating that 4th year students ($M = 3.34$; 95% CI = 3.08 – 3.61) statistically differed from 1st year students ($M = 3.73$; 95% CI = 3.63- 3.84) and 2nd

¹⁵ Pillai's Trace is more robust when the assumption of homogeneity of covariances is violated (Hair et al., 2006, p. 414; Tabachnick & Fidell, 2007, p. 252).

year students ($M = 3.72$; 95% CI = 3.61 - 3.83). For performance-avoidance goals, the third bar did not overlap the first two bars, indicating that 3rd year students ($M = 3.22$; 95% CI = 3.06 – 3.39) were statistically different from 1st year students ($M = 2.75$; 95% CI = 2.64 – 2.86) and 2nd year students ($M = 2.82$; 95% CI = 3.06 – 3.39). The first and last bars did not overlap either, indicating that 4th year students ($M = 3.15$, 95% CI = 2.85 - 3.45) and 1st year students ($M = 2.75$; 95% CI = 2.64 – 2.86) were statistically different in terms of their mean scores on performance-avoidance goals.

Figure 5.7 95% CI Bars for Achievement Goals Across Four Different Year Groups



Note.
 All variables were assessed using a 6-point Likert scale.
 PAp= performance-approach goals; MAp = mastery-approach goals;
 PAv= performance-avoidance goals; MAV = mastery-avoidance goals.

Table 5.10 shows between-group mean differences and effect sizes (with confidence intervals) for achievement goals. As seen in Table 5.10, all of the separate

group differences for mastery-based goals (i.e., mastery-approach and mastery-avoidance) were not significant. As for the group differences for performance-based goals, 4th year students were less likely to adopt performance-approach goals (i.e., outperforming others) than lower year peers (years 1 and 2), and 3rd year students were more likely to endorse performance-avoidance goals (i.e., the desire to avoid poor performance on the exit exam) than lower year peers. The magnitudes of these differences were somewhere between small and medium (Hedges' *g* ranging from .35 to .42).

Table 5.10 Between-group Mean Differences and Effect Sizes (With the CIs) for Achievement Goals for Four Different Year Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' <i>g</i>)	CI for Effect Size
Performance-approach	Year 1	Year 2	.01	(-.18, .20)	.01	(-.18, .20)
		Year 3	.09	(-.15, .33)	.09	(-.14, .32)
		Year 4	.39*	(.05, .73)	.37	(.04, .70)
	Year 2	Year 3	.08	(-.15, .31)	.08	(-.16, .32)
		Year 4	.38*	(.04, .72)	.38	(.04, .71)
	Year 3	Year 4	.30	(-.07, .67)	.29	(-.06, .65)
Mastery-approach	Year 1	Year 2	.11	(-.05, .27)	.13	(-.06, .32)
		Year 3	.18	(-.02, .38)	.21	(-.02, .44)
		Year 4	.00	(-.29, .29)	.00	(-.33, .33)
	Year 2	Year 3	.07	(-.13, .27)	.08	(-.16, .32)
		Year 4	-.11	(-.40, .18)	-.13	(-.46, .21)
	Year 3	Year 4	-.18	(-.52, .16)	-.19	(-.55, .17)
Performance-avoidance	Year 1	Year 2	-.07	(-.27, .13)	-.07	(-.26, .12)
		Year 3	-.47*	(-.73, -.21)	-.42	(-.66, -.19)
		Year 4	-.40*	(-.77, -.03)	-.35	(-.68, -.02)
	Year 2	Year 3	-.40*	(-.64, -.16)	-.40	(-.64, -.16)
		Year 4	-.33	(-.66, -.00)	-.33	(-.66, .01)
	Year 3	Year 4	.07	(-.34, .48)	.06	(-.30, .42)
Mastery-avoidance	Year 1	Year 2	.12	(-.05, .29)	.14	(-.05, .33)
		Year 3	.07	(-.14, .28)	.08	(-.15, .31)
		Year 4	.21	(-.10, .52)	.22	(-.11, .55)
	Year 2	Year 3	-.05	(-.25, .15)	-.06	(-.30, .18)
		Year 4	.09	(-.19, .37)	.11	(-.23, .44)
	Year 3	Year 4	.14	(-.20, .48)	.15	(-.21, .51)

*The mean difference is significant at the .05 level

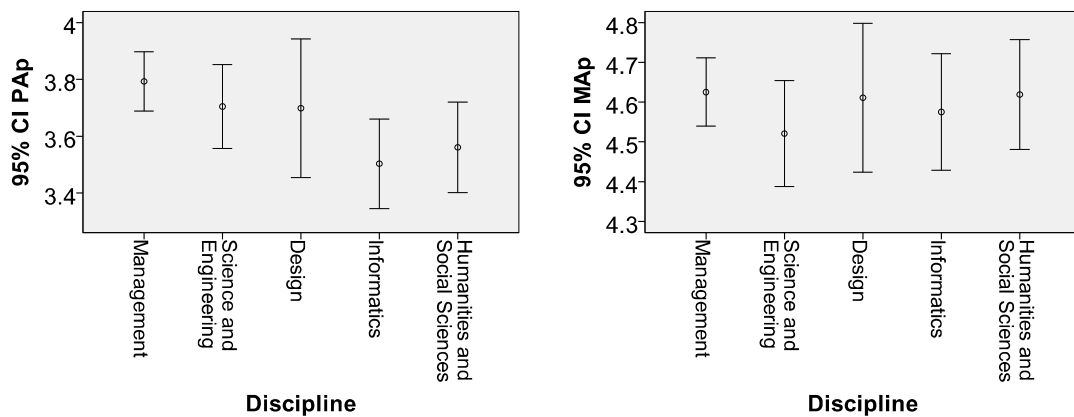
A MANOVA was also performed to assess year differences in achievement goals, both individually and collectively. There was a statistically significant difference across different four year groups on the combined dependent variables, $F(12, 2796) = 3.76, p < .001$; Pillai's Trace = .05, partial eta squared = .02. Two reaching statistical

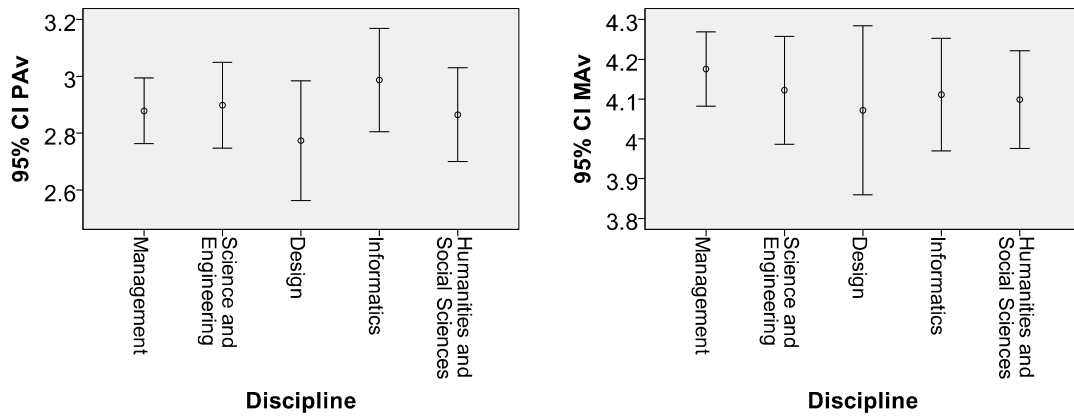
significance were performance-approach goals, $F(3, 933) = 3.22, p = .022$, partial eta squared = .01, and performance-avoidance goals, $F(3, 933) = 9.42, p < .001$, partial eta squared = .03 (see Appendix S for selected output generated by MANOVA). Tukey HSD, Scheffé, and Gabriel were applied as post hoc comparison methods to all four achievement goals across the year groups. The significant results generated by the post hoc comparison tests (see Table 5-22 in Appendix S) were the same as the CI method produced.

Disciplinary differences

Figure 5.8 presents the 95% CI bars for achievement goals across five different discipline groups. The figure shows that the first and fourth bars for performance-approach goals did not overlap, indicating that Management students ($M = 3.79$; 95% CI = 3.69 – 3.90) and Informatics students ($M = 3.50$; 95% CI = 3.35 – 3.66) were statistically different in terms of their mean scores.

Figure 5.8 95% CI Bars for Achievement Goals Across Five Different Discipline Groups





Note.
 All variables were assessed using a 6-point Likert scale.
 PAp= performance-approach goals; MAP = mastery-approach goals;
 PAv= performance-avoidance goals; MAV = mastery-avoidance goals

Between-group mean differences and effect sizes (with confidence intervals) for all achievement goals as presented in Table 5.11, confirmed that Management students (M = 3.79; 95% CI = 3.69 – 3.90) were statistically different from Humanities and Social Sciences students (M = 3.56 ; 95% CI = 3.40 – 3.72) in performance-approach goals. All of the other comparisons in mastery-approach, performance-avoidance, and mastery-avoidance goals were not significantly different.

Table 5.11 Between-group Mean Differences and Effect Sizes (With the CIs) for Achievement Goals Across Five Different Discipline Groups

Dependent Variable	Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size	
Performance-approach	1 Management	2 Science & Engineering	.09	(-.14, .32)	.09	(-.14, .32)
		3 Design	.09	(-.22, .40)	.09	(-.22, .39)
		4 Informatics	.29*	(.05, .53)	.29	(.05, .53)
		5 Humanities & Social Sciences	.23	(-.02, .48)	.23	(-.02, .47)
	2 Science & Engineering	3 Design	.00	(-.35, .35)	.00	(-.33, .33)
		4 Informatics	.20	(-.08, .48)	.20	(-.08, .48)
		5 Humanities & Social Sciences	.14	(-.14, .42)	.14	(-.14, .42)
	3 Design	4 Informatics	.20	(-.15, .55)	.19	(-.15, .53)
		5 Humanities & Social Sciences	.14	(-.22, .50)	.13	(-.21, .48)
	4 Informatics	5 Humanities & Social Sciences	-.06	(-.35, .23)	-.06	(-.35, .23)
Mastery-approach	1 Management	2 Science & Engineering	.11	(-.09, .31)	.13	(-.10, .36)
		3 Design	.02	(-.24, .28)	.02	(-.28, .33)
		4 Informatics	.05	(-.16, .26)	.06	(-.18, .30)
		5 Humanities & Social Sciences	.01	(-.20, .22)	.01	(-.23, .26)
	2 Science &	3 Design	-.09	(-.39, .21)	-.10	(-.43, .23)

Engineering	4	Informatics	-0.06	(-.31, .19)	-0.07	(-.34, .21)		
	5	Humanities & Social Sciences	-0.10	(-.35, .15)	-0.11	(-.39, .17)		
3 Design	4	Informatics	.03	(-.28, .34)	.03	(-.31, .37)		
	5	Humanities & Social Sciences	-0.01	(-.30, .28)	-0.01	(-.35, .33)		
4 Informatics	5	Humanities & Social Sciences	-0.04	(-.30, .22)	-0.05	(-.33, .24)		
Performance-avoidance	1 Management	2	Science & Engineering	-0.02	(-.27, .23)	-0.02	(-.25, .21)	
		3	Design	.11	(-.22, .44)	.10	(-.20, .40)	
		4	Informatics	-0.11	(-.38, .16)	-0.10	(-.34, .14)	
		5	Humanities & Social Sciences	.02	(-.25, .29)	.02	(-.22, .26)	
	2 Science & Engineering	3	Design	.13	(-.20, .46)	.13	(-.20, .46)	
		4	Informatics	-0.09	(-.32, .21)	-0.08	(-.36, .19)	
		5	Humanities & Social Sciences	.04	(-.24, .32)	.04	(-.24, .32)	
	3 Design	4	Informatics	-0.22	(-.59, .15)	-0.20	(-.54, .14)	
		5	Humanities & Social Sciences	-0.09	(-.43, .25)	-0.09	(-.43, .25)	
	4 Informatics	5	Humanities & Social Sciences	.13	(-.18, .44)	.12	(-.17, .41)	
	Mastery-avoidance	1 Management	2	Science & Engineering	.06	(-.15, .27)	.07	(-.16, .29)
			3	Design	.11	(-.17, .39)	.12	(-.18, .42)
4			Informatics	.07	(-.07, .29)	.08	(-.16, .32)	
5			Humanities & Social Sciences	.08	(-.13, .29)	.09	(-.15, .34)	
2 Science & Engineering		3	Design	.05	(-.19, .29)	.05	(-.21, .31)	
		4	Informatics	.01	(-.19, .21)	.01	(-.21, .23)	
		5	Humanities & Social Sciences	.02	(-.17, .21)	.02	(-.20, .24)	
3 Design		4	Informatics	-0.04	(-.29, .21)	-0.04	(-.31, .22)	
		5	Humanities & Social Sciences	-0.03	(-.26, .20)	-0.04	(-.30, .23)	
4 Informatics		5	Humanities & Social Sciences	.01	(-.18, .20)	.01	(-.21, .24)	

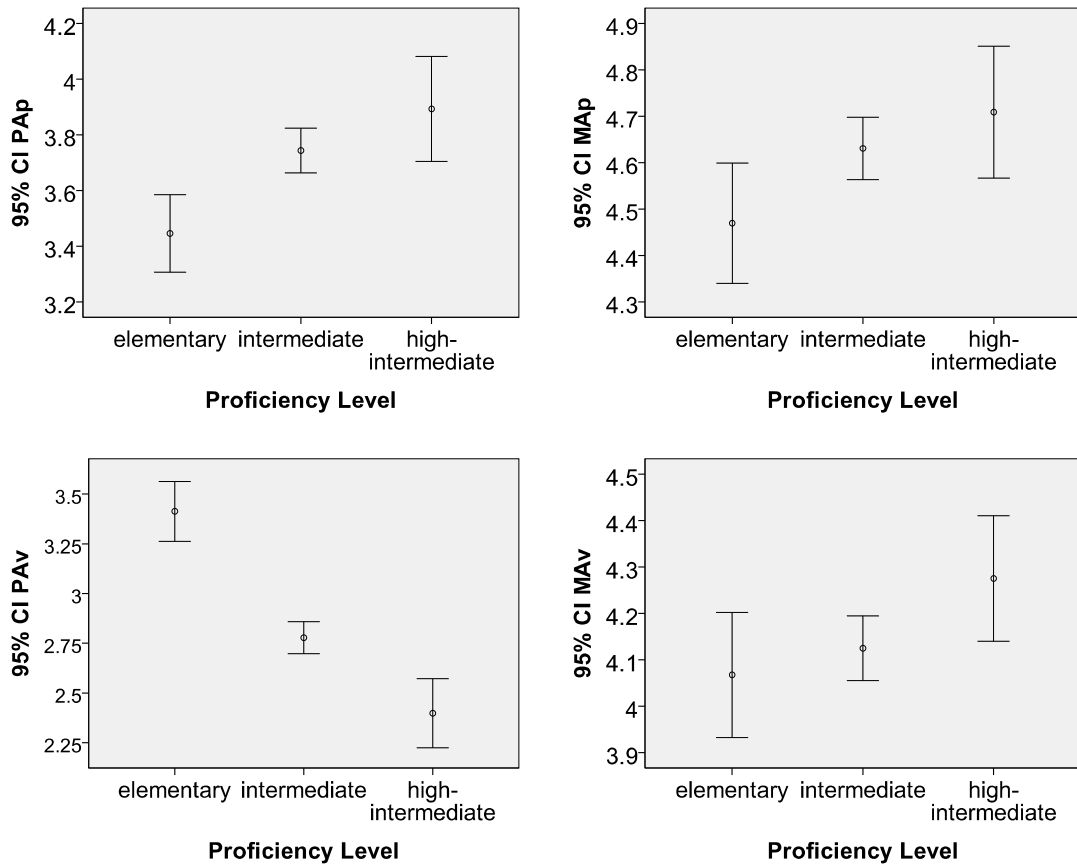
**The mean difference is significant at the .05 level*

A MANOVA was also performed to examine disciplinary differences in achievement goals. There was no statistically significant difference across five groups on the combined dependent variables, $F(16, 2817) = 1.04, p = .410$; Wilks' Lambda = .982. (see Appendix S for selected output generated by MANOVA). However, the CI of the mean difference indicated that Management students statistically differed from Informatics students and Humanities and Social Sciences students in terms of their mean scores on performance-approach goals. Such a test-CI inconsistency, as mentioned in Chapter Four, might be because post-hoc tests tend to be more conservative or repeated CI comparisons do not allow for multiple effect on alpha (e.g., Bonferroni) (Fay, 2010).

English proficiency differences

Figure 5.9 presents the 95% CI bars for achievement goals across three different proficiency groups (i.e., Elementary, Intermediate, and High-Intermediate) according to the results of the English placement test taken in the first year. For performance-approach goals, the first bar did not overlap the last two, indicating that students in elementary English classes ($M = 3.45$; 95% CI = 3.32 – 3.58) were different from those in intermediate ($M = 3.74$; 95% CI = 3.66 – 3.83) and high-intermediate English classes ($M = 3.89$; 95% CI = 3.71 – 4.08). For performance-avoidance goals, none of the bars overlapped, indicating that all of the group differences were significant. An inspection of the mean scores showed that students in elementary English classes were more likely to adopt performance-avoidance goals ($M = 3.41$; 95% CI = 3.28 – 3.55) than those in intermediate ($M = 2.78$; 95% CI = 2.70 – 2.87) and high-intermediate English classes ($M = 2.40$; 95% CI = 2.21 – 2.59). The individual CI bars for mastery-approach and mastery-avoidance goals all overlapped, indicating that the differences between groups may or may not be statistically significant (Cumming et al., 2007). Table 5.12 provides clearer information about the significance and precision of group difference. When looking at Table 5.12, one can notice that none of the group differences was significant since all of the CI values contained zero.

Figure 5.9 95% CI Bars for Achievement Goals Across Three Different English Proficiency Groups



Note.
 All variables were assessed using a 6-point Likert scale.
 PAp= performance-approach goals; MAp = mastery-approach goals;
 PAv= performance-avoidance goals; MAV = mastery-avoidance goals.

Table 5.12 presents between-group mean differences and effect sizes across three different English proficiency groups. As seen in the table, the magnitudes of the differences were somewhere between small and large (Hedges' g ranging from .28 to .91). The biggest mean difference was between students in elementary English classes and those in high-intermediate English classes in terms of performance-avoidance goals, indicating that the former were much more primarily motivated by the fear of failure in a high-stakes testing context than the latter. The finding was expected.

Table 5.12 Between-group Mean Differences and Effect Sizes (With the CIs) for Achievement Goals Across Three Different Proficiency Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
PAp	1 Elementary	2 Intermediate	-.29*	(-.48, -.09)	-.28	(-.48, -.09)
		3 High-Intermediate	-.44*	(-.74, -.14)	-.41	(-.69, -.12)
	2 Intermediate	3 High-Intermediate	-.15	(-.40, .10)	-.15	(-.40, .10)
MAp	1 Elementary	2 Intermediate	-.16	(-.33, .01)	-.18	(-.38, .01)
		3 High-Intermediate	-.24	(-.51, .03)	-.25	(-.54, .03)
	2 Intermediate	3 High-Intermediate	-.08	(-.28, .12)	-.10	(-.35, .15)
PAv	1 Elementary	2 Intermediate	.63*	(.43, .83)	.60	(.41, .80)
		3 High-Intermediate	1.01*	(.70, 1.32)	.91	(.62, 1.2)
	2 Intermediate	3 High-Intermediate	.38*	(.13, .63)	.39	(.13, .64)
MAv	1 Elementary	2 Intermediate	-.05	(-.23, .13)	-.05	(-.25, .14)
		3 High-Intermediate	-.21	(-.48, .06)	-.22	(-.50, .06)
	2 Intermediate	3 High-Intermediate	-.16	(-.37, .05)	-.19	(-.45, .06)

*The mean difference is significant at the .05 level

A MANOVA was also conducted to investigate differences in achievement goals, both individually and collectively, across the three English proficiency groups. The results (see Appendix S for selected output generated by MANOVA) showed a statistically significant difference at the $p < .05$ level in achievement goal scores for the three groups, $F(8, 1830) = 13.874, p < .001$; Pillai's Trace¹⁶ = .11; partial eta squared = .06. When each dependent variable separately for differences between groups was examined, two individual tests reaching statistical significance, using a Bonferroni adjusted alpha level of .0125, were performance-approach goals, $F(2, 917) = 9.95, p < .001$ and performance-avoidance goals, $F(2, 917) = 47.01, p < .001$. Although the group differences were statistically significant, the actual differences were small. The effect sizes, calculated using partial eta squared, were .02 and .09, respectively.

Tamhane's T2, Dunnett's T3, and Games-Howell tests were applied as post hoc comparison methods since the data did not meet the assumption of equal group

¹⁶ Pillai's Trace is more robust when the assumption of homogeneity of covariances is violated (Hair et al., 2006, p. 414; Tabachnick & Fidell, 2007, p. 252).

variances¹⁷. Table 5-29 in Appendix S contained these three post hoc comparison tests for motivational regulations across the three groups. These tests produced the same findings as the CI method produced. Generally speaking, students in higher-level English classes were more likely to adopt performance-approach goals, whereas students in lower-level English classes were more likely to adopt performance-avoidance goals.

Test status differences

Figure 5.10 presents CI bars for achievement goals across four different test status groups. For performance-approach goals, the first bar did not overlap the last two, indicating that the PB group (M = 3.95; 95% CI = 3.80 – 4.09) were statistically different from the F group (M = 3.59; 95% CI = 3.47 – 3.71) and the NT group (M = 3.56; 95% CI = 3.43 – 3.70) in terms of their mean scores.

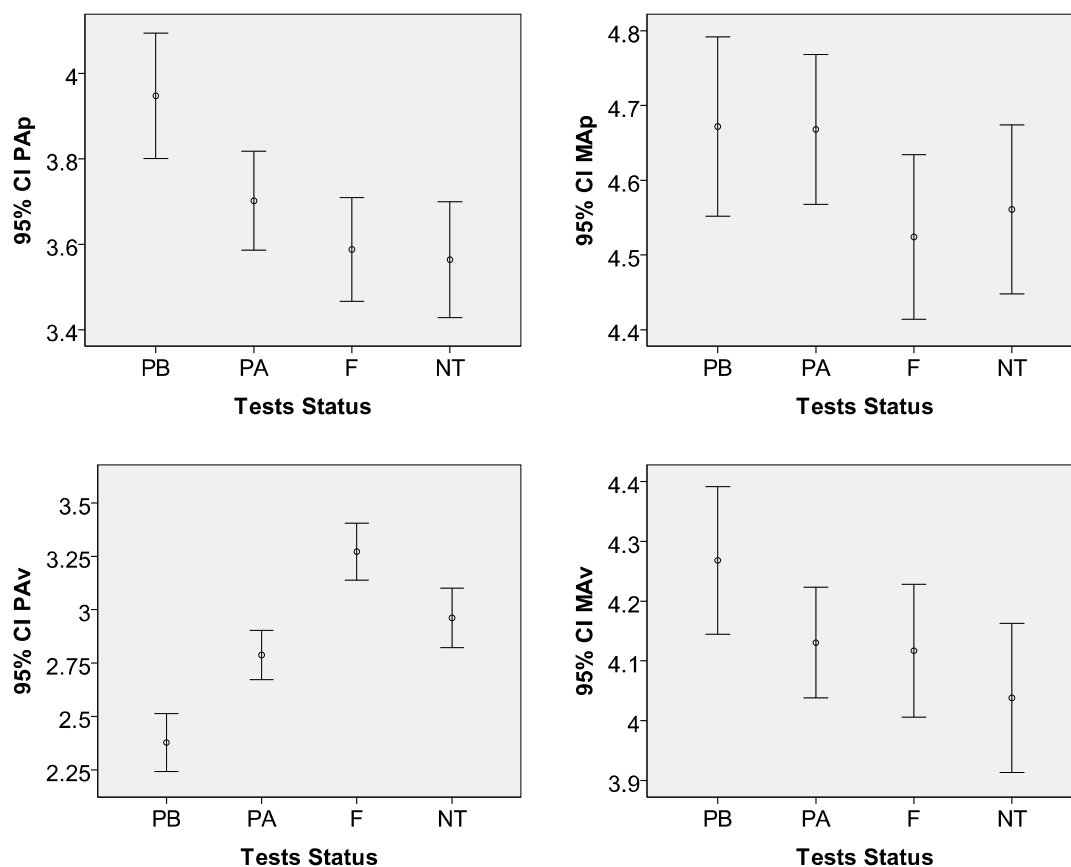
As for the CIs for performance-avoidance goals, the first bar did not overlap the others, indicating that the PB group (M = 2.38; 95% CI = 2.23 - 2.52) was significantly different from the PA group (M = 2.79; 95% CI = 2.65- 2.92), the F group (M = 3.28; 95% CI = 3.16 - 3.40), and the NT group (M = 2.97; 95% CI = 2.84 - 3.09). The third bar also did not overlap the others, suggesting that the F group also differed from either of the other three groups in terms of their mean differences in performance-avoidance goals.

As for the CIs for mastery-approach goals and mastery-avoidance goals, since all of the bars overlapped, the differences between groups may or may not be statistically significant (Cumming et al., 2007). Table 5.13 presents between-group mean differences and effect sizes (with the CIs) and provides clearer information about the

¹⁷ The impact of the violation should be minimal due to the large sample (n > 900) in the present study (Hair et al., 2006).

significance and precision of group difference.

Figure 5.10 95% CI Bars for Achievement Goals Across Four Different Test Status Groups



Note.

All variables were assessed using a 6-point Likert scale.

PAP= performance-approach goals; PB= students who passed the English proficiency test before university;

MAP = mastery-approach goals; PA = students who passed the test after university;

PAV=performance-avoidance goals; F = students who failed the test after university;

MAV = mastery-avoidance goals; NT = students who had not taken the test yet.

As seen in Table 5.13, the CI values for mastery-approach goals and mastery-avoidance goals all included zero, indicating no significant difference between the groups. As for performance-approach goals, it is confirmed that the PB group showed a stronger desire to outperform others than students who had failed or had not taken the exam yet. The effect sizes obtained were somewhere between small and medium. With regard to performance-avoidance goals, every one of the group differences was significant except for PA versus NT. The difference between groups PB and F

received a relatively large effect size (Hedges' $g = -.85$). The results seemed to be supported by the previous studies on the positive relationship between performance-avoidance goals and lower performance (e.g., Elliot & McGregor, 2001).

Table 5.13 Between-group Mean Differences and Effect Sizes (With the CIs) for Achievement Goals Across Four Different Test Status Groups

Dependent Variable	Groups to Be Compared				Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Performance-approach	1.	PB	2. PA		.25	(.00, .49)	.26	(.00, .51)
			3. F		.37*	(.12, .61)	.36	(.12, .60)
			4. NT		.39*	(.13, .64)	.36	(.12, .60)
	2.	PA	3. F		.12	(-.10, .34)	.13	(-.10, .35)
			4. NT		.14	(-.09, .37)	.14	(-.09, .37)
	3.	F	4. NT		.02	(-.21, .25)	.02	(-.20, .24)
Mastery-approach	1.	PB	2. PA		.00	(-.19, .20)	.00	(-.24, .25)
			3. F		.15	(-.06, .36)	.17	(-.07, .40)
			4. NT		.11	(-.10, .32)	.13	(-.11, .37)
	2.	PA	3. F		.15	(-.05, .34)	.17	(-.06, .39)
			4. NT		.11	(-.09, .30)	.13	(-.10, .36)
	3.	F	4. NT		-.04	(-.24, .16)	-.04	(-.26, .18)
Performance-avoidance	1.	PB	2. PA		-.41*	(-.64, -.18)	-.45	(-.69, -.20)
			3. F		-.90*	(-1.15, -.65)	-.85	(-1.10, -.61)
			4. NT		-.59*	(-.84, -.34)	-.56	(-.80, -.32)
	2.	PA	3. F		-.49*	(-.72, -.26)	-.48	(-.71, -.25)
			4. NT		-.18	(-.41, .05)	-.18	(-.41, .05)
	3.	F	4. NT		.31*	(.06, .56)	.28	(.06, .50)
Mastery-avoidance	1.	PB	2. PA		.14	(-.05, .33)	.18	(-.07, .42)
			3. F		.15	(-.06, .36)	.17	(-.07, .40)
			4. NT		.23	(.00, .46)	.24	(.00, .48)
	2.	PA	3. F		.01	(-.18, .20)	.01	(-.21, .24)
			4. NT		.09	(-.11, .29)	.10	(-.13, .33)
	3.	F	4. NT		.08	(-.13, .29)	.08	(-.14, .30)

Note.

1. PB= students who passed the English proficiency test before university;
2. PA = students who passed the test after university;
3. F = students who failed the test after university;
4. NT = students who had not taken the test yet
5. *The mean difference is significant at the .05 level

A MANOVA was also conducted to investigate differences in achievement goals, both individually and collectively, across the four groups based on their test status. The results (see Appendix S for selected output generated by MANOVA) showed a statistically significant difference at the $p < .05$ level in achievement goal scores for the four groups, $F(12, 2793) = 8.94, p < .001$; Pillai's Trace = .11; partial eta squared = .04. When each dependent variable separately for differences between groups was

examined, two individual tests reaching statistical significance, using a Bonferroni adjusted alpha level of .0125, were performance-approach goals, $F(3, 932) = 6.52, p < .001$, partial eta squared = .02, and performance-avoidance goals, $F(3, 932) = 29.68, p < .001$, partial eta squared = .09.

Tamhane's T2, Dunnett's T3, and Games-Howell tests were applied as post hoc comparison methods since the data did not meet the assumption of equal group variances. Table 5-33 in Appendix S contained these three post hoc comparison tests for all achievement goals across the four groups based on their test status. The tests generated the same significant results as the CI method produced.

Summary of effect sizes

Table 5.14 presents significant outcomes with effect sizes between groups in terms of their scores on four achievement goals. As seen in the table, the magnitudes of the group differences in performance-avoidance goals were, in general, bigger than those in other types of achievement goals. The finding indicated that lower-English achievers were more likely to adopt performance-avoidance goals than higher-English achievers.

Table 5.14 Significant Outcomes with Effect Sizes on Four Achievement Goals

Dependent variable	Independent variable	Groups to be compared	Effect Size (Hedges' g)	99% CI for Effect Size
Performance-approach	Gender	Female > Male	.43	(.26, .59)
	Year	Year 2 > Year 4	.38	(.04, .71)
		Year 1 > Year 4	.37	(.04, .70)
	Proficiency level	High-intermediate > Elementary	.41	(.12, .69)
		Intermediate > Elementary	.28	(.09, .48)
	Test status	Passed before university > Failed	.36	(.12, .60)
Passed before university > Not taken		.36	(.12, .60)	
Performance-avoidance	Year	Year 3 > Year 1	.42	(.19, .66)
		Year 3 > Year 2	.40	(.16, .64)
		Year 4 > Year 1	.35	(.02, .68)
	Proficiency level	High-intermediate > Elementary	.91▲	(.62, 1.2)
		Intermediate > Elementary	.60	(.41, .80)
		High-intermediate > Intermediate	.39	(.13, .64)
	Test status	Failed > Passed before university	.85▲	(.61, 1.10)
		Not taken > Passed before university	.56	(.32, .80)
		Failed > Passed after university	.48	(.25, .71)
		Passed after university > Passed before university	.45	(.20, .69)
		Failed > Not taken	.28	(.06, .50)
Mastery-approach	Gender	Female > Male	.20	(.03, .36)
Mastery-avoidance	None	None	None	None

▲ Large effect size

Analysis of the interview data with students

All of the motivation-related statements identified in the interview transcripts were divided into five orientations: (1) intrinsic – statements indicating an inherent interest in English learning (Deci & Ryan, 1985); (2) external – statements reflecting a desire to attain rewards, to comply with rules, or to avoid punishment (Deci & Ryan, 1985); (3) utility value – statements involving pragmatic or practical functions, such as using English as a communication tool or getting access to more employment opportunities (Wigfield, 1994); (4) mastery – statements reflecting a desire to develop or improve one’s competence (Elliot & McGregor, 2001); (5) appearance – statements regarding the desire to appear able (i.e., “appearance-approach”) (Urduan & Mestas, 2006, p. 358) or to avoid appearing incompetent (i.e., “appearance-avoidance”) (Urduan & Mestas, 2006, p. 358). Based on the conceptual similarities, the five motivational orientations were organized into two broader ones: autonomous motivation and extrinsic motivation. The former contained intrinsic and mastery orientations while the latter included external, utility and appearance orientations. These categories with their component, definition, and sample statement are presented in Table 5.15.

Table 5.15

Motivation Categories With Component, Definition, and Sample Statements for Each

Broader category	Motivation Category	Component	Definition	Example item
Autonomous motivation	Intrinsic orientation	Interest	To learn English because it is inherently enjoyable	“English has been an interesting subject to me since I was in elementary school.”
	Mastery orientation	Improvement (intrapersonal)	To develop or improve one’s competence	“...I want to enhance my English proficiency.”
Extrinsic motivation	External regulation	External contingencies	To gain contingent rewards	“Yes! It’s always good to get some monetary rewards.”
			To comply with external demands or to avoid contingent punishments	“[I have] to satisfy the benchmark policy.”
	Utility value orientation	Pragmatic/ Practical	To use English as a tool	“Besides, English serves a communication tool to make friends with foreigners.”
			To improve access to employment	“You cannot deny the importance of the certified English abilities in the job markets.”
Appearance orientation	Appearance-avoidance	Appearance-approach	To appear able to others	“I think a certified English ability can make you look more competent.”
		Appearance-avoidance	To avoid appearing unable to others	“...people look down on you if your English is very bad...I don’t want to be looked down.”

Students' motivational characteristics

Autonomous motivation

Intrinsic motivation

According to Ryan and Deci (2000), when individuals are intrinsically motivated, they do an activity for its pleasure or enjoyment. The following students' responses in their interviews reflect this kind of orientation.

Excerpt 61

Interviewer: Do you think learning English is interesting?

Student C: Yes.

Interviewer: Why do you find it interesting?

Student C: I don't know. I have been learning English since I was a little girl. English has been an interesting subject to me since I was in elementary school.

(2nd year, High-intermediate English class, PB)

Excerpt 62

Interviewer: Do you think learning English is interesting?

Student F: Yeah, it is.

Interviewer: Since you started to learn English?

Student F: At the beginning...not really. I started to feel it was interesting after I was getting better at English.

(2nd year, Intermediate English class, PB)

Excerpt 63

Interviewer: Do you think learning English is interesting?

Student G: Learning English...umm...if the English activities are not assigned by the English teacher, then I will say yes. I feel like I'll be more motivated to learn English without being pressured.

Interviewer: So... in general, you like learning English?

Student G: Yes.

(1st year, Intermediate English class, PB)

All of the three students above, who passed the English exit exam before

university, agreed that learning English could be enjoyable, but the reasons they indicated were varied. For instance, Student C characterized English as her favorite subject, suggesting that she liked English as a discipline. Student F became intrinsically motivated after attaining English proficiency, indicating a possible link between perceived competence and intrinsic motivation. Student G found English activities interesting only when they were not assigned or required, revealing a negative relationship between external demands and intrinsic motivation. The views of students F and G seemed to echo what SDT has argued that one's abilities play an important role in fostering intrinsic motivation and external requirements might decrease intrinsic motivation (Deci & Moller, 2005).

Mastery orientation

Mastery orientations are typically characterized by a focus on improving, learning, and developing one's competence (Urduan & Mestas, 2006). The student interview selections presented below reflect this orientation:

Excerpt 64

Student C: Yeah...The TOEIC... In fact, I have set my own standard. I hope I can reach my target score.

Interviewer: For better employment opportunities?

Student C: No. It's because I want to enhance my English proficiency.

Interviewer: Do you desire to completely master the material presented in English class?

Student C: Yes I do. It is very important for me. As I said earlier, I wanted to be proficient in English, so I do my best to understand what the teacher has taught in class.

(2nd year, High-Intermediate English class, PB)

Excerpt 65

Interviewer: I know you already passed the benchmark. Do you think you will

still take the standardised English proficiency test again?

Student G: Yes, I will.

Interviewer: Why?

Student G: I hope I can achieve the goal I have set for myself.

Interviewer: What's your goal?

Student G: Something like a TOEIC score of 500.

Interviewer: Why do you want to set your own standard?

Student G: Self-improvement.

(1st year, Intermediate English class, PB)

Excerpt 66

Interviewer: Is it important for you to outperform your classmates?

Student E: I don't think so. I don't care much about competing with my classmates or my friends. I'm more concerned about whether I have made progress.

(2nd year, Intermediate English class, PA)

The three students above, who already passed the English exit exam, all indicated a mastery orientation in their interviews. Student C was concerned with reaching her personal goal on the English proficiency test and striving to master learning materials. Student G also set a goal and concerned herself with making progress. There is an implication that both students C and G regarded goal-setting as an important component of success because it helped monitor their progress towards achieving their goals. Student E claimed that he was not focused on outperforming his peers but on becoming more competent.

Students with poor ones also indicated a desire to learn and improve. This finding seemed to be in line with the survey result that students, regardless of their English proficiency, wanted to enhance their English competence. Students D and I, in the elementary English classes, said,

Excerpt 67

Student D: Actually, I think my English skills have been enhanced after

university. The university adopts ability grouping. I like ability grouping because the course materials are not very difficult. English learning seems to be less challenging. I think I've paid more attention to the English teacher, and tried to understand what the teacher has taught.

(1st year, Elementary English class, F)

Excerpt 68

Interviewer: Do you strive to understand the content of the English course as thoroughly as possible?

Student I: Yeah...I think so. Because we're grouped according to our English ability levels, the course materials are neither too difficult nor too easy. I can learn most of them more quickly.

(1st year, Elementary English class, NT)

It is interesting to note that these two lower-English achievers' mastery orientation seemed to be fostered by supportive learning conditions, such as ability grouping, and an appropriate level of learning materials. The students' responses seemed to echo SDT's view that reasonable challenges contribute to a learner's natural tendency to learn (Ryan & Brown, 2005).

Extrinsic motivation

Extrinsically motivated behaviours are those that are performed as a means to an end, rather than for their own sakes (Ryan & Deci, 2000a, 2000b). The types of extrinsic motivation derived from the interview data were categorized as external, utility and appearance.

External orientation

Externally oriented behaviours are regulated by external rewards or punishment (Ryan & Deci, 2000a, 2000b). In the present study, the rewards mainly referred to monetary rewards while the punishment referred to being denied a university's

degree. According to the English benchmark policy, if a student passed an intermediate or high-intermediate level on the English exit exam, they were entitled to get monetary rewards or to be exempt from General English courses. Among the students interviewed, those who had passed the English exit exam before university seemed to be more motivated by the monetary incentives. Students C and F said,

Excerpt 69

Student C: Yes! It's always good to get some monetary rewards.
(2nd year, High-intermediate English class, PB)

Excerpt 70

Student F: Yes, [the incentive could make me work harder]. It's not easy to make money. {Laughs}
(2nd year, Intermediate English class, PB)

Not all students perceived the monetary rewards as attractive. For example, student A attributed the lower value to the following reason:

Excerpt 71

Student A: Umm...I don't think they [monetary rewards] can be tempting for most students.

Interviewer: How about you?

Student A: No.

Interviewer: Why not?

Student A: Umm...actually, monetary rewards...monetary rewards have to be large; otherwise we, I mean the students from the College of Management, cannot be tempted. In addition, it's not easy...take an intermediate level for example. If a student can pass the intermediate level of the GEPT, his or her English ability should be roughly equivalent to that of a high school graduate. I think most students from the College of Management in this university cannot pass that level. They must spend a lot of time preparing for the test to attain success.

(1st year, Intermediate English class, PA)

Based on Student A's responses above, the reason a monetary reward was not considered motivational was due to the low probability of obtaining it and the small size of the extrinsic reward. Atkinson (1964) suggested that the value attached to an external reward and the chances of receiving it could affect students' choice behaviour. Comparing the comments made by students C and F who attached greater value to the monetary reward and would choose to study harder for it, it is possible that these students perceived a better chance of receiving it based on their previous test history (i.e., they had already passed the English proficiency test before university).

Several other students interviewed also indicated their extrinsic orientation but they did not show any desire to obtain external rewards; rather, they focused on satisfying an external demand (i.e., the benchmark policy) and avoiding contingent punishments (i.e., being held back in university). The students' responses reflecting this orientation were presented below.

Excerpt 72

Interviewer: I know you already passed the English proficiency test before entering university. Will you take it again before you graduate?

Student F: Yes.

Interviewer: Why? To see if you have made progress?

Student F: No. To satisfy the benchmark policy. My English certificate has expired, so I have to take it again.

(2nd year, Intermediate English class, PB)

Excerpt 73

Interviewer: If the university didn't require you to take the standardised English proficiency test [as an English exit exam], would you still take it?

Student A: No. *(1st year, Intermediate English class, PA)*

Student D: No. *(1st year, Elementary English class, F)*

Excerpt 74

Student B: I hate English!

Student B: I have no desire to learn the English language.

Student B: To be honest, I wish there were no English exit exam.

Interviewer: Why?

Student B: No special reasons. I just don't want to face it. But I know I don't have a choice. You still have to take it.

(1st year, Elementary English class, NT)

As these students' responses suggested, the graduation requirement was experienced as controlling; the students were pressured to achieve a desired test outcome. Ryan and Brown (2005) and Ryan and Weinstein (2009) warn that such a controlling event could prompt temporary compliance, but students are likely to put the least effort needed to satisfy the external demand, and students' self-motivation eventually will be undermined.

Utility value orientation

Utility value orientation indicates "how a task fits into an individual's future plans" (Wigfield, 1994, p. 52). All of the nine students somewhat referenced this kind of orientation when asked to describe the purposes of learning English and obtaining an English certificate. The most frequent statement was linked to jobs. Except for student B, all of the students clearly referenced a utility value orientation that correlated English learning with employment opportunities or with enhanced competitiveness. The following two students' responses are typical among students interviewed.

Excerpt 75

Interviewer: In your opinion, what do you think of the main purposes of studying English?

Student I: To give myself an edge in a tight job market.

(1st year, Elementary English class, NT)

Excerpt 76

Student H: I think English can be very useful for job hunting.

(3rd year, Elementary English class, F)

The finding is not surprising, considering the social impact of language test use in Taiwan. According to several reports and surveys in the press (see Pan, 2009b for review), English proficiency has become an important recruitment criterion for many corporations and industries in Taiwan. For instance, a needs analysis of Taiwanese employees' English proficiency, conducted by the Chinese Human Resources Management Association and Educational Testing Service in 2010, revealed that 72% of the 417 businesses investigated in Taiwan used English certification tests when making recruitment and promotion decisions. The importance of earning an English certificate for gaining employment seemed to be recognized by the students interviewed based on the excerpts below.

Excerpt 77

Student A: An official certificate of English proficiency is the key to landing a job.

(1st year, Intermediate English class, PA)

Excerpt 78

Student C: A certified English ability is required in many companies.

(2nd year, High-Intermediate English class, PB)

Excerpt 79

Interviewer: Do you think every university graduating student should get an official certificate of English proficiency

Student I: Yes. You cannot deny the importance of the certified English abilities in the job markets.

(1st year, Elementary English class, NT)

The high value of English certificates might also explain why low English achievers held positive attitudes towards the English benchmark policy for graduation although test anxiety was induced. Student I, a low English achiever, said in the interview:

Excerpt 80

Student I: Yes, I am [worried I may not be able to pass the benchmark]. But I'm much more worried that I cannot find a good job if I don't have any official certificate of English proficiency.

(1st year, Elementary English class, NT)

Student D, another lower English achiever, also recognized the potential usefulness of English although he disliked English.

Excerpt 81

Student D: No, I don't like English although I am aware it might be useful for the future.

Interviewer: For the future?

Student D: Yeah...to have a better job.

(1st year, Elementary English class, F)

The students also regarded the English language as a means to understand English authentic materials, to expand their world view, and to communicate and interact with foreigners in many aspects. The following excerpts illustrated their views:

Excerpt 82

Interviewer: In your opinion, what do you think of the main purpose of studying English?

Student G: To read different things.

Interviewer: What do you mean by that?

Student G: You can read something you don't understand.

Interviewer: Something like...?

Student G: Umm...Something like...for example, when I read an advertisement or when I watch TV programs, you have no difficulty to understand them. It's convenient.

(1st year, Intermediate English class, PB)

Excerpt 83

Student B: If I want to broaden my world view, I have to learn English.

(1st year, Elementary English class, NT)

Excerpt 84

Student C: [I'd like] to actually use English, to use English to communicate with other people.

(2nd year, High-intermediate English class, PB)

Excerpt 85

Student E: You use English in most foreign countries.

(2nd year, Intermediate English class, PB)

Excerpt 86

Student F: English serves as a communication tool to make friends with foreigners.

(2nd year, Intermediate English class, PB)

The evidence of the utility value orientation adopted by many Taiwanese university students was confirmed by several other studies conducted in Taiwan. After interviewing 30 (16 female and 14 male) university and college students in Taiwan, Huang (2005) claimed that the global spread of English was recognized and English proficiency was strongly associated with access to better employment opportunities and to information. Similarly, Lai (2008) claimed that, based on a sample size of 430, Taiwanese university students' motivation for learning English was mainly pragmatic,

such as getting a better job/salary and using English as a tool to understand their specialized subjects.

The surveys in the press (see Pan, 2009 for a review) and the studies mentioned above have suggested that many Taiwanese university students generally perceived English proficiency and English certificates as having high utility value. Such utility value can be characterized as a form of extrinsic motivation from the perspective of self-determination theory (Deci & Ryan, 1985). However, the degree of self-determination seems not easy to be identified. Take Student E's responses for example.

Excerpt 87

Interviewer: What's your target score for the TOEIC?

Student E: 550, at least.

Interviewer: Why 550?

Student E: Because that's a required score by some big companies.

Interviewer: Do you wish to work in big companies?

Student E: Yes.

(2nd year, Intermediate English class PB)

It is difficult to distinguish whether student E had identified regulation or external regulation. According to Ryan and Deci (2000a, 2000b), identified regulation is a more self-determined form of extrinsic motivation in which behaviours are performed because they are in accordance with one's valued goals while external regulation is the least self-determined form of extrinsic motivation in which behaviours are performed due to compliance or externally imposed rules. Student E might have identified regulation because he had set TOEIC 550 as his own goal and wanted to reach it for personally important reasons (i.e., wishing to work in a big company). However, he could also be externally regulated because getting TOEIC 550 was perceived as a prerequisite requirement if he wished to apply for employment

in a big company. The finding revealed a noted overlap of utility orientation, external regulation, and identified regulation.

Appearance orientation

When an individual has a desire to appear able or competent to others (i.e., appearance-approach) or to avoid looking incompetent (i.e., appearance-avoidance) (Urdan & Mestas, 2006), the behaviours are not engaged in for their own sakes, but for a separate outcome, such as impressing others or protecting self-esteem. Within this respect, an individual with an appearance focus can be regarded as extrinsically motivated.

Appearance-approach

The students' quotations presented below reflect the appearance-approach orientation.

Excerpt 88

Interviewer: Do you think every university graduating student should get an official certificate of English proficiency?

Student E: Yes. To prove your English proficiency to others. I think a certified English ability can make you look more competent.

(2nd year, Intermediate English class, PA)

Excerpt 89

Student A: If I have a very good command of English, I feel proud and can show it off.

Interviewer: Show off your English?

Student A: Exactly. I major in Finance. If I can use English to communicate with foreigners fluently, that must be an amazing feeling!

(1st year, Intermediate English class, PA)

Excerpt 90

Interviewer: Is it important for you to demonstrate your English abilities to others?

Student F: Yeah, I think so.

Interviewer: Why?

Student F: Ummm... I hope others are impressed by my English skills. It's just like a feeling...ummm...I feel proud, happy when people think I am good at English.

(2nd year, Intermediate English class, PB)

Student E was focused on proving himself to others because he wanted to look competent. Student A indicated his desire to show off, enjoying the feelings of being competent. Student F's motivation orientation was similar to Student A's. She focused on what other people thought of her. She also wanted others to have positive impression of her because being able to impress people could make her feel proud and pleased. The findings were very similar to the ones reported by Urdan and Mestas (2006) who found that when students were asked about reasons for adopting a normative performance goal, more than half of the students (54%) indicated a concern with appearing competent or able to others, such as the desire to be acknowledged-get positive attention, to maintain positive reputation, to be a role model to others, to feel smart, etc.

Appearance-avoidance

The other type of appearance orientation is appearance-avoidance. An individual with an appearance-avoidance focus concerns about avoiding appearing incompetent to other people (Urdan & Mestas, 2006). Student B's views, as presented below, reflect this orientation. Student B was concerned about being looked down on if they did not do well on English.

Excerpt 91

Student B: ...people look down on you if your English is very bad.

Interviewer: Based on your personal experience?

Student B: I had that kind of experience. But not anymore in the

university...

interviewer: When you said "people," do you refer to your classmates, or English teachers, or...?

Student B: My teachers and peers. They would judge you based on your English performance. Other academic subjects didn't have such effects, but English did.

Student B: ...if one day I force myself to study English hard, it's probably because I want to show my English abilities to others. Just like what I said earlier: I don't want to be looked down on again.

(1st year, Elementary English class, NT)

Student B was concerned about avoiding a negative outcome: not being negatively judged by his English test score (avoiding failure). Student B claimed that he used to be looked down on by his teachers and peers due to his poor English performance. He further indicated that the desire not to be looked down on could be the motive that made him study English hard. His views reflected a concern about what a poor performance on English might say about his ability: that he was incompetent. This concern about appearing incompetent to others might account for why Student B was oriented towards how he would appear and focus on performance, rather than the task itself.

An additional finding

The role of social comparison

The questionnaire data revealed that many students reported a focus on self in comparison with peers, especially those who had passed the English proficiency test, but eight out of nine students interviewed did not indicate a concern with outperforming others. The students' quotations shown below present different reasons explaining the students' lack of interest in competing with their peers.

Excerpt 92

Student A: ...I don't compare myself to others. In my department, the students always mind their own business, and so do I.

(1st year, Intermediate English class, PA)

Student C: No, it's not [important for me to outperform others]. I don't like comparisons.

(2nd year, high-intermediate English class, PB)

Student D: I don't really care [about outperforming my classmates on the English proficiency test]. The test is not a competition among students.

(1st year, Elementary English class, F)

Student E: ... I don't care much about competing with my classmates or my friends. I'm more concerned about whether I have made progress.

(2nd year, Intermediate English class, PA)

Student F: ... If I know my classmates perform better than I do, I might feel pressured and study harder for the next test. But if I know I outperform my classmates, of course it's nice, but I won't say it's important.

(2nd year, Intermediate English class, PB)

Student H: ...I don't like to be compared. I don't care if others do better or I do better. People are good at different things.

(3rd year, Elementary English class, F)

None of the statements above indicated a competition component (i.e., trying to do better than other people). The reasons that students had no intention to compete with others were mainly because they neither liked the feelings of competition nor cared about it. Although few students indicated the desire to outperform peers in the interview, many, especially those who already passed the English proficiency test, indicated their pursuit of performance-approach goals (i.e., doing better than others) in the questionnaire. Student I's responses below might be able to explain such a

discrepancy.

Excerpt 93

Interviewer: Is it important for you to outperform your peers?

Student I: It's kind of important.

Interviewer: Why?

Student I: Because it means I have improved my English.

(1st year, Elementary English class, NT)

Student I indicated her interest in outperforming her peers because it would prove that she had developed competence. In other words, Student I's desire to do better than others (i.e., performance-approach goal) was correlated with mastery. Urdan and Mestas (2006) argued that although students could interpret the questionnaire items as the researcher intended, the reasons for endorsing a particular goal cannot be easily found from questionnaires. Within this view, it is possible that students' real purposes behind their pursuit of performance-approach goals are not related to competition or performance strivings.

CHAPTER SIX

RESULTS AND ANALYSIS: APPROACHES TO LEARNING

This chapter is aimed to answer the third research question, posed in Chapter One and repeated as follows:

3. *What types of approaches to learning do students in this technological university report under the policy? To what extent is the same set of variables (i.e., gender, year, discipline, English proficiency, and test status) related to the adoption of approaches to learning?*

Both quantitative analysis of the questionnaire data and qualitative analysis of the interview data were conducted to answer the above research question.

Analysis of the student questionnaire data

Confidence intervals (CIs) and the statistical testing based on p values were both used to analyze the questionnaire data. Two types of approaches to learning were examined in this present study: deep and surface. The following sections first examined the types of approaches to learning that technological university students reported, and then investigated whether there were statistically significant group differences in terms of the mean scores for deep and surface approaches to learning.

Table 6.1 presented descriptive statistics for both approaches to learning. As seen in the table, the mean score for deep approaches to learning was slightly higher than that for surface approaches to learning. The result was not consistent with the hypothesis. It was predicted that students in a high-stakes testing context were more likely to employ more surface approaches than deep approaches. From the perspectives of SDT and achievement goal theories, high-stakes testing policies in which test scores are emphasized usually lead more students to adopt surface approaches to achieve specified outcomes (Midgely et al., 2001; Ryan & Brown,

2005). Although the finding was not expected and not supported by SDT and achievement goal theories, it was consistent with other findings in the present study. As found in the previous chapter, the students in the present study were more likely to adopt mastery-approach goals than other types of achievement goals. Previous empirical studies have shown that mastery-approach goals are often positively associated with deep approaches (Elliot & McGregor, 2001; Pintrich, 2000). In this regard, it might not be surprising that students would report a higher level of deep approaches than surface approaches.

Table 6.1 Descriptive Statistics for Approaches to Learning

Dependent Variable	N	Minimum	Maximum	Mean	Std. Deviation
Deep	976	1	6	3.42	.77
Surface	975	1	6	3.23	.88

Group differences in approaches to learning

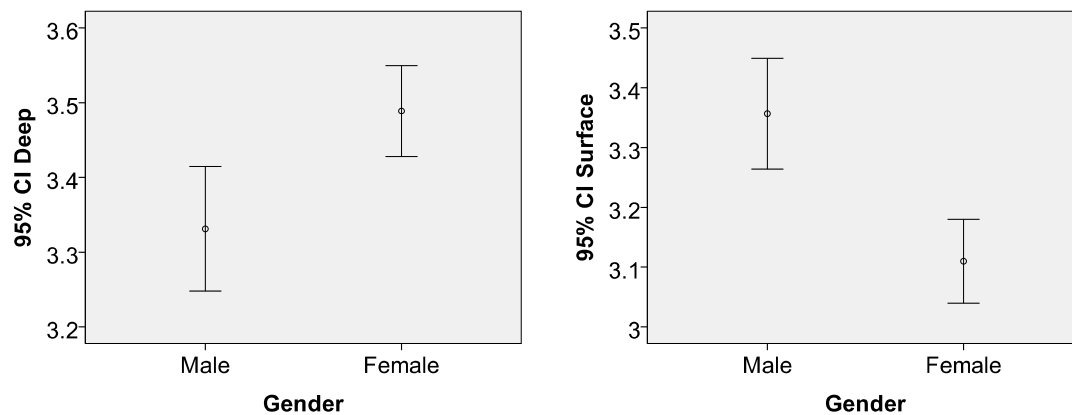
The following sections investigated the group differences between males and females, across four different year groups, across five different discipline groups, across three different English proficiency groups, and across four different test status groups in terms of their score on the measure of deep and surface approaches to learning.

Gender differences

95% CI bars for approaches to learning between male and female students are presented in Figure 6.1. As seen in the figure, the two individual bars for deep approaches did not overlap, indicating a significant difference between the groups. Since the two intervals for surface approaches did not overlap either, the group difference was also significant. An inspection of the mean scores showed that females reported a higher level of deep approaches to learning (M = 3.49; 95% CI = 3.43 –

3.55) than the males ($M = 3.33$; 95% CI = 3.25 – 3.41), whilst males reported a higher level of surface approaches to learning ($M = 3.36$; 95% CI = 3.26 – 3.45) than females ($M = 3.11$; 95% CI = 3.26 – 3.45).

Figure 6.1 95% CI Bars for Approaches to Learning Between Males and Females



Note. Variables were assessed using a 6-point Likert scale.

Table 6.2 shows between-group mean differences and effect sizes (with the CIs) for approaches to learning between males and females. None of the CI values contained zero, confirming that the two groups were significantly different in terms of their mean scores on both deep approaches and surface approaches. However, the magnitudes of the group differences were small (Hedges' $g = .21$ and $.28$, respectively).

Table 6.2 Between-group Mean Differences and Effect Sizes (with the CIs) for Approaches to Learning Between Males and Females

Dependent Variable	Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Deep	1 Male	-.16*	(-.27, -.05)	-.21	(-.37, -.04)
	2 Female				
Surface	1 Male	.25*	(.12, .38)	.28	(.14, .43)
	2 Female				

*The mean difference is significant at the .05 level

A one-way between-groups multivariate analysis of variance (MANOVA) was also conducted to investigate gender differences in the adoption of approaches to learning. The results (see Appendix T for selected output generated by MANOVA) showed a statistically significant difference between males and females on the combined dependent variables, $F(2, 933) = 10.68, p < .001$; Pillai's Trace¹⁸ = .02, partial eta squared = .02. It is also found that the differences between males and females for each dependent measure, using a Bonferroni adjusted alpha level of .025, were both statistically significant: deep approaches to learning, $F(1, 934) = 9.48, p = .002$, partial eta squared = .01; surface approaches to learning, $F(1, 934) = 18.12, p < .001$, partial eta squared = .02. The statistically significant results and the magnitudes of the differences are consistent with the findings using the CI method.

Year differences

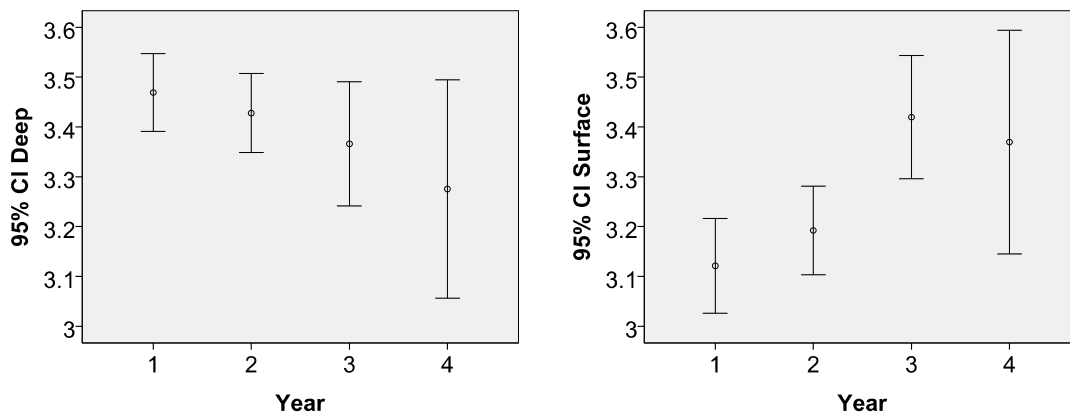
Figure 6.2 shows the CI bars for approaches to learning across four different year groups. Since all of the bars for deep approaches to learning overlapped, the group differences might or might not be statistically significant (Cumming et al., 2007). However, Table 6.3 illustrating between-group mean differences and effect sizes with the CIs revealed that all of the intervals contained the value of 0, indicating that all of the group differences in deep approaches to learning were not statistically significant.

When looking at the CI bars for surface approaches, one can see that the third bar did not overlap the first two, indicating that 3rd year students statistically differed from 1st and 2nd year students in terms of the mean differences. An inspection of the mean scores indicated that 3rd year students ($M = 3.42$; 95% CI = 3.30 – 3.54) reported a

¹⁸ Pillai's Trace is more robust when the assumption of homogeneity of covariances is violated (Hair et al., 2006, p. 414; Tabachnick & Fidell, 2007, p. 252).

higher level of surface approaches than 1st year students (M = 3.12; 95% CI = 3.03 – 3.22) and 2nd year students (M = 3.19; 95% CI = 3.10 – 3.28). Table 6.3 also confirmed that 3rd year students were more likely to employ surface approaches to learning than lower year peers. The effect sizes obtained, however, were not impressive (Hedges' *g* = .33 and .29, respectively).

Figure 6.2 95% CI Bars for Approaches to Learning Across Four Different Year Groups



Note. Variables were assessed using a 6-point Likert scale.

Table 6.3 Between-group Mean differences and Effect Sizes (with the CIs) for Approaches to Learning Across Four Different Year Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' <i>g</i>)	CI for Effect Size
Deep	Year 1	Year 2	.04	(-.09, .17)	.05	(-.12, .22)
		Year 3	.10	(-.06, .26)	.13	(-.08, .33)
		Year 4	.19	(-.05, .43)	.24	(-.06, .53)
	Year 2	Year 3	.06	(-.10, .22)	.08	(-.13, .29)
		Year 4	.15	(-.07, .37)	.20	(-.10, .50)
	Year 3	Year 4	.09	(-.18, .36)	.11	(-.21, .43)
Surface	Year 1	Year 2	-.07	(-.22, .08)	-.08	(-.25, .09)
		Year 3	-.30*	(-.49, -.11)	-.33	(-.54, -.12)
		Year 4	-.25	(-.53, .03)	-.26	(-.56, .03)
	Year 2	Year 3	-.23*	(-.40, -.06)	-.29	(-.50, -.07)
		Year 4	-.18	(-.43, .07)	-.22	(-.52, .08)
	Year 3	Year 4	.05	(-.22, .32)	.06	(-.26, .38)

*The mean difference is significant at the .05 level

A MANOVA was also conducted to assess year differences in approaches to learning, both individually and collectively. There was a statistically significant difference across the different four year groups on the combined dependent variables, $F(6, 1868) = 2.90, p = .008$; Pillai's Trace = .02; however, the effect size was quite small (partial eta squared = .01). An examination of the differences between individual groups for each dependent measure, using a Bonferroni adjusted alpha level of .025, showed that the only difference reaching statistical significance was surface approaches to learning, $F(3, 934) = 5.29, p = .001$, partial eta squared = .02 (see Appendix T for selected output generated by MANOVA). Tamhane's T2, Dunnett's T3, and Games-Howell tests¹⁹ were applied as post hoc comparison methods to surface approaches across the different four year groups. The post hoc comparison tests (see Table 6-7 in Appendix T) produced the same significant results that the CI method did, that is, 3rd year students were more likely to use more surface approaches than 1st and 2nd year students.

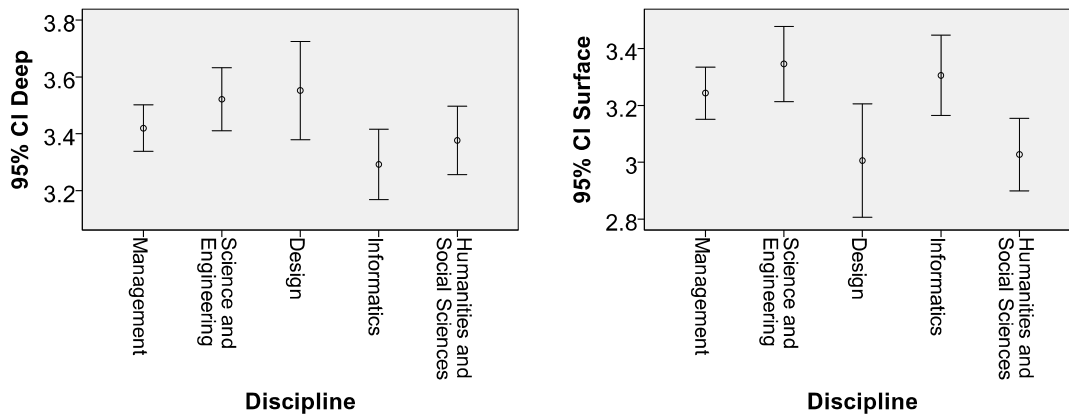
Disciplinary differences

A 95% CI was performed to investigate disciplinary differences in approaches to learning. As shown in Figure 6.3, the individual bars for deep approaches all overlapped or slightly overlapped, indicating that all separate group differences might or might not be statistically significant (Cumming et al., 2007). However, when looking at Table 6.4, one can see that the CI values between Informatics and Science and Engineering did not contain zero, indicating that these two groups of students differed in terms of the mean scores on deep approaches. An inspection of the mean scores indicated that Science and Engineering students ($M = 3.52$; 95% CI = 3.41 -

¹⁹ The data failed the assumption of equal group variances (i.e., the univariate tests for each motivational regulation was significant).

3.63) were more likely to adopt deep approaches than Informatics students ($M = 3.29$; 95% CI = 3.17 - 3.42); however, the effect size was not impressive (Hedges' $g = .30$), as shown in Table 6.4.

Figure 6.3 95% CI Bars for Approaches to Learning Across Five Different Discipline Groups



Note. Variables were assessed using a 6-point Likert scale.

The CIs for surface approaches, shown in Figure 6.3, also revealed that many individual bars barely or slightly overlapped, and thus it was difficult to determine whether the differences were significant or not. Table 6.4 presents more clear information to understand the significance and precision of difference. As seen in the table, three groups were found to be statistically significant because the CI values did not contain zero. More specifically, Science and Engineering students ($M = 3.35$; 95% CI = 3.21 – 3.48) were more likely to adopt surface approaches than Design students ($M = 3.01$; 95% CI = 2.81 – 3.21) and Humanities and Social Sciences students ($M = 3.03$; 95% CI = 2.90 – 3.16). Informatics students ($M = 3.31$; 95% CI = 3.16 – 3.45) were also likely to adopt surface approaches than Humanities and Social Sciences students. The effect sizes received were somewhere between small and medium (Hedges' g ranging from .33 to .38), as seen in Table 6.4.

Table 6.4 Between-group Mean Differences and Effect Sizes (with the CIs) for Approaches to Learning Across Five Different Discipline Groups

Dependent Variable		Groups to Be Compared	Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size	
Deep approaches	1 Management	2 Science & Engineering	-.10	(-.28, .08)	-.13	(-.36, .10)	
		3 Design	-.13	(-.37, .11)	-.16	(-.46, .14)	
		4 Informatics	.13	(-.06, .32)	.16	(-.08, .40)	
		5 Humanities & Social Sciences	.04	(-.15, .23)	.05	(-.19, .29)	
	2 Science & Engineering	3 Design	-.03	(-.28, .22)	-.04	(-.37, .29)	
		4 Informatics	.23*	(.02, .44)	.30	(.03, .58)	
		5 Humanities & Social Sciences	.14	(-.07, .35)	.19	(-.09, .47)	
	3 Design	4 Informatics	.26	(-.01, .53)	.33	(-.01, .67)	
		5 Humanities & Social Sciences	.17	(-.09, .43)	.22	(-.12, .56)	
	4 Informatics	5 Humanities & Social Sciences	-.09	(-.31, .13)	-.12	(-.41, .17)	
	Surface approaches	1 Management	2 Science & Engineering	-.11	(-.32, .10)	-.12	(-.35, .11)
			3 Design	.23	(-.04, .50)	.25	(-.05, .56)
4 Informatics			-.07	(-.29, .15)	-.08	(-.32, .16)	
5 Humanities & Social Sciences			.21	(.00, .42)	.24	(.00, .48)	
2 Science & Engineering		3 Design	.34*	(.04, .64)	.37	(.04, .71)	
		4 Informatics	.04	(-.21, .29)	.04	(-.23, .32)	
		5 Humanities & Social Sciences	.32*	(.08, .56)	.38	(.09, .66)	
3 Design		4 Informatics	-.30	(-.61, .01)	-.33	(-.67, .01)	
		5 Humanities & Social Sciences	-.02	(-.31, .27)	-.02	(-.36, .32)	
4 Informatics		5 Humanities & Social Sciences	.28*	(.04, .52)	.33	(.04, .62)	

**The mean difference is significant at the .05 level*

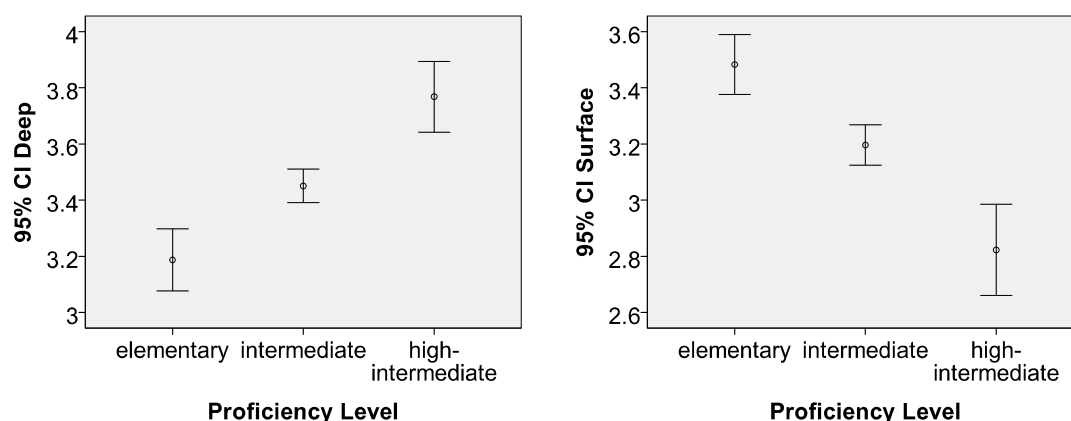
A MANOVA was also conducted to assess disciplinary differences in terms of their scores on approaches to learning. There was an overall significant difference across five different discipline groups, $F(8, 1850) = 3.76, p < .000$; Wilks' Lambda = .97, partial eta squared = .02. 16. When the results for the dependent variables were considered separately, the only difference to reach statistical significance, using a Bonferroni adjusted alpha level of .025, was surface approaches to learning, $F(4, 926) = 4.34, p = .002$, partial eta squared = .02. The Tukey HSD, Scheffé, and Gabriel tests, used as the post hoc comparison tests (see Table 6-11 in Appendix T), showed that Science and Engineering students differed from Design students and Humanities and Social Sciences students. Two of the three tests indicated that Informatics students

and Humanities and Social Sciences students were not significant, while the CI method indicated that this difference was significant. As noted in the previous chapter, the unequal size of the groups might be the reason.

English proficiency differences

Figure 6.4 presents the 95% CI bars for approaches to learning across three different proficiency groups (i.e., Elementary, Intermediate, and High-Intermediate) according to the results of the English placement test taken in the first year. As seen in the figure, none of the individual CI bars overlapped, indicating that all of the group differences were significantly different in terms of their mean scores on both surface and deep approaches to learning. An inspection of the mean scores indicated that students in high-intermediate English classes ($M = 3.77$; 95% CI = 3.63 – 3.91) were more likely to adopt deep approaches to learning than those in intermediate ($M = 3.45$; 95% CI = 3.39 – 3.51) and elementary English classes ($M = 3.19$; 95% CI = 3.09 – 3.28). For surface approaches to learning, an opposite pattern emerged; that is, students in elementary English classes ($M = 3.48$; 95% CI = 3.37 – 3.59) were more likely to adopt surface approaches to learning than those in intermediate ($M = 3.20$; 95% CI = 3.13 – 3.27) and high-intermediate English classes ($M = 2.82$; 95% CI = 2.67 – 2.98).

Figure 6.4 95% CI Bars for Approaches to Learning Across Three Different English Proficiency Groups



Note. All variables were assessed using a 6 point Likert scale.

Table 6.5 presents between-group mean differences and effect sizes (with the CIs) across three different English proficiency groups. As seen in the table, the magnitudes of the group differences between students in elementary English classes and those in high-intermediate English classes were relatively large, indicating that students' English proficiency might play an important role in determining the adoption of approaches to learning.

Table 6.5 Between-group Mean Differences and Effect Sizes (with the CIs) for Approaches to Learning Across Three Different Proficiency Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Deep	1 Elementary	2 Intermediate	-.26*	(-.39, -.13)	-.34	(-.51, -.16)
		3 High-Intermediate	-.58*	(-.79, -.37)	-.71	(-.97, -.45)
	2 Intermediate	3 High-Intermediate	-.32*	(-.48, -.16)	-.44	(-.67, .21)
Surface	1 Elementary	2 Intermediate	.28*	(.13, .43)	.33	(.15, .50)
		3 High-Intermediate	.66*	(.44, .88)	.77	(.51, 1.03)
	2 Intermediate	3 High-Intermediate	.38*	(.18, .58)	.43	(.20, .66)

*The mean difference is significant at the .05 level

A MANOVA was also conducted to assess significant group differences in achievement goals, both individually and collectively, across the three English proficiency groups. There was a statistically significant difference at the $p < .05$ level

in approaches to learning scores for the three groups, $F(4, 1836) = 17.633, p < .001$; Pillai's Trace = .07; partial eta squared = .04. Using a Bonferroni adjusted alpha level of .025, both individual tests reached statistical significance: deep approaches, $F(2, 918) = 23.80, p < .001$, partial eta squared = .05; surface approaches, $F(2, 918) = 23.56, p < .001$, partial eta squared = .05. Tamhane's T2, Dunnett's T3, and Games-Howell tests were applied as post hoc comparison methods since the data did not satisfy the assumption of equal group variances. The three tests generated the same results (see Table 6-15 in Appendix T) as the CI method. That is, students with higher English levels were more likely to adopt deep approaches to learning while students with lower English levels were more likely to adopt surface approaches to learning. The findings were in line with the study conducted by Gow et al. (1991) that identified a positive link between deep approaches and English abilities as well as a negative one between surface approaches and English abilities.

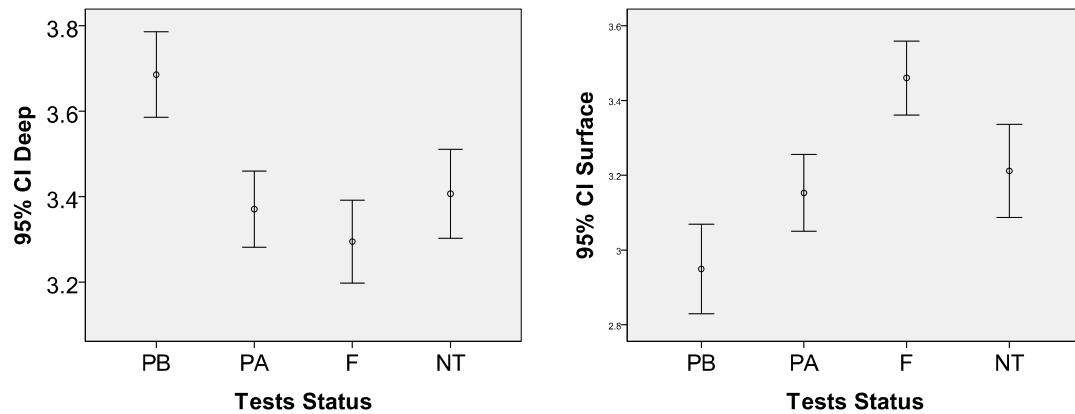
Test status differences

Another CI was also performed to assess the mean differences in students' adoption of approaches to learning between the four groups according to their test status: (1) PB (students who passed the standardised English proficiency test before university), (2) PA (students who passed the test after university), (3) F (students who failed the test after university), and (4) NT (students who had not taken the test yet).

The intervals for deep approaches in Figure 6.5 showed that the first bar did not overlap the others, indicating that PB ($M = 3.69$; 95% CI = 3.58 - 3.79) was more likely to adopt deep approaches than PA ($M = 3.37$; 95% CI = 3.27- 3.47), F group ($M = 3.29$; 95% CI = 3.20 - 3.39), and NT ($M = 3.41$; 95% CI = 3.31 - 3.50). Between-group mean differences and effect sizes (with CIs) for deep approaches, presented in Table 6.5 confirmed that PB was statistically significant from the other groups

because their CI values of the mean difference excluded zero. The effect sizes obtained were between small and moderate (Hedges' g ranging from .36 to .52).

Figure 6.5 95% CI Bars for Approaches to Learning Across Four Different Test Status Groups



Note. All variables were assessed using a 6 point Likert scale.

As for the CIs for surface approaches, shown in Figure 6.5, the third bar did not overlap the others, indicating that F ($M = 3.46$; 95% CI = 3.36 - 3.56) was more likely to adopt surface approaches than PB ($M = 2.95$; 95% CI = 2.83 - 3.07), the PA group ($M = 3.15$; 95% CI = 3.04 - 3.27), and NT ($M = 3.21$; 95% CI = 3.10 - 3.32). Table 6.6 shows that the magnitude of the group difference between PB and F (Hedges' $g = .61$) was much larger than the other group differences.

Table 6.6 Between-group Mean Differences and Effect Sizes (with the CIs) for Approaches to Learning Across Four Different Test Status Groups

Dependent Variable	Groups to Be Compared		Mean Difference	CI for Difference	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Deep approaches	PB	PA	.32*	(.17, .47)	.46	(.24, .68)
		F	.40*	(.24, .56)	.52	(.30, .73)
		NT	.28*	(.11, .45)	.36	(.14, .58)
	PA	F	.08	(-.07, .23)	.11	(-.10, .31)
		NT	-.04	(-.20, .12)	-.05	(-.26, .15)
	F	NT	-.12	(-.28, .04)	-.15	(-.34, .05)
Surface approaches	PB	PA	-.20	(-.40, .00)	-.25	(-.50, -.01)
		F	-.51*	(-.71, -.31)	-.61	(-.85, -.37)
		NT	-.26*	(-.49, -.04)	-.28	(-.52, -.04)
	PA	F	-.31*	(-.49, -.12)	-.38	(-.61, -.15)
		NT	-.06	(-.26, .15)	-.06	(-.29, .17)

F	NT	.25*	(.05, .45)	.27	(.05, .49)
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Note.

1. PB= students who passed the English proficiency test before university;
2. PA = students who passed the test after university;
3. F = students who failed the test after university;
4. NT = students who had not taken the test yet.

A MANOVA was also conducted to assess significant group differences in approaches to learning. There was a statistically significant difference at the $p < .05$ level for the four groups, $F(6, 1866) = 9.49, p < .001$; Pillai's Trace = .06; partial eta squared = .03. Using a Bonferroni adjusted alpha level of .025, both individual tests reached statistical significance: deep approaches, $F(3, 933) = 10.42, p < .001$, partial eta squared = .03 and surface approaches, $F(3, 933) = 13.64, p < .001$, partial eta squared = .04. The three post hoc tests produced the same results (see Table 6-15 in Appendix T) as the CI method produced.

Summary of effect sizes

Effect size estimates for approaches to learning across groups are presented in Table 6.7. According to the magnitudes of the group differences, students' English abilities and skills seemed to play a more important role in determining the adoption of approaches to learning than their gender, year, and discipline.

Table 6.7 Significant Outcomes with Effect Sizes on Approaches to Learning

Dependent variable	Independent variable	Groups to be compared	Biased-corrected Effect Size (Hedges' g)	CI for Effect Size
Deep	Gender	Female > Male	.21	(.04, .37)
	Proficiency level	High-intermediate > Elementary	.71 ■	(.45, .97)
		High-intermediate > Intermediate	.44	(.21, .67)
		Intermediate > Elementary	.34	(.16, .51)
	Test status	Passed before university > Failed	.52 ■	(.30, .73)
		Passed before university > Passed after university	.46	(.24, .68)
		Passed before university > Had not taken	.36	(.14, .58)
Surface	Gender	Male > Female	.28	(.14, .43)
	Year	Year 3 > Year 1	.33	(.12, .54)
		Year 3 > Year 2	.29	(.07, .50)
	Discipline	Science and Engineer > Humanities and Social Sciences	.38	(.09, .66)
		Science and Engineering > Design	.37	(.04, .71)
	Proficiency level	Elementary > High-intermediate	.77 ■	(.51, 1.03)
		Intermediate > High-intermediate	.43	(.20, .66)
		Elementary > Intermediate	.33	(.15, .50)
	Test status	Failed > Passed before university	.51 ■	(.37, .85)
		Failed > Passed after university	.31	(.15, .61)
		Had not taken > Passed before university	.28	(.04, .52)
		Failed > Had not taken	.27	(.05, .49)

■ Moderate effect size

Analysis of the interview data with students

When the students were asked about how they usually studied English in general, most of them mentioned about vocabulary learning.

The focus on vocabulary memorisation

Student F had the following view typical of most students:

Excerpt 94

Interviewer: Do you think you have put a great deal of effort into English?

Student F: Sometimes. I have tried to memorise a lot of vocabulary.

(2nd year, Intermediate English class, PB)

These students also indicated difficulty of retaining new vocabulary. The emphasis on vocabulary memorisation along with frustration can be seen from the student interview selections presented below.

Excerpt 95

Student B: ...I easily forget words that I've learned. I try to memorise words, but I forget them quickly. I memorise them again and forget them again, so I feel very frustrated.

(1st year, Elementary English class, NT)

Excerpt 96

Student D: I have tried my best to memorise vocabulary words, but I keep forgetting. It's really frustrating.

(1st year, Elementary English class, F)

Excerpt 97

Student G: I don't really know how to enhance my reading skills. I just memorise as much vocabulary as I can, but I forget them very quickly.

(1st year, Intermediate English class, PB)

Inappropriate learning approaches might help explain why the students had difficulty of retaining new words. The excerpts below illustrated students' different strategies that might not be effective in terms of the internalisation of vocabulary.

Excerpt 98

Student B: I practice spelling when I hear new English words. I don't know if I spell them correctly. I don't know their meanings either. But I do my best trying to spell them.

Interviewer: Will you look them up afterwards to see if you are right?

Student B: Seldom.

(1st year, Elementary English class, NT)

Student B's strategies did not enhance internalisation of new words he encountered because he neither thought about the word meaning nor checked the word spelling. In other words, student B did not actively engage in constructing understanding. Student I's responses showed another example of an ineffective learning strategy. She said,

Excerpt 99

Student I: I usually set an alarm clock and keep repeatedly writing vocabulary words and trying to memorise them.

Interviewer: Do you think it's useful to develop your vocabulary?

Student I: Umm...to be honest, not really. Somehow I quickly forgot the words I tried to remember.

(1st year, Elementary English class, NT)

Student I seemed to focus on rote repetition and was passively receptive to new words. As Chamot (2005) has argued, rote repetition strategies have been **found to be** less effective in terms of vocabulary retention. Brown (2001) also suggests that when vocabulary items are seen as a long list of unrelated words, these new words are unlikely to be internalized for later recall. Oxford (1990) argues that memory-related strategies can be useful for language learning, but they should involve deep

processing such as relating new words to other known words; otherwise, relatively poor transfer of knowledge is likely to occur. Student H's quotation below seemed to support the view of these authors. She said,

Excerpt 100

Student H: But perhaps I have never found right ways to study English. I memorise a lot of vocabulary items but have no idea how to use them. I'm not so sure how to use them in sentences.

(3rd year, Elementary English class, F)

Student I had a similar view shown in the following account:

Excerpt 101

Student I: I don't know how to study English. The only way I know is to memorise as many as English vocabulary words as I can. Many English grammatical rules are very confusing. I don't know how to study grammar.

(1st year, Elementary English class, NT)

The students' responses above indicated that students seemed not to have sufficient knowledge of appropriate learning approaches and needed to be guided towards a more efficient use of language learning strategies. The students' view seemed to be in line with the view of Struyven et al. (2005) who argue that students are often not provided with sufficient guidance about optimum approaches to learning when dealing with a given academic task. Biggs (1996) also suggests that students do not know how to use appropriate approaches to learning, especially deep approaches, unless they are taught. Similarly, Chamot (2005) also indicates that strategies can be taught and students need to be taught to become better language learners.

When examining all students' responses above, one can notice that vocabulary learning seemed to play an important part in students' English learning process. It

could be (1) because students perceived that memorising vocabulary was the only method that they knew to improve English, as student I mentioned earlier, or (2) due to the influence of students' perceived assessment requirements. If memorizing or reproducing is sufficient for students to succeed in assessment tasks, students are likely to take a surface approach to learning (Lublin, 2003). Student A's quotation below reflects such an approach:

Excerpt 102

Student A: Yes, as long as we followed the teacher's way to study English, it's easy to get a high score. You just needed to memorize what the teacher had told you. If the teacher said something was important, like a grammatical rule, you memorized it. The teacher even told you which words would be tested!

(1st year, Intermediate English class, PA)

Student A perceived the nature of the classroom-based assessment as encouraging memorization, and thus surface approaches to learning were likely to be adopted. Many studies have supported the links between students' awareness of the nature of assessment methods and their approaches to learning (Dart et al., 1999; Trigwell et al., 1999; Ramsden, 1992).

Shohamy et al. (1996) also indicate that the skills tested might influence students' learning behaviour. The students' response in the interviews seemed to support this indication, as the following excerpt illustrated:

Excerpt 103

Interviewer: You said you might take the TOEIC again before you graduated. The TOEIC includes only listening and reading sections. {Yes} Will you try to enhance your writing and oral skills even though they are not tested?

Student C: Umm...I don't think so.

(2nd year, High-intermediate English class, PB)

The same responses were shared by several other students interviewed. The finding revealed that students were likely to only focus attention on the skills tested in the English exit exam. Since only listening and reading skills were tested, students would be pushed to practice many questions addressing only these two receptive skills (Chu, 2009), as student C said in the interview,

Excerpt 104

Interviewer: Does it mean that you will tend to focus on only reading and listening skills?

Student C: Yes. And, there are many books that I can practice with.

Interviewer: What do you mean by “many books”?

Student C: Like, exam books or previous exam papers. You can find many of them in the library.

(2nd year, High-intermediate English class, PB)

It is also found that the perceived lack of external resources might also affect students’ learning behaviour. For instance, student E’s account might explain why some students did not attempt to improve speaking and writing skills.

Excerpt 105

Student E: Umm... I don’t know how. I mean I need a teacher who can edit my writing and I don’t know how to practice my speaking.

(2nd year, Intermediate English class, PA)

To sum up, when students were asked about how they usually studied English in general, most of them, regardless of their English proficiency or other individual differences, turned their attention to vocabulary learning. The focus of vocabulary learning might be due to students’ insufficient knowledge of appropriate approaches to learning and teachers’ inappropriate assessment methods that encouraged superficial learning processes.

CHAPTER SEVEN

LOGISTIC REGRESSION

This chapter is aimed to answer the fourth research question, posed in Chapter One and repeated as follows:

4. *Which variable(s) can better predict students' pass/ fail outcomes on the English exit exam?*

A direct logistic regression analysis was performed on test status as outcome. The independent variables included student characteristics (gender, year of study, discipline, and levels of English classes), perception of the English graduation benchmark policy (approval of the policy and test anxiety) motivational regulations (intrinsic, external, introjected, and identified regulations), achievement goals (performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance goals), and approaches to learning (deep and surface approaches). After deletion of 25 cases with missing values from the data file, 666²⁰ students were available for analysis.

Six cases with ZResid values were found over 2.5. Pallant (2011) notes that such cases are regarded as outliers and suggests that cases such as these might need to be removed from the data file. Following Pallant's suggestion, the three cases (case numbers 250, 319, and 407) with values above 9 were excluded from the subsequent analyses. A test of the full model versus a *constant only model* was statistically significant, $\chi^2 (22, N= 663) = 420.92, p < .001$, indicating that the model was able to distinguish between students who passed and those who failed. The model as a whole

²⁰ Students who had not taken the test were excluded from the subsequent analysis.

explained between 53.8% (Cox & Snell R Square) and 75.2% (Nagelkerke's R squared) of variance in passing the English exit exam.

The chi-square value for the Hosmer-Lemeshow Test was 1.971 with a significance level of .982, indicating support for the model. The model was able correctly to classify 96.3% of those who passed the English exit exam and 73.3% of those who failed, for an overall success rate of 90.1%. The classification table is presented in Table 7.1 (see Appendix U for other selected output yielded from this procedure).

Table 7.1 Classification Table

		Passed		Percentage Correct
		0 No	1 Yes	
Passed	0 No	136	40	77.3
	1 Yes	14	355	96.3
Overall Percentage				90.1

None of the independent variables in this analysis had a standard error larger than 2.0, and thus no multicollinearity or other numerical problems was evident (Pallant, 2011). The variables test anxiety, year, discipline, and English class level made a statistically significant contribution to the model when employing a .05 criterion of statistical significance. The variable test anxiety ($\chi^2(1, N = 663) = 23.47, p < .001$) made a statistically significant contribution to the model. The odds ratio for test anxiety was .312, which implies that the more test anxiety a student experienced, the less likely he/she would pass the English exit exam. For each extra point increase on the six-point test anxiety scale, the odds of him/her passing the exam decreased by a factor of .30, all other factors being equal.

The variable Year was dummy coded using Year 4 as the reference group. Only

Year 2 was the significant predictor, ($\chi^2(1, N= 663) = 6.39, p = .011$). The odds ratio of 8.50 indicated that 2nd year students were over 8 times more likely to pass the exam than 4th year students, controlling other factors in the model. The variable Discipline was also dummy coded, using Management as the reference group. Only Humanities and Social Sciences was the significant predictor, ($\chi^2(1, N = 663) = 4.06, p = .044$). The odds ratio of 2.73 indicated that Humanities and Social Sciences students were over two times more likely to pass the English exit exam than Management students, when eliminating any overlap between predictors. The variable Level was also dummy coded, using high-intermediate level as the reference group. Level 1 (i.e., elementary level) was the significant predictor, ($\chi^2(1, N = 663) = 26.88, p < .001$). An inverted odds ratio of .012 indicated that the odds of passing the English exit exam for students in high-intermediate English classes were 83.3 times higher than for students in elementary English classes, with all other factors being equal.

According to Chinn (2000, as cited in Tabachnick & Fidell, 2007, p. 463), the odds ratio can be interpretable as an effect size through the conversion from d ($=\ln(\text{odds ratio})/1.81$) to η^2 ($=d^2/d^2+4$). The estimates of the effect sizes for Year 2, Humanities and Social Sciences, elementary level, and test anxiety, were .33, .07, .60, and .09, respectively.

Table 7.2

Logistic Regression Predicting Pass/Fail Status

		Variables in the Equation					95% C.I. for EXP(B)		
Step 1 ^a		B	S.E.	Wald	df	Sig.	Exp(B)	Lower	Upper
<i>Perception</i>	Approval of the policy	.039	.246	.026	1	.873	1.040	.643	1.683
	Test anxiety	-1.164	.240	23.468	1	.000	.312	.195	.500
<i>Motivational regulations</i>	Intrinsic	-.438	.258	2.889	1	.089	.645	.389	1.069
	External	-.233	.212	1.210	1	.271	.792	.522	1.200
	Introjected	-.153	.241	.405	1	.524	.858	.535	1.375
	Identified	.063	.250	.064	1	.800	1.065	.653	1.738
<i>Achievement goals</i>	Performance-approach	.121	.202	.359	1	.549	1.129	.759	1.679
	Mastery-approach	-.180	.241	.561	1	.454	.835	.521	1.339
	Performance-avoidance	-.323	.211	2.360	1	.124	.724	.479	1.093
	Mastery-avoidance	.139	.239	.340	1	.560	1.149	.720	1.835
<i>Approaches to learning</i>	Deep	-.454	.352	1.668	1	.196	.635	.319	1.265
	Surface	-.371	.227	2.679	1	.102	.690	.442	1.076
<i>Year</i>				21.412	3	.000			
	Year 1	.271	.833	.106	1	.745	1.311	.256	6.711
	Year 2	2.140	.846	6.394	1	.011	8.503	1.618	44.676
	Year 3	.949	.893	1.129	1	.288	2.584	.449	14.882
<i>Gender</i>	Female	-.032	.440	.005	1	.941	.968	.409	2.294
<i>Discipline</i>				13.024	4	.011			
	Science & Engineering	-.956	.537	3.171	1	.075	.385	.134	1.101
	Design	-.622	.528	1.387	1	.239	.537	.191	1.511
	Informatics	-1.090	.613	3.162	1	.075	.336	.101	1.118
	Humanities & Social Sciences	1.004	.499	4.058	1	.044	2.730	1.027	7.253
<i>English class level</i>				40.818	2	.000			
	Elementary	-4.424	.853	26.878	1	.000	.012	.002	.064
	Intermediate	.141	.553	.065	1	.799	1.151	.389	3.402
Constant		10.506	2.357	19.869	1	.000	36545.146		

a. Variable(s) entered on step 1: Approval, Anxiety, Intrinsic, External, Introjected, Identified, Approval, PAp, MAp, PAv, MAV, Deep, Surface, Gender, Year, Discipline, Level.

Validation of the result

According to Hair et al. (2006), “[b]y examining the hit ratio for the holdout sample, the researcher can assess the external validity and practical significance of the logistic regression model” (p. 377). Following Hair et al.’s suggestion, the data set was randomly split into a 80% analysis sample and a 20% holdout sample. The probability for the model chi-square (312.328) testing overall relationship was $< .001$. The regression of the analysis sample also produced the same subset of predictors produced by the model of the full data set. The classification accuracy rate of the holdout sample was also expected to be no more than 10% lower than the accuracy rate for the analysis sample (Schwab, n.d.). Since the accuracy rate for the analysis sample was 89.1%, the minimum requirement for the holdout sample should be 80.19% ($0.90 \times 89.1\%$). The results show that the accuracy rate for the holdout sample was 94.9%, indicating that the criteria for classification accuracy was satisfied (see Appendix U for relevant tables). The classification table is presented in Table 7.3.

Table 7.3 Classification Matrix (80-20 split-sample)

	ANALYSIS SAMPLE			HOLDOUT SAMPLE			
	Passed		Percentage Correct	Passed		Percentage Correct	
	0 No	1 Yes		0 No	1 Yes		
Passed	0 No	102	34	75.1	35	6	86.2
	1 Yes	14	286	95.4	0	69	100.0
Overall Percentage				89.1			94.9

The use of 70-30 split-sample validation (see Appendix U) also supported the interpretation of overall relationship, $\chi^2 (22, N= 663) = 294.531, p < .001$, and classification accuracy of the model (90.6% for the analysis sample; 86.2% for the holdout sample). The classification table is presented in Table 7.4.

Table 7.4 Classification Matrix (70-30 split-sample)

	ANALYSIS SAMPLE			HOLDOUT SAMPLE			
	Passed		Percentage Correct	Passed		Percentage Correct	
	0 No	1 Yes		0 No	1 Yes		
Passed	0 No	95	24	79.8	43	13	76.8
	1 Yes	11	243	95.7	11	105	90.7
Overall Percentage				90.6			86.2

The regression of the analysis sample also produced the same subset of predictors produced by the model of the full data set. In other words, the results of 80-20 and 70-30 split sample validation indicate that the interpretation of the model using the full data set was supported.

The results of logistic regression indicated that demographic variables seemed to significantly enhance prediction of outcome. A model without demographic predictors was also performed (see Appendix U). A test of the full model versus a *constant only model* was also statistically significant, χ^2 (12, N= 679) = 229.469, $p < .001$, indicating that the model was able to distinguish between students who passed and failed. Four of the independent variables were found to be statistically significant (i.e., external regulation, introjected regulation, deep approaches, and surface approaches). However, the Cox & Snell R Square and the Nagelkerke R Square values decreased from .54 to .34 and from .75 to .47, indicating that the amount of variation explained by the model was decreased (Pallant, 2011). The overall success rate also decreased from 90.1% to 81.3%. This implies that although two predictors (external and introjected regulation) from the motivational set and both approaches to learning (deep and surface) could predict test status, the demographic predictors (year, discipline, and English class level) made a much more statistically significant contribution to the model.

CHAPTER EIGHT

DISCUSSION AND CONCLUSION

In this chapter, the analysis and findings from Chapter Four to Seven are integrated to answer the four research questions. Some important findings will be further discussed in the later sections of this chapter. Just to repeat, the findings are mainly examined through the lens of self-determination theory (SDT; Deci & Ryan, 2000) and achievement goal theories (Elliot, 1999; Elliot & McGregor, 2001). Some theoretical and pedagogical implications for this technological university in central Taiwan are addressed, followed by the limitations of the present study and suggestions for future research.

Discussion of the results and analysis

The following section presents an integrated report answering four research questions.

Research Question One:

How is the English graduation benchmark policy perceived by technological university students and teachers? To what extent are the variables of gender, year, discipline, English proficiency, and test status related to students' perception?

The survey data revealed that students and teachers in general supported the English graduation benchmark policy. Both expressed very similar views. For instance, they perceived that the policy would enhance motivation for learning and improve students' English abilities, the status of international language tests (e.g., TOEIC; Test of English for International Communication) was perceived higher than locally-developed general English proficiency tests (e.g., CSEPT; College Student English Proficiency Test), and official English certificates were in general perceived important and useful for job hunting or better employment opportunities.

Student characteristics, such as gender, year of study, academic discipline, English proficiency, and test status, were found to be related to students' perception of the policy. More specifically, the females displayed more positive attitudes towards the policy than the males, while the males reported a higher level of test anxiety than the females in a high-stakes testing situation. With regard to year differences, 1st and 2nd year students reported a higher level of approval of the policy than 3rd year students; furthermore, they also reported a lower level of test anxiety than 3rd and 4th year students. As for disciplinary differences, Management students were more likely to support the policy than either of the other four discipline groups (i.e., Science and Engineering, Design, Informatics, and Humanities and Social Sciences). No difference was found across five different discipline groups in terms of their test anxiety. With regard to English proficiency differences, as expected, students in elementary (E) English classes were less likely to support the policy and showed more test anxiety than those in intermediate (I) and high-intermediate (HI) English classes. Finally, for test status differences, groups PA (students who passed the exam before university) and PB (students who passed the exam after university) were more likely to support the policy than groups F (students who failed the exam) and NT (students who had not taken the exam yet). The F group also showed a higher level of test anxiety than the NT group.

Although the differences between the groups above-mentioned were statistically significant, only two group comparisons generated an effect size that reached large effect: (E) versus (I), and (E) versus (HI) in terms of test anxiety; and only four group comparisons that obtained medium effect sizes: (E) and (I), (E) versus (HI), and PB versus F in terms of approval of the policy, and year 3 versus year 1, year 4 versus year 2, and (I) versus (HI) in terms of test anxiety.

The findings of the group differences above were not surprising. For instance,

higher year students (years 3 and 4) were expected to experience more test anxiety than lower year peers (years 1 and 2) under the policy because the former were assumed to face more immediate negative consequences than the latter. 3rd year students who failed the external English exit exam were required to take make-up measures (i.e., summer courses and/or internal exam), and 4th year students who failed both the external English exit exam and make-up measures might not graduate on time. Management students were also expected to respond to the policy more positively than others although the magnitudes of the group differences tended to be small. Many businesses in Taiwan had included an official certificate of English proficiency, such as the TOEIC or the GEPT, as a prerequisite requirement for job seekers (Pan, 2009b), and thus it is assumed that many business-related majors would show a stronger desire to perform well on the exam to gain better job opportunities.

As expected, students in elementary English classes and those who failed reported higher test-induced fear and less support for the policy than those in intermediate and high-intermediate English classes and those who passed the benchmark, respectively. However, it is important to note that the former reported a mean score high at 4.06 and 4.12, respectively, on a 6-point scale in terms of the approval measure. The finding indicated that these lower-performing students' attitudes towards the policy were positive (although they experienced a relatively high level of test anxiety).

The implication here is that students with poor English skills should not be assumed to always negatively respond to high-stakes testing policies (Roderick & Engel, 2001). As Roderick and Engel (2001) have noted, a variety of factors might (in)directly affect students' attitudes or perceptions of a high-stakes test. In this case, the perceived instrumental value of the English exit exam might play an important role in promoting students' approval of the policy. According to the interview data,

students with low English abilities were concerned about the negative consequences of failing the English exit exam (e.g., denial of university's degree), but they were also worried about the negative consequences of possessing no official certificate of English proficiency (e.g., lack of better job opportunities). The perceived high value might explain why these low-performing students still held positive attitudes towards the policy although the English exit exam had induced a relatively high level of test anxiety. Besides students who failed, those who already passed the English exit exam also acknowledged the connections between the exam performance and social rewards (e.g., better employment opportunities). Several students' responses also reflected test anxiety, but the anxiety came from their own expectation of success, rather than the standard set by the university.

To help students reduce test anxiety and pass the English benchmark, many supporting measures were provided by the university, such as ability grouping, short-term intensive test preparation courses, and make-up measures (i.e., make-up courses and school-based internal English exit exam). The students interviewed expressed different views about the effectiveness of these measures. For instance, students with lower English abilities seemed to hold more positive attitudes towards ability grouping than those with higher English abilities did. Several lower English achievers claimed that the application of ability grouping improved their motivation and English abilities because they were more optimally challenged. On the other hand, several higher English achievers mentioned that their English classes tended to be easy and their English skills were getting worse after entering university. As for test preparation courses, the students also held different attitudes. Some perceived that they were too test-oriented, and some considered that they were useful to help pass the target test. The students' views about make-up measures seemed to be more consistent; the make-up courses and make-up exam were regarded as necessary and important for at-

risk students, but they did not necessarily result in genuine improvement in learning.

A closer look at the students' interview data shows that although most students perceived that their motivation was enhanced due to the English certificate graduation requirements, they did not invest greater effort in learning English. Many students interviewed admitted that they would only make an effort before taking the English exit exam. This gives rise to the question: Why did the students report an increased level of motivation but exert low effort? Several possible answers are proposed as follows.

First, as Deci and Ryan (1994) have noted, "people can be motivated to learn in more controlled ways or in more self-determined ways" (p.11). The students perceived that their motivation was enhanced, but in fact, it was that the motivation for passing the exam, not for learning English itself, was enhanced, as one of the teachers argued in the interview. Many students claimed that they would only study English hard before the exam and would no longer make any effort at all to improve their English after passing the exam. Their responses indicated an extrinsic orientation rather than an intrinsic orientation. Ryan and Weinstein (2009) suggest that when students are motivated in more controlled ways, they tend to "exert the least effort required" (p. 226) to attain a specified outcome.

Second, the lack of immediate concerns about the English exit exam and the multiple opportunities to take the exam might also account for students' relatively low effort in responding to the policy. As mentioned in Chapter One, under the policy, the students were allowed to take the English exit exam as many times as they needed over four academic years. For those who kept failing, they could take make-up measures (i.e., make-up courses and an internal make-up exam) to fulfil the English graduation requirements. Due to the lack of an immediate threat along with the offering of make-up measures or "an open backdoor" (Chu, 2009, p.182), the students

were not under imminent pressure and would take their time to prepare for the exam.

Third, students' level of English proficiency could also affect the degree of effort. Some researchers (Midgely et al., 2001; Roderick & Engel, 2001; Ryan & Weinstein, 2009) have argued that if a goal is perceived too difficult to attain, students are likely to withdraw effort because they might feel that they could not meet the test score cut-offs through effort; in a similar vein, if a goal is very easy to achieve, students also lack engagement since no great effort is required to attain success. Their views seemed to be supported by students in the present study. Lower English achievers claimed that they did not know how to prepare for the exam and higher English achievers claimed that they did not have to exert much effort and still could pass the benchmark.

Finally, the difficulty level of the exam might also determine students' amount of effort. The interview data revealed that some students would take the College Student English Proficiency Test (CSEPT) to fulfil the English certification graduation requirements because it was relatively easy to pass. The English teachers interviewed also indicated that the CSEPT would greatly help at-risk students meet the benchmark.

These possible explanations illustrate that the English exit exam itself was not sufficient to motivate students to study harder. Other factors such as the characteristics of the students and the exam could shape students' work effort in response to the policy (Roderick & Engel, 2001; Shohamy et al., 1996)

Research Question Two:

What types of motivational regulations (i.e., intrinsic motivation, external regulation, introjected regulation, identified regulation) and achievement goals (i.e., mastery-approach, mastery-avoidance, performance-approach, and performance-avoidance goals) do students in this technological university report under the policy? To what extent is the same set of variables (i.e., gender, year, discipline, English proficiency, and test status) related to the adoption of regulations and goals?

The second research question examined university students' motivational regulations and achievement goals. The differences between males and females, across four different year groups, across five different discipline groups, across three different English proficiency groups, and across four different test status groups, in terms of their scores on motivational regulations and achievement goals were also investigated. Since the present study had a large sample ($N = 982$), "even very small differences between groups can become statistically significant (Pallant, 2011, p. 210). In this regard, the magnitudes of the difference between groups (i.e., effect size) were also reported in the present study.

When it comes to SDT's motivational regulations, identified regulation was the most likely to be adopted, followed by introjected regulation, external regulation, and intrinsic motivation. The students in the present study reported a very high level of identified regulation ($M = 5.03$, based on a 6-point Likert scale). The high score on identified regulation indicated that the students would choose to study English because it was personally important and useful to obtain an official certificate of English proficiency. The finding was consistent with the interview data. Eight out of nine students believed in the high utility value of an official English certificate with regard to their self-selected goals. However, this finding (i.e., a reported high score on identified regulation in a high-stakes testing situation) was not consistent with SDT's prediction. From the SDT perspective, a high-stakes test with external contingencies

is highly controlling, and thus it should not foster identified regulation, a more autonomous type of motivation. SDT also argues that since strong consequences are attached to test outcomes, students are expected to be pressured or obligated to attain a specified result, and thus they should adopt a more controlling form of motivation, such as external (e.g., to avoid contingent punishments) or introjected regulation (e.g., to avoid internal pressures related to self-esteem) (Ryan & Brown, 2005; Ryan & Weinstein, 2009).

Why did the students in the present study report a higher score on identified regulation than on external and introjected regulations in a high-stakes testing situation? In this context, social impacts of test use (Pan, 2009b) seemed to play a critical role in promoting identified regulation. In Taiwan, taking standardised English proficiency tests and obtaining English certificates had become a national obsession in Taiwan (Lin, 2002) due to the trend of globalization (Huang, 2005; Pan, 2009a, 2009b). Chen and Hsieh (2011) also argued that the MOE's educational policies (as introduced in Chapter One) had officially and greatly promoted the status of the English language and the value of English certificates in Taiwan. Such a social context might account for the university students' high score on identified regulation in the survey.

Introjected regulation was the second most likely to be adopted by the students sampled ($M = 4.12$, based on 6-point Likert scale). According to SDT, introjected regulation is a less self-determined form of extrinsic motivation. When individuals adopt introjected regulation, their behaviours are typically controlled by internal pressures (Ryan & Deci, 2000). Such pressures are usually associated with self-esteem such as feelings of guilt and shame (Kellaghan et al., 1996). The finding from the present study suggested that the students believed that as a good university student, they needed to meet the English benchmark; they would feel bad about

themselves if they failed. In other words, the source of such a belief and control (i.e., passing the graduation requirements) was inside these students.

Since such introjected regulation involves a sense of pressuring and stressful to the self, it is often considered a controlled form of extrinsic motivation (Vallerand & Bissonnette, 1992). However, the students in the present study did not perceive it as a more autonomous form of motivation. According to the survey data, introjected regulation was positively correlated to intrinsic motivation and identified regulation (both are autonomous forms of motivation). The finding is not supported by SDT theorists (e.g., Ryan & Deci, 2000a, 2000b) who propose that introjected regulation should be a controlled form of motivation. Some features of Chinese culture might help explain why the students sampled perceived internal pressure induced by the policy as a more positive force. As Rao (2006) has noted, “Chinese culture is characterised by collectivism, socialization for achievement and high acceptability of power and authority” (p. 494). Similarly, Shih (2008) suggests that students from collectivistic countries, such as Taiwan, tend to strive to obey authorities, to fulfil obligations, and to “act primarily in accordance with the anticipated expectations of others and social norms” (p. 317). Such collective origins might lead more Taiwanese university students to have a stronger sense of obligation to pass the benchmark as a good university student. From this perspective, it can be assumed that Taiwanese students’ introjected forces within themselves (i.e., the internal pressure of passing the benchmark as good university students) were perceived positive because they were consistent with social values and expectations (e.g., obedience and obligations). Such an assumption seems to be supported by the findings of Shih’s (2008) and Chu’s (2008) studies. In her study with a sample of 343 Taiwanese students, Shih (2008) found that introjected regulation as well as intrinsic motivation and identified regulation were positively associated with academic engagement. In Chu’s (2008)

study, introjected regulation was found to be positively related to self-encouragement with regard to English learning. The findings seem to confirm that Taiwanese students' introjected forces within themselves were experienced as more positive than negative.

External regulation, the least self-determined type of extrinsic motivation, received the mean score of 3.90 based on 6-point Likert scale, indicating that students experienced an over-average degree of external pressure under the English benchmark policy. However, such external pressure induced by the English exit exam was not perceived as strong as internal pressure related to contingent self-esteem (i.e., introjected forces). Among four motivational regulations, intrinsic regulation was the least likely to be adopted by the students. The finding seemed to be supported by SDT's prediction that high-stakes testing policies do not foster intrinsic motivation. However, the role of the English benchmark policy in influencing students' intrinsic motivation was unclear. It is possible that the students might have had lower inherent interest in English before entering the university.

The present study found that student characteristics such as gender, year, discipline, English proficiency levels, and test status were related to their adoption of motivational regulations. With regard to gender differences in motivational regulations, the results showed that the females appeared to be more self-determined²¹ than the males. More specifically, the male students were more pressured by external demands to meet the English graduation requirements (*external regulation*). The female students, on the other hand, were more likely to enjoy learning English (*intrinsic motivation*), to identify with the underlying value of the English exit exam (*identified regulation*), and to pass the benchmark in order to protect self-esteem

²¹ A more self-determined motivational profile is referred to as higher intrinsic motivation, higher identified regulation, and lower external regulation (Vallerand, 1997; Vallerand & Ratelle, 2002).

(*introjected regulation*²²). The effect sizes for these differences were somewhere between small and moderate (Hedges' $g = .19 - .47$). The biggest difference was in introjected regulation while the smallest was in identified regulation.

As for year differences in motivational regulations, higher year students seemed to be less self-determined than lower year peers. The survey data revealed that students in years 3 and 4 reported a higher level of external regulation than those in years 1 and 2 (Hedges' $g = .43 - .68$). The finding was not surprising. Higher year students faced a more immediate consequence (e.g., the denial of university's degree) than lower year peers under the policy. The survey data also showed that 1st and 2nd year students reported higher levels of intrinsic motivation (Hedges' $g = .46 - .54$), and introjected regulation (Hedges' $g = .42 - .56$), and identified regulation (Hedges' $g = .29 - .53$) than 3rd and 4th year students.

Disciplinary differences in four different motivational regulations were also found to be significant, but the effect sizes between the discipline groups tended to be small (Hedges' $g = .24 - .36$). The only difference reaching moderate effect size (Hedges' $g = .58$) was in introjected regulation between Management students and Informatics students, indicating that the former were more driven by introjected forces or internal pressures to pass the exam than the latter.

As for English proficiency level differences, students in high-intermediate English classes (HI) reported higher levels of intrinsic motivation and identified regulation than those in intermediate (I) and elementary English classes (E). Students in (E) showed a higher level of external regulation than those in (I) and (HI). The effect sizes between students in (E) and those in (HI) in terms of external regulation and intrinsic motivation and between students in (E) and those in (I) in terms of

²² Just to repeat, according to SDT, introjected regulation is regarded as a less self-determined type of extrinsic motivation, but the students in the present study perceived it as a more self-determined form.

external regulation were found to be relatively large (Hedges' $g = 1.43, 1.25, \text{ and } .84$, respectively). The finding seemed to support Deci and Moller's (2005) view that one's competence is related to their motivationally regulated behaviours. For instance, the authors argue that competence is critical to foster intrinsically motivated behaviours. In this case, intrinsic motivation and identified regulation appeared to be positively related to students' English proficiency, while external regulation negatively related to students' English proficiency.

Finally, with regard to test status differences in motivational regulations, the PB group (students who passed the English exit exam before university) was more intrinsically motivated than the other three groups. The statistically significance differences received somewhere between moderate and large effect sizes (Hedges' $g = .66 - 1.00$). The interview data seemed to be in line with this finding. All of the three PB students interviewed indicated their interest in English. Two of them claimed that they would engage in different English activities for pleasure. The students from the other three groups did not indicate any in their interviews. The differences in intrinsic motivation and external regulation between the groups PB and F group (those who failed) received large effect sizes ($1.00 > \text{Hedges' } g$), confirming that students' English abilities played an important role in determining their motivational regulations.

Students who failed the exam and those in elementary English classes showed an interesting pattern. These two groups of students reported similar levels of identified regulation ($M = 4.75$ and 4.67 , respectively, based on 6-point Likert scale) and external regulation ($M = 4.42$ and 4.61 , respectively). According to SDT, identified regulation and external regulation represent two different forms of extrinsic motivation: the former is more self-determined while the latter is more controlling (Deci & Ryan, 2000). The finding indicated that these students were regulated by

mixed types of extrinsic motivation: they wanted to pass the exam because it was personally important for their self-selected goals (*identified regulation*), but at the same time they also felt pressured to meet the policy in order to graduate (*external regulation*) due to their poor English abilities. The implication here is that students' need for competence has to be satisfied. As Deci and Moller (2005) and Rigby et al. (1992) have suggested, individuals are likely to be more and more externally regulated if the goal is too difficult to attain although it is regarded as important and valued.

The next sections discussed the types of achievement goals (i.e., performance-approach, mastery-approach, performance-avoidance, and mastery-avoidance goals) that university students adopted in a high-stakes testing context. The group differences were also examined.

The students surveyed in general scored higher on mastery goals than performance goals, indicating that students were more concerned about developing their English skills or abilities than outperforming their peers. The interview data with students provided two explanations. First of all, the university's ability grouping practices (i.e., students with similar English abilities were placed together) might help explain students' relatively high score on mastery-approach goals. As found in the interview data, students with lower English abilities tended to favour ability grouping. They claimed that their motivation for learning was increased because the learning materials and tasks were neither too difficult nor too easy. As a result, they would pay much more attention to their English teacher and also attempted to understand the materials and accomplish the given tasks. The second explanation is that although students reported a relatively high score on mastery-approach goals, the reasons behind their desire to develop English skills were not necessarily autonomous or self-determined. The reasons were found to be varied. They might be intrinsic (e.g.,

personal growth), extrinsic (e.g., show off), or instrumental (e.g., better jobs).

An interesting finding regarding performance-approach goals was worth discussing. The survey data showed that students reported an over-average score slightly above the middle of the performance-approach goal scale ($M = 3.67$, based on a 6-point Likert scale), but the interview data suggested that the students had little or no desire to outperform their peers. The inconsistent results might be due to “now-that-you-mentioned-it effect” (Urduan & Mestas, 2006, p. 355). Urduan and Mestas (2006) argue that if students are asked to directly respond to goal items from a questionnaire, they would indicate their agreement on these items; however, if students are asked to freely produce any goal-related statements, mastery and performance goals are rarely indicated. Urduan and Mestas (2006) also note that “researchers may overestimate the natural occurrence of mastery and performance goals” (p. 355) in achievement-related settings. Several open-ended studies of goals also confirmed their view. In Elliot’s study (2009, as cited in Remedios, 2009), students were asked to generate reasons why they would study hard in school. The results showed that the reasons that students gave were mainly related to a utility orientation (e.g., obtaining a good job). A study conducted by Lemos (1996) also did not find that students’ goal-related responses contained a desire to do better than others. In line with Urduan and Mestas’s (2006), Elliot’s (2009) and Lemos’ (1996) studies, the present study produced similar findings. When being asked about why they might want to do well on the English exit exam, the majority of the students in the present study indicated an utility orientation (of having better job opportunities); several students indicated a desire to appear able to others; and one student wanted to avoid being looked down on by others. The statements that the students gave did not indicate a desire to do better than others. The interview results indicated that performance-approach goals did not play an important role in high-stakes testing

situations.

Students' characteristics such as gender, year, discipline, English proficiency, and test status were found to be related to their adoption of particular achievement goals, although differences were not impressive. The results for gender differences showed that the female students were more likely to adopt performance-approach goals than the male students, indicating that the females were more concerned about outperforming their peers on the exam than the males. The magnitude of the difference was close to medium (Hedges' $g = .43$). The results also showed that the females reported a higher level of mastery-approach goals than the males, but the actual difference between the groups was small (Hedges' $g = .20$), indicating that the females were only marginally more interested in developing English skills than the males.

As for year differences in the adoption of achievement goals, higher year students (years 3 and 4) seemed to be more likely to adopt performance-avoidance goals than lower year peers (years 1 and 2) under the English benchmark policy. The finding is not surprising. It was assumed that higher year students were experiencing more immediate pressure under the policy, and were thus likely to be more concerned with the contingent negative consequences attached to the English exit exam (such as taking summer make-up courses/make-up exams or not being able to graduate on time). The differences received somewhere between small and moderate effect sizes (Hedges' $g = .33$ -.42).

With regard to disciplinary differences, only two group differences were found to be statistically significant in performance-approach goals, which were: (1) Management students versus Informatics students, and (2) Management students versus Humanities and Social Sciences students). Although reaching statistical significance, both differences received small effect sizes (Hedges' $g = .29$ and $.23$,

respectively), indicating that Management students were only slightly more concerned about outperforming others than Informatics students and Humanities and Social Sciences students.

As for English proficiency differences, no statistically significant differences were found in terms of mastery-based goals, indicating that regardless of their English levels, the students showed a desire to improve their English skills and abilities. Different patterns emerged with respect to performance-based goals. Students in elementary English classes were more likely to adopt performance-avoidance goals than those in intermediate and high-intermediate English classes. The latter, on the other hand, were more likely to adopt performance-approach goals than the former. An inspection of the size effects revealed that the magnitudes of group differences in performance-avoidance goals were relatively bigger (Hedges' $g = .60$ and $.91$, respectively) than those in performance-approach goals (Hedges' $g = -.28$ and $-.41$, respectively). The finding indicated that students with lower English abilities were much more concerned about avoiding failure than those with higher English abilities.

Finally, in terms of test status differences, the PB group (students who passed the English exit exam before university) reported a higher level of performance-approach goals and a lower level of performance-avoidance goals than either of the other three groups, indicating that the PB group was more motivated by the desire to do better than their peers and less concerned about avoiding performing poorly. The differences between the groups in performance-avoidance goals (Hedges' $g = .45 - .85$) were on average bigger than in performance-approach goals (Hedges' $g = .26 - .36$). As might be expected, the F group (students who failed) displayed opposite patterns from the PB group. The difference between these two groups in performance-avoidance goals received a large effect (Hedges' $g = .85$). The findings seemed to echo the view of some achievement goal theorists that performance-avoidance goals are typically

linked with poorer test outcomes (e.g., Elliot & McGregor, 2001).

To sum up, the students in the present study in general showed positive motivational responses to the English graduation benchmark policy. Relatively high levels of identified regulation and mastery-approach goals were reported, indicating that the students had identified with the value of the English exit exam and had a desire to develop or improve their English proficiency. The results also indicated that high-stakes testing policies might not be always negatively associated with students' motivation for learning. Under some circumstances, the policies could inspire some positive motivated behaviours as Roderick and Engel (2001) had argued. In this context, the match among the English graduation benchmark policy, social impact of test use (i.e., social needs), and students' self-selected goals seemed to greatly contribute to students' self-determination and willingness to improve English.

Another important finding here is that one's English competence seemed to play a more important role in determining students' motivational regulation and adoption of achievement goals. Students who failed the exam or those in the elementary English classes showed relatively high levels of external regulation and performance-avoidance goals, indicating that these lower-performing students were more pressured and controlled by the English exit exam than their peers. The finding confirms SDT's perspective that students' need for competence has to be satisfied (Deci & Moller, 2005). Achievement goal theories also argue that if students do not have the skills required, they are likely to adopt an avoidance focus and take more self-protective strategies such as withdrawal of effort (Dweck, 2002; Elliot et al., 2002; Midgely et al., 2001).

Research Question Three:

What types of approaches to learning do students in this technological university report under the policy? To what extent is the same set of variables (i.e., gender, year, discipline, English proficiency, and test status) related to the adoption of approaches to learning?

Previous research on learning in higher education (e.g., Scouller, 1998) has illustrated the link between the use of surface approaches to learning and multiple choice question exams. In this context, the standardised English proficiency tests, adopted as an English exit exam, are mainly in the form of multiple choice questions, and thus it was predicted that surface approaches would be more likely to be adopted. However, the students overall reported a higher score on the deep approach measure. The result is somewhat puzzling. According to SDT, controlling evaluation conditions (e.g., high-stakes testing) usually promote more superficial forms of learning (Ryan & Brown, 2005; Ryan & Weinstein, 2009). Achievement goal theories also suggest that an outcome-focused learning environment tends to lead more students to adopt performance goals which are often associated with surface approaches (Elliot & McGregor, 2001; Elliot & Moller, 2003; Midgely et al., 2001).

Although the result drawn from the present study was not consistent with the previous empirical research as well as not supported by SDT and achievement goal theories, it was in line with the other findings in the present study. As discussed earlier, the students sampled were likely to adopt identified regulation and mastery-approach goals than other types of regulations and goals, respectively. Identified regulation, a more self-determined type of extrinsic motivation (Grolnick & Ryan, 1987; Ryan & La Guardia, 1999) is usually positively associated with deep approaches to learning, and so were mastery-approach goals (Ames, 1992; Elliot & McGregor, 2001; Grant & Dweck, 2003), and thus it may not be surprising to see the

students reported a higher level of deep approaches than surface approaches.

Student characteristics, including gender, year of study, academic discipline, English proficiency, and test status, were also found to be related to students' adoption deep approaches than the males, while the males tended to adopt surface approaches than the females, but the actual differences tended to be small (Hedges' $g = .21$ and $.28$, respectively). No year difference was found in terms of deep approaches, but 3rd year students were found to be more likely to adopt surface approaches than 1st and 2nd year students although the effect sizes were not impressive either (Hedges' $g = .33$ and $.29$, respectively). As for academic discipline differences, Science and Engineering students were more likely to adopt surface approaches than Design students and Humanities and Social Sciences students. The effect sizes obtained were somewhere between small and medium (Hedges' $g = .37$ and $.38$, respectively). With regard to English proficiency differences, every one of the group differences was significant. Generally speaking, students with higher English proficiency levels reported a higher level of deep approaches while those with lower English proficiency levels reported a higher level of surface approaches. As expected, the group differences between students in elementary English classes and those in high-intermediate class were larger than other group differences; the effect sizes received were somewhere between medium and large (Hedges' $g = .71$ and $.77$ for deep approaches and surface approaches, respectively). Finally, with regard to test status differences, the PB group (students who passed the exam before university) was more likely to adopt deep approaches than the other three groups, while the F group (students who failed the exam) was more likely to adopt surface approaches than others. The magnitudes of the differences between the groups above-mentioned were somewhere between small and moderate. Only one group comparison received a moderate effect size, that is, PB versus F (Hedges' $g = .52$ and $.61$ for deep

approaches and surface approaches, respectively).

The survey data and interview data with respect to students' approaches to learning seemed to produce mixed results. The survey data showed that students who already passed the English exit exam or those in high-intermediate English classes were likely to adopt more deep approaches than surface approaches, while those who failed or those in elementary English classes tended to employ more surface approaches than deep approaches. However, when asked to describe how they usually studied English or prepared for the English exit exam in their interviews, seven out of nine students mentioned surface approaches (i.e., rote memorization for vocabulary learning). The finding indicated that most students, regardless of their test status or English proficiency levels, seemed to employ more surface strategies in their English learning process.

From this perspective, the survey data and interview data in the present study seemed to conflict, but actually they were not. As Shapiro (1973, as cited in Patton, 2002) has argued, some conflicts between qualitative data and quantitative data are often because they end up focusing on different things. When responding to the survey questions, the students reflected back on the ways they usually did in their English studies in general; however, in the interviews, the students turned their attention to focus on only one specific language domain, that is, vocabulary learning. As Marton and Säljö (1976) have argued, students are likely to adopt different approaches to learning while tackling different tasks. In this regard, it is possible that the students, especially those who already passed the English exit exam or those in higher level English classes, did employ deep processing strategies in learning English in general, but tended to take surface approaches such as repetition strategies in vocabulary learning.

A re-examination of the interview data revealed two reasons that might result in

students' exerted effort into developing vocabulary: (1) insufficient knowledge of appropriate approaches to learning, and (2) the influence of classroom-based assessment. Many students claimed that they were not sure or did not know how to study English in more effective ways. They claimed that they needed external support with grammatical rules, writing skills, and oral skills, but they could manage their vocabulary learning. As a consequence, rote memorization appeared to be a typical way to learn English among these students. However, there are many memory strategies that are more effective to help students recall or retain what has been learned, such as relating new words to other known words (Oxford, 1990). An important implication here is that students have the need to be taught about appropriate and effective approaches to learning. As Biggs (1996) and Chamot (2005) have argued, learning strategies can be taught and students need to be taught, especially about deep approaches to learning, to become better language learners.

In addition to students' insufficient knowledge of appropriate learning approaches, teachers' assessment methods seemed to affect how these students learnt. Results of interviews with students revealed that when students perceived memorization was encouraged by their English teacher as well as sufficient to get high scores on classroom-based English tests, they tended to invest more time on rote learning or mechanical memorization. The finding echoed what Trigwell et al. (1999) and Scouller (1998) have concluded about relations between students' approaches to learning and their teachers' approaches to teaching and assessment methods.

Research Question Four:

Which variable(s) can better predict students' pass/ fail outcomes on the English exit exam?

The results of the direct logistic regression analysis were not expected. It was hypothesized that variables of motivation and approaches to learning would predict pass/fail outcomes. However, the results indicated demographic predictors (year, discipline, and level of English) made a more statistically significant contribution to the model. A model without demographic predictors was also performed. The results indicated that four of the independent variables (i.e., external regulation, introjected regulation, deep approaches, and surface approaches) were statistically significant. However, although the model without demographic predictors was also able to distinguish between students who passed and failed, the amount of variation explained by the model and the overall success rate were found to be decreased. The findings implied that although students' particular motivational regulations and approaches to learning could predict test outcomes, these variables seemed not as influential as students' background differences.

Theoretical Implications

Self-determination theory (SDT; Deci & Ryan, 1985; Ryan & Deci, 2000) and achievement goal theories (Elliot & McGregor, 2001) are applied to examine students' motivational responses to a high-stakes testing policy. Researchers (Anderman et al., 2010; Ryan & Brown, 2005; Ryan & Weinstein, 2009) have argued that SDT and achievement goal theories are useful in explaining the motivational implications of high-stakes testing movement. However, the present study found out that these two families of motivation theories might not be able to fully capture the students' motivational responses to the English graduation benchmark policy.

Two findings regarding SDT stood out. One is that the distinction between identified regulation (relatively autonomous) and external regulation (relatively controlled) was not clear. As Pintrich and Schunk (1996) have argued, SDT still has “[m]any points...[that] are not clearly specified” (p. 273). As mentioned in Chapter Four, one student claimed that he tried to reach a score of at least 550 on the TOEIC because he wanted to get a job in a big company. It is difficult to distinguish which regulation the student adopted. This student might have identified regulation because working for a big company was his self-selected goal and it was personally important; thus, he chose to study and wanted to achieve the goal. However, the student might be also externally regulated because obtaining TOEIC 550 was a prerequisite requirement if he wished to work in a big company; in this case, the student had no choice but to study hard. Such overlap between identified and external regulations indicated that SDT’s continuum underlying types of extrinsic motivation might be still too ambiguous.

The other finding standing out was that introjected regulation was positively correlated to intrinsic motivation and identified regulation (i.e., more autonomous types of motivation). According to the Ryan and Deci’s SDT model (2000), introjected regulation is regarded as a relatively controlled form of extrinsic motivation because it is primarily motivated by internal pressure related to one’s self-esteem (Deci & Moller, 2005; Ryan & Deci, 2000a). However, the students in the present study perceived the introjected forces within themselves as positive rather than negative. The finding was unexpected but it seemed to be supported by Shih’s (2008) and Chu’s (2008) studies, as mentioned earlier in this chapter, that introjected was positively related to academic engagement and self-encouragement. Shih (2008) suggests that the introjected forces within the students were not perceived as controlled because they were in line with social values and norms (e.g., obedience and

responsibilities). Putwain (2009) also found that Asian students tended to be “motivated to avoid negative judgments from others by living up to their expectations” (p. 402). In their study regarding cross-cultural factors in learning and motivation, Elliot and Resing (2012, p. 852) note that Asian students tend to “feel obligation to honor their parents’ sacrifice by means of their academic achievement”, have “respect for the authority”, and recognize that “education is often a demanding arduous process and does not need to always be fun or intrinsically appealing.” These cultural beliefs influenced by Confucianism might help explain why the students in the present perceived the introjected forces within themselves more positive than negative.

As for the adoption of achievement goals, the students in the present study, on average, reported a higher score on mastery-based goals than performance-based goals in the questionnaire. The result seemed not to be in line with some goal theorists. It is assumed that an outcome-focused environment (e.g., a high-stakes testing situation) tends to foster competitiveness among students, and thus they are usually led to adopt performance goals rather than mastery orientated goals (Midgely et al., 2001). Ryan and Brown (2005) also argue that the high-stakes approach advocates both performance-approach and performance-avoidance goals; in other words, with the presence of contingent rewards and punishments attached to test outcomes, students are expected to be motivated by the desire to demonstrate high performance and by the fear of negative outcomes or failures. From these authors’ point of view, performance is regarded as an outcome. However, a focus on test results does not necessarily lead to a performance goal. The interview data revealed that students had little desire to outperform their peers, but had a greater focus on mastery goals, such as improving their English abilities, in spite of the high-stakes context. Students C and G, for example, said that they wanted to achieve a certain

score on the TOEIC because they wanted to use the test result to judge if they had made progress in English. From this perspective, a high-stakes context might not necessarily lead students to adopt a performance goal, but a self-referenced mastery goal.

In her studies, Shih (2007, 2008) also found out that Taiwanese students had higher scores on mastery-approach goals than they did on other types of goals. She noted,

“Given that Taiwanese students are socialized to value effort and to believe that hard work results in outstanding achievement, they may adopt personal mastery goals to facilitate performance when they perceive an emphasis on outperforming others in the learning context” (2007, p. 24).

In line with Shih (2007), Elliot and Resing (2012) argue that Asian students usually believe in “the importance of demonstrating effort” (p. 852). These authors’ view might help explain why students in the present study, regardless of their English abilities or other student characteristics, reported a relatively high score on mastery-approach goals in a high-stakes testing context.

In addition to the cross-cultural beliefs, students’ motives for pursuing particular goals also depends on the nature of the assessment (Butler, 2006) and the requirements of the situation (Barron & Harackiewicz, 2001). In order to develop a more complete picture of motivation for learning in a high-stakes testing context, cultural, social, and contextual differences have all to be considered (Pan, 2009a, 2009b).

Pedagogical implications

The results of the present study indicate that the implementation of the English benchmark policy for graduation (i.e., the use of standardised English proficiency

tests as an English exit exam) might be worth advocating due to the following reasons.

First, the majority of the students and teachers gave positive motivational responses to the English graduation benchmark policy. They supported the policy, believing that the policy would promote students' motivation as well as English proficiency. Regardless of their individual differences (gender, year of study, academic discipline, English proficiency, and test status), the students reported a relatively high level of identified regulation (a more self-determined form of extrinsic motivation), indicating that these students were willing to study for the English exit exam because of the personal relevance of obtaining an English proficiency test certificate. In this regard, students' studying behaviour could be regarded as relatively volitional. In addition, students reported a higher score on mastery-approach goals than performance-approach goals, indicating that students had a stronger desire to develop English knowledge than outperform their peers.

Second, the interview data revealed that many students felt supported under the policy. These students perceived that the university had invested efforts to help them improve their English proficiency and pass the benchmark by providing many supportive measures, such as ability grouping, English remedial courses, English proficiency test preparation classes, online/multimedia English learning sources, and extracurricular English activities. As Roderick and Engel (2001) have noted, the way students perceived their immediate learning environment, such as the degree of support from schools, could be critical in determining how students responded to the high-stakes testing policy. SDT also suggests that learning under supportive conditions greatly contributes to student motivation for learning (Ryan & Brown, 2005).

Third, the English graduation benchmark policy was able to provide some

informational value. Since the English exit exam could be taken early in the school year, the test results were able to provide students and teachers with some useful diagnostic information in a timely fashion. For instance, the TEOIC test results showed that most students generally performed more poorly on the reading section than the listening section. The GEPT test results also demonstrated that the students' speaking performance were in general unsatisfactory. Furthermore, since the students had repeated opportunities to take the target test before graduation, at-risk students could also be early identified based on their multiple attempts to pass the target test. Such test information not only informed students of their current English performance and their weaker areas, but also helped the university administrators and teachers consider what could be done to improve students' weaker skills, such as reading and speaking.

Fourth, the students were given a certain degree of autonomy under the English graduation benchmark policy. They were allowed to choose one of the recommended English proficiency tests that they regarded appropriate or important for their personal or professional needs. Among all the standardised English proficiency tests, the TOEIC (Test of English for International Communication), CSEPT (College Student English Proficiency Test), and GEPT (General English Proficiency Test) seemed to be more likely to be taken by the students in the present study. Just to repeat, the TOEIC is an international language test for workplace English, while the CSEPT and the GEPT are two locally-developed general English proficiency tests.

Finally, the English graduation benchmark policy seemed to respond to the needs of the students. Most students in the present study appeared to be aware of social impacts of English certification requirements. Eight out of nine students mentioned the usefulness of the standardised English proficiency tests in the job market. Many surveys and reports in the local press seemed to confirm these students' views. In

Pan's (2009b) synthesized report, English proficiency test certificates such as TOEIC and GEPT certificates were often included as a prerequisite requirement for job seekers. The human resources companies in Taiwan, such as 104 Job Bank and 1111 Job Bank, also showed the higher level of English proficiency, the more opportunities for better jobs and higher salaries (Chen & Hsieh, 2011). Given the reasons above, the implementation of English graduation benchmark policy could be worth advocating.

However, despite students' and teachers' overall approval of the policy, some important issues and concerns had been raised and they were worth addressing: (1) not all of the standardised English proficiency tests seemed to be appropriate to be used as an English exit exam; (2) the use of the same standard, regardless of students' starting points and academic background, may be negatively related to some learning behaviours, such as efforts; (3) students' knowledge of appropriate approaches to learning seemed to be insufficient; (4) skills tested in the exam appeared to play an important role in determining students' English learning behaviour; (5) supportive measures for the policy tended to be test-oriented; and (6) students' intrinsic motivation was relatively low. Each issue is further discussed in the following section, followed by some pedagogical implications and suggestions.

To respond to the first issue, the present study argued that the College Student English Proficiency Test (CSEPT), one of the most widely taken tests by the students in the present study, should not be used as an English exit exam. The interview data revealed that some students would choose the CSEPT to fulfil the English exit requirements because it was perceived as an easier standardised English proficiency test. The teachers interviewed also suggested that the adoption of the CSEPT as an English exit exam was likely to increase the passing rate. Since the CSEPT was relatively easy to pass, more students with lower English abilities would be expected to pass the CSEPT and graduate on time. In this regard, the real intentions behind the

establishment of the English benchmark policy were not fully understood by the university authorities, teachers, and students (Chu, 2009). If a test is chosen mainly because it improves the passing rate, neither the test itself nor the policy can be validated (Kane, 2002). Two other concerns of using the CSEPT as an English exit exam are that, first, little research or empirical evidence proves the validity of the CSEPT. The LTTC (2012), the test maker, claimed that CSEPT scores were reliable and valid and could be used as criteria for graduation, but so far had not provided any research evidence that could verify the claims. Second, the CSEPT had relatively low utility value for the job markets, domestically or internationally. Several of the largest online job agencies in Taiwan (e.g., the 104 Job Bank and the 1111 Job Bank) displayed few jobs requiring the CSEPT scores. Few surveys and reports in the local press also suggested that high-performing students on the CSEPT were likely to gain better job opportunities. For these reasons above-mentioned, the CSEPT should not be one of the recommended standardised English tests that students can choose as an English exit exam.

The second pedagogical implication is that, to make the English benchmark policy more meaningful, students' individual differences, such as their starting points and academic backgrounds, have to be considered (Chang et al., 2004; Chu, 2009; Ryan & Brown, 2005). Although most students in the present study perceived that their motivation for learning was enhanced under the policy, the interview data revealed that many in fact did not exert greater effort, indicating that these students might not be truly motivated. One of the possible explanations was that students were not optimally challenged. The interview data revealed that students who already passed the benchmark tended to feel under-challenged because the benchmark was set too low. On the other hand, students who failed the English exit exam felt over-challenged and reported higher levels of test anxiety, external regulation (the least

self-determined type of extrinsic motivation), and performance-avoidance goals (motivated by the desire to avoid failure) than students who passed the benchmark and those who had not taken the exam yet. The survey data also showed that about half of the students did not feel optimally challenged under the policy. These results echoed SDT's theoretical view that a one-size-fits-all assessment can be problematic (Ryan & Weinstein, 2009). This concern was also shared by many Taiwanese researchers and thus some suggestions had been proposed. For example, Chang et al. (2004) suggest that university students' entry level and exit level of English proficiency have to be both considered in a high-stakes testing context. They proposed that students should be placed into different proficiency groups, and then each group could be required to meet the English benchmark which is two levels²³ up from their entry level. To be more specific, if students' entry level of English proficiency is below the elementary level (i.e., Level 4 based on the CLB 2000), their exit level could be set as an intermediate level (i.e., Level 6). Chen (2004, as cited in Chang et al., 2004) argues that such a goal is achievable if students take four to five regular English classes in every academic year.

The suggestion proposed by Chang et al. (2004) might make more students be more optimally challenged under the English graduation benchmark policy. However, it leads to a further question: how to accurately determine students' entry level of English proficiency? At this technological university, an English placement test (only listening and reading skills were tested, and both were in the form of multiple choice question) was used as a single measure to assign students to ability groups. Such a

²³The levels are based on the Canadian Language Benchmarks 2000 (CLB 2000), using Canada's national standard. The CLB 2000 Companion Tables provide detailed descriptions of the 12 CLB levels. They are grouped into three stages: Basic Proficiency (Levels 1-4), Intermediate Proficiency (Levels 5-8), and Advanced Proficiency (Levels 9-12). Please refer to http://www.language.ca/display_page.asp?page_id=550 for more information.

placement decision might assign some students to classes that do not appropriately match their learning level. The assumption was supported by several students in the interviews who claimed that they felt under-challenged in their English class. As Hallinan et al. (2003) have noted, a good fit between a student's abilities and ability group level needs to take many factors into consideration. Students' attitudes towards the placement test can play an important role. Su and Lin's (2009) report showed that 23.8% of the students (who were also from the same technological university sampled in the present study) claimed that they did not take the placement test seriously. It was speculated that these students did not want to do well, so that they would be assigned to a class that was below their English proficiency level and get a high score in the English subject with low work effort.

To ensure that students' entry level of English proficiency is measured more accurately, several measures can be considered. For example, the importance and meaning of the placement test have to be fully realized by the students. The quality of the placement test also has to be ensured. Students' English performance on the College Entrance Exam and/or test outcomes on standardised English proficiency tests (if taken before entering university) could also be considered. More than one measure will more accurately determine students' entry level.

The third pedagogical implication is that appropriate language strategies had to be taught to help students become successful language learners. Results of interviews with students revealed their inappropriate approaches to learning. For instance, rote memorization appeared to be a typical approach that most students used to develop their vocabulary. Many students also claimed that they were aware that their approaches to learning English might have been problematic, such as relying on rote memorization. Biggs (1996) argues that students do not know how to use appropriate approaches to learning, especially deep approaches, unless they are taught. Many

other researchers (Chamot, 2005; Cohen, 1998; Grenfell & Harris, 1999; Oxford, 1990) also argue that explicit strategy instruction can assist students in adopting appropriate approaches to learning, and thus improve their language learning. In this context, strategy instruction should be integrated into the regular English classes. The teachers' ongoing guidance on students' use of strategies will help students learn to select appropriate and effective approaches that can be employed in a high-stakes testing situation. Another important related issue is that teachers should minimize the role of surface approaches in class (Biggs, 1989, 1996). In line with the previous studies (e.g., Marton and Säljö, 1997; Trigwell et al., 1999; Ramsden, 1992), the present study also found a teacher's approach to teaching, assessment methods, and students' perceived learning environment could be strongly related to students' approaches to learning. For instance, one student interviewed perceived that memorizing highlighted key language points (i.e., vocabulary and grammatical rules) would be sufficient to get high scores on class-based assessments, and thus he tended to adopt a more surface approach. Since the teaching context might be greatly related to students' approaches to learning, teachers should pay attention to minimize the role of surface approaches to learning in their teaching practices or assessment.

The fourth pedagogical suggestion is that the tests serving as an English exit exam should cover four language skills. The interview data suggested that skills tested in the exam played an important role in determining students' English learning behaviour. Several students who took the GEPT-Elementary test claimed that it was relatively easy for them to pass the listening and reading components, but difficult to pass the speaking and writing components. As a result, they would choose the standardised English proficiency test without speaking and writing sections, such as the TOEIC or the CSEPT, to satisfy the graduation requirements. It is found that the students focused on only developing listening and reading skills if they chose the

CSEPT or the TOEIC²⁴ (which does not test speaking and writing) as the English exit exam. A similar finding is reported by Chu (2009) who found that the students being required to pass the first stage of the GEPT-Intermediate test (which only assessed listening and reading) tended to overlook the development of speaking and writing skills. However, developing these productive skills can be equally important. Educators and employers from different industries in Taiwan had been voicing their concern about university students' general poor speaking skills (Wu, 2012) and writing skills (Chen & Johnson, 2004). Such a concern was shared by the teachers interviewed. Indeed, even if students are able to perform well on listening and reading components, they might not have equally satisfactory performances on speaking and writing. The MOE's real intentions of encouraging Taiwan's institutions of higher education to implement an English graduation benchmark policy was to help students develop a four-skill foundation and enhance their competitiveness in light of the trend of globalization (Chu, 2009). For these reasons above, an English exit exam should cover all four skills.

Finally, the English exit exam should be aligned with the university's curriculum. Although the university provided many supportive measures for the English certification exit requirements (e.g., test preparation classes, remedial classes, and make-up courses), many were short-term and intensive due to some practical considerations such as funding and resources. As a result, such classes tended to be very test-driven. In the interviews, two teachers claimed that the limited hours of the test-preparation class had forced them to teach directly to the test; that is, a great amount of class time was spent on test-focused instruction and test drilling. Results of

²⁴Although the NEW TOEIC has added speaking and writing sections, they were not part of the English certification exit requirements in this university.

interviews with students also confirmed that such test-preparation courses tended to be test-oriented. In this regard, the supportive measures, especially test-related classes, might raise students' test scores, but not necessarily promote genuine gains in English learning (Ryan & Weinstein, 2009). To minimize negative test impact, an alignment between curriculum and test can be considered (Gulek, 2003; Martone & Sireci, 2009; Mohamud & Fleck, 2010; Pan, 2009a, 2011; Pan & Newfields, 2012). Although alignment raises issues relating to teacher autonomy and institutional independence (Chen & Johnson, 2004), it seems to be supported by many teachers and educators (see Wang et al., 2006 for a review). Martone and Sireci (2009) and Mohamud and Fleck (2010) also argue that proper alignment can facilitate a tight connection between curriculum, assessment (including standardised tests), and instruction so that they can be mutually supportive. As Chen (2003, as cited in Chen & Johnson, 2004) has noted, there is no standardised language curriculum at Taiwan's institutions of higher education, and thus it is difficult to understand what happens in classrooms and to learn about student performance. Some students in the interviews claimed that teaching content, materials, and classroom-based assessments in regular English classes tended to be unchallenging, which partially resulted in their poorer English abilities after university. Although a variety of factors could be related to or contribute to students' (perceived) poorer English abilities, inappropriate teaching could play an important role.

Curriculum alignment not only provides teachers with clearer teaching goals but also "bridges this link between classroom learning and standardised assessment" (Wang et al., 2006, p. 309). Such a connect also gives students clearer information about what to learn in a high-stakes testing context (Wu, 2012). In the present study, students who failed the English exit exam and those in elementary English classes reported a relatively high level of test anxiety, and claimed that they did not know

what to learn under the policy. Higher year students (years 3 and 4), on average, also showed a higher level of test anxiety than lower year peers (years 1 and 2). The match between curriculum and test content, if designed properly, can prepare students for the exam early in their study years so their test-induced fear shall be reduced. In addition, the curriculum can be modified based on students' performance on the English exit exam (Pan, 2009b). As noted earlier, students' scores on TOEIC showed that their reading scores were on average poorer than listening scores. In this case, the future curriculum might need to focus more on the development of reading skills.

Neither of the pedagogical suggestions above-mentioned is an easy task. They all require considerable effort from and collaboration among university authorities, administrators, and teachers. Furthermore, many practical factors also have to be considered, such as teachers' technical knowledge and pedagogical skills. However, to make the policy more beneficial, all of the effort, negotiation, and teacher training are important and necessary.

Limitations and future research

The present study has several limitations that need to be addressed for future research.

First, the present study only employed self-reports (a questionnaire survey as well as semi-structured interviews) to assess students' motivation for learning. Motivation is very complex, especially when it is embedded in a high-stakes testing context (Kellaghan et al., 1996), and thus using self-report instruments is unlikely to fully capture and understand students' motivational processes. Self-report instruments also have some potential problems, such as the mismatch between self-reported information and actual behaviours. Therefore, to obtain richer data regarding student motivation in a high-stakes testing situation, other forms of assessment such as direct

observations and ratings by others (e.g., having teachers rate their students on students' effort, persistence, and achievement) should also be employed (Pintrich & Schunk, 1996).

Second, the present study was conducted at the time when the university had adopted the English graduation benchmark policy for only about three years. Previous studies (e.g., Chu, 2009; Shohamy et al., 1996) have shown that the impact of a large-scale language test is likely to change over time, and thus further longitudinal studies are needed to track longer-term motivational impact of the English graduation benchmark policy on students and their motivation for learning.

Third, the findings drawn from the present study are not expected to be generalizable to other institutions of higher education in Taiwan. Under the MOE's graduation benchmark policies, institutions of higher education in Taiwan were allowed to set their own English certification exit requirements. In other words, the minimum achievement levels, standardised English proficiency tests recommend, supporting measures for the exit requirements, and alternative paths to fulfil the exit requirements (e.g., school-based internal exit exam) might vary among Taiwan's institutions of higher education (Chu, 2009). From this perspective, the findings, conclusions, and pedagogical implications drawn from the present study, based on only one private technological university, may not be necessarily applicable to other technical institutes in Taiwan.

Fourth, the present study used a small convenience sample for student interviews. The sample consisted of nine students who indicated their willingness to be interviewed in the questionnaire, and eight out of nine students were first and second year students. Such a small, imbalanced sample might have led to a certain degree of bias in the analysis and findings. However, the students interviewed had different backgrounds, such as different test statuses (passed and failed), expience

of taking different types of standardised English proficiency tests (GEPT, TOEIC, and/or CSEPT), different English class levels (elementary, intermediate, and high-intermediate), and different majors (Finance, Insurance, Marketing and Logistics, Senior Citizen Service Management, Information Management, Computer Science and Information Engineering, Industrial Design, and Applied Chemistry). Such variation helps capture significant common motivational patterns that emerge from that variation (Patton, 2002). In this case, perceived utility value of the exam for instance was identified as an important, shared factor that appeared to determine students' motivational responses to the English graduation benchmark policy.

Finally, some preliminary assumptions²⁵ in MANOVA (i.e., the assumptions of normality and homogeneity of variance-covariance matrices) were violated. However, the impact of the violations should not be over-concerned due to the large sample ($n > 900$) in the present study. Furthermore, the statistical results produced by MANOVA were also confirmed by those using the CI method.

²⁵All relevant tables and figures are presented in Appendices Q-T

Concluding Remarks

In summary, this study has shown that university teachers and students generally approved of the English graduation benchmark policy. The students reported relatively high levels of mastery-approach goals and identified regulations, indicating students' desires to develop English abilities and to do well on the target test. The implication here is that high-stakes testing policies should not be always assumed that they are associated with only negative motivational responses. Since the English graduation benchmark policy was already embraced by most students in the present study, it was about time for university administrators and teachers to reconsider about how to better modify the English graduation benchmark policy and thus make the policy more beneficial for students.

The interview data (see Chapter Five) revealed that external and identified regulations were not well-distinguished; in addition, the focus of judging one's competence relative to others, the defining feature of performance-approach goals (Elliot, 1999), was not indicated in the interviews. The interview results seem to echo the view of Pintrich and Schunk (1996) that SDT still has "[m]any points...[that] are not clearly specified" (p. 273), and the view of Urdañ and Mestas (2006) that "researchers may overestimate the natural occurrence of mastery and performance goals" (p. 355) in achievement-related settings.

Finally, the results of logistic regression showed that students' demographic variables (i.e., English class level and year) seemed to better predict pass/fail status than SDT variables and achievement goal variables.

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Table of Approximate Score Comparability Within the CERF Framework

Cambridge Main Suite	BULATS	FLPT		GEPT	CEFR	TOEF		TOEIC	CSEPT		IELTS
		Total	Oral			P&P	CBT		Level 1	Level 2	
Key English Test (KET)	ALTE Level 1	150	S-1+	Elementary	A2 Waystage	390 or above	90 or above	350 or above	170	---	3 or above
Preliminary English Test (PET)	ALTE Level 2	195	S-2	Intermediate	B1 Threshold	457or above	137or above	550 or above	230	240	4or above
First Certificate in English (FCE)	ALTE Level 3	240	S-2+	Higher- Intermediate	B2 Vantage	527or above	197or above	750 or above	---	330	5.5or above
Certificate in Advanced English (CAE)	ALTE Level 4	315	S-3or above	Advanced	C1 Effective Operational Proficiency	560or above	220or above	880 or above	---	---	6.5or above
Certificate of Proficiency in English (CPE)	ALTE Level 5	---		Superior	C2 Mastery	630or above	267or above	950 or above	---	---	7.5or above

Source: Central Personnel Administration of Executive Yuan (2005)

<http://www.cpa.gov.tw/ct.asp?xItem=2335&CtNode=233&mp=10>

Common European Framework of Reference for Languages

Level	Description
A1	Can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. Can introduce him/herself and others and can ask and answer questions about personal details such as where he/she lives, people he/she knows and things he/she has. Can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.
A2	Can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, employment). Can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. Can describe in simple terms aspects of his/her background, immediate environment and matters in areas of immediate need.
B1	Can understand the main points of clear standard input on familiar matters regularly encountered in work, school, leisure, etc. Can deal with most situations likely to arise whilst travelling in an area where the language is spoken. Can produce simple connected text on topics which are familiar or of personal interest. Can describe experiences and events, dreams, hopes & ambitions and briefly give reasons and explanations for opinions and plans.
B2	Can understand the main ideas of complex text on both concrete and abstract topics, including technical discussions in his/her field of specialisation. Can interact with a degree of fluency and spontaneity that makes regular interaction with native speakers quite possible without strain for either party. Can produce clear, detailed text on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.
C1	Can understand a wide range of demanding, longer texts, and recognise implicit meaning. Can express him/herself fluently and spontaneously without much obvious searching for expressions. Can use language flexibly and effectively for social, academic and professional purposes. Can produce clear, well-structured, detailed text on complex subjects, showing controlled use of organisational patterns, connectors and cohesive devices.
C2	Can understand with ease virtually everything heard or read. Can summarise information from different spoken and written sources, reconstructing arguments and accounts in a coherent presentation. Can express him/herself spontaneously, very fluently and precisely, differentiating finer shades of meaning even in the most complex situations.

Source: Council of Europe (2011) http://www.coe.int/t/dg4/linguistic/CADRE_EN.asp#TopOfPage

Table of Recommended Standardized English Proficiency Tests

English proficiency tests	Passing Level (= CEFR, A2 Waystage)
1. General English Proficiency Test (GEPT)	Elementary
2. Test of English for International Communication (TOEIC)-OLD	350 or above
3. Test of English for International Communication (TOEIC)-NEW	225 or above (Listening: 110 or above AND Reading: 115 or above)
4. Test of English as a Foreign Language (TOEFL)-IBT	29 or above
5. Test of English as a Foreign Language (TOEFL)-ITP	390 or above
6. Test of English as a Foreign Language (TOEFL)-CBT	90 or above
7. International English Language Testing System (IELTS)	3 or above
8. College Student English Proficiency Test (CSEPT)	Level 1 (=130-169 or above)
9. Foreign Language Proficiency Test (FLPT)	150 or above (Speaking: S-1+ or above)
10. Cambridge Main Suit	Key English Test (KET)
11. Business Language Testing Service (BULATS)	ALTE Level 1
12. National English Test in Proficiency for All on the Web (NETPAW)	Elementary
13. General Test of English Language Proficiency (G-TELP)	4 or above
14. Global English Test (GET)	A2 or above

Source: http://www.flc.cyut.edu.tw/FLC_web/downloads.aspx

Student Questionnaire (Pilot Study)
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Part I : Background Information

No	Items	Responses
1.	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
2.	Year at school	<input type="checkbox"/> First year <input type="checkbox"/> Second year <input type="checkbox"/> Third year <input type="checkbox"/> Fourth year
3.	College	<input type="checkbox"/> Management <input type="checkbox"/> Science & Engineering <input type="checkbox"/> Design <input type="checkbox"/> Humanities & Social Sciences <input type="checkbox"/> Informatics
4.	English placement level in the first year	<input type="checkbox"/> Elementary <input type="checkbox"/> Intermediate <input type="checkbox"/> High-intermediate
5.	<i>(First-year students skip this question)</i> English placement level in the second year	<input type="checkbox"/> Elementary <input type="checkbox"/> Intermediate <input type="checkbox"/> High-intermediate
6.	What do you think of the standard of your university's benchmark policy for graduation?	<input type="checkbox"/> Too difficult <input type="checkbox"/> Difficult <input type="checkbox"/> Somewhat difficult <input type="checkbox"/> Fair <input type="checkbox"/> Somewhat easy <input type="checkbox"/> Easy <input type="checkbox"/> Too easy
7.	During the university, have you taken any standardised English proficiency tests?	<input type="checkbox"/> Yes; _____ times <input type="checkbox"/> No
8.	Did you already passed the graduation benchmark before entering university?	<input type="checkbox"/> Yes (If yes, skip Q9) <input type="checkbox"/> No (If no, skip Q9 - Q11)
9.	Did you pass the graduation benchmark so far?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Part II:

- (1) How do you agree with each of the following statements? Please circle the number that best represents your opinion.
- (2) The English exit exam in the following statements refers to the standardised English proficiency test (such as the GEPT, TOEIC, CSEPT or other equivalent language tests).

							<i>1 = Totally disagree</i> <i>2 = Disagree</i> <i>3 = Somewhat disagree</i> <i>4 = Somewhat agree</i> <i>5 = Agree</i> <i>6 = Totally agree</i>
Section 1							
<i>I think the English benchmark policy for graduation...</i>							
10.	is necessary.	1	2	3	4	5	6
11.	can enhance students' English learning motivation.	1	2	3	4	5	6
12.	can encourage students to study English hard.	1	2	3	4	5	6
13.	can improve students' overall English abilities.	1	2	3	4	5	6
<i>I think the English exit exam...</i>							
14.	can appropriately assess students' English abilities.	1	2	3	4	5	6
15.	should be used as one of the multiple assessment tools to assess students' English abilities.	1	2	3	4	5	6
16.	is the best tool to measure students' English abilities.	1	2	3	4	5	6
17.	fail to accurately assess students' English abilities.	1	2	3	4	5	6
<i>With regard to the English exit exam,</i>							
18.	I am confident I would pass the English exit exam (reversed).	1	2	3	4	5	6
19.	I think I will still do badly on the English exit exam although I take effort preparing for it.	1	2	3	4	5	6
20.	I worry that I might be held back in university because I would fail the English exit exam..	1	2	3	4	5	6
21.	I feel quite anxious about the English exit exam.	1	2	3	4	5	6
Section 2							
<i>I study English because...</i>							
22.	I have to; my university has established the graduation benchmark.	1	2	3	4	5	6
23.	learning English is interesting.	1	2	3	4	5	6
24.	English is important for my advanced studies or for entering the job market in a field that I like .	1	2	3	4	5	6
25.	I want to actually use English in my life, e.g. for work, travel, and communicating with people through the world.	1	2	3	4	5	6
26.	I enjoy learning English.	1	2	3	4	5	6
27.	I have to; English is a compulsory subject.	1	2	3	4	5	6
28.	if I didn't get any official certificate of English proficiency before graduated, I would feel ashamed.	1	2	3	4	5	6
29.	English will make me a more knowledgeable person.	1	2	3	4	5	6
30.	official certificates of English proficiency are useful for my higher education or future career in a field that I like .	1	2	3	4	5	6
31.	I have to; I am pressured to pass the English exit exam.	1	2	3	4	5	6
32.	I think every university graduating student should get an official certificate of English proficiency.	1	2	3	4	5	6
33.	learning English is a challenge that I enjoy.	1	2	3	4	5	6
34.	as a university student, I feel like I should study English.	1	2	3	4	5	6

35.	I want to get the monetary rewards by doing well on the English exit exam.	1	2	3	4	5	6
36.	I like English.	1	2	3	4	5	6
37.	I would feel guilty if I didn't pass the English exit exam before graduation.	1	2	3	4	5	6
Section 3							
Achievement goals							
38.	It is important for me to do better than other students on the English exit exam.	1	2	3	4	5	6
39.	I study English hard to avoid doing poorly on the English exit exam.	1	2	3	4	5	6
40.	I want to learn as much as possible for English class.	1	2	3	4	5	6
41.	It is important for me to do well compared to others on the English exit exam.	1	2	3	4	5	6
42.	I study hard to avoid getting a bad score on the English exit exam.	1	2	3	4	5	6
43.	I am striving to avoid doing worse on English performance than before.	1	2	3	4	5	6
44.	I desire to completely master the material presented in English class.	1	2	3	4	5	6
45.	I am striving to avoid losing my English skills.	1	2	3	4	5	6
46.	My fear of performing poorly on the English exit exam is often what motivates me.	1	2	3	4	5	6
47.	I hope I can get a better score than most of the students on the English exit exam.	1	2	3	4	5	6
48.	I am striving to avoid forgetting what I have learned in English class.	1	2	3	4	5	6
49.	It is important for me to understand the content of the English course as thoroughly as possible.	1	2	3	4	5	6
Section 4							
Learning strategies							
<p style="text-align: center;"> <i>1 = Never or almost never true of me</i> <i>2 = Usually not true of me</i> <i>3 = Somewhat true of me</i> <i>4 = Usually true of me</i> <i>5 = Always or almost always true of me</i> </p>							
50.	I think of relationships between what I already know and new things I learn in English.	1	2	3	4	5	6
51.	I use new English words in a sentence so I can remember them.	1	2	3	4	5	6
52.	I connect the sound of a new English word and an image or picture of the word to help remember the word.	1	2	3	4	5	6
53.	I remember a new English word by making a mental picture of a situation in which the word might be used.	1	2	3	4	5	6
54.	I use rhymes to remember new English words.	1	2	3	4	5	6
55.	I use flashcards to remember new English words.	1	2	3	4	5	6
56.	I physically act out new English words.	1	2	3	4	5	6
57.	I review English lessons often.	1	2	3	4	5	6
58.	I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.	1	2	3	4	5	6
59.	I say or write new English words several times.	1	2	3	4	5	6
60.	I try to talk like native English speakers.	1	2	3	4	5	6
61.	I practice the sounds of English.	1	2	3	4	5	6
62.	I use the English words I know in different ways.	1	2	3	4	5	6

63.	I start conversations in English.	1	2	3	4	5	6
64.	I watch English language TV shows spoken in English or go to movies spoken in English.	1	2	3	4	5	6
65.	I read for pleasure in English.	1	2	3	4	5	6
66.	I write notes, messages, letters, or reports in English.	1	2	3	4	5	6
67.	I first skim an English passage (read over the passage quickly) then go back and read.	1	2	3	4	5	6
68.	I look for words in my own language that are similar to new words in English.	1	2	3	4	5	6
69.	I try to find patterns in English.	1	2	3	4	5	6
70.	I find the meaning of an English word by dividing it into parts that I understand.	1	2	3	4	5	6
71.	I try not to translate word-for-word.	1	2	3	4	5	6
72.	I make summaries of information that I hear or read in English.	1	2	3	4	5	6
73.	To understand unfamiliar English words, I make guesses.	1	2	3	4	5	6
74.	When I can't think of a word during a conversation in English, I use gestures.	1	2	3	4	5	6
75.	I make up new words if I do not know the right ones in English.	1	2	3	4	5	6
76.	I read English without looking up every new word.	1	2	3	4	5	6
77.	I try to guess what the other person will say next in English.	1	2	3	4	5	6
78.	If I can't think of an English word, I use a word or phrase that means the same thing.	1	2	3	4	5	6
79.	I try to find as many ways as I can to use my English.	1	2	3	4	5	6
80.	I notice my English mistakes and use that information to help me do better.	1	2	3	4	5	6
81.	I pay attention when someone is speaking English.	1	2	3	4	5	6
82.	I try to find out how to be a better learner of English.	1	2	3	4	5	6
83.	I plan my schedule so I will have enough time to study English.	1	2	3	4	5	6
84.	I look for people I can talk to in English.	1	2	3	4	5	6
85.	I look for opportunities to read as much as possible in English.	1	2	3	4	5	6
86.	I have clear goals for improving my English skills.	1	2	3	4	5	6
87.	I think about my progress in learning English.	1	2	3	4	5	6
88.	I try to relax whenever I feel afraid of using English.	1	2	3	4	5	6
89.	I encourage myself to speak English even when I am afraid of making a mistake.	1	2	3	4	5	6
90.	I give myself a reward or treat when I do well in English.	1	2	3	4	5	6
91.	I notice if I am tense or nervous when I am studying or using English.	1	2	3	4	5	6
92.	I write down my feelings in a language learning diary.	1	2	3	4	5	6
93.	I talk to someone else about how I feel when I am learning English.	1	2	3	4	5	6
94.	If I do not understand something in English, I ask the other person to slow down or say it again.	1	2	3	4	5	6
95.	I ask English speakers to correct me when I talk.	1	2	3	4	5	6
96.	I practice English with other students.	1	2	3	4	5	6
97.	I ask for help from English speakers.	1	2	3	4	5	6
98.	I ask questions in English.	1	2	3	4	5	6
99.	I try to learn about the culture of English speaker.	1	2	3	4	5	6

Student Questionnaire (Revised)
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Part I : Background Information

No	Items	Responses
1.	Gender	<input type="checkbox"/> Male <input type="checkbox"/> Female
2.	Year at school	<input type="checkbox"/> First year <input type="checkbox"/> Second year <input type="checkbox"/> Third year <input type="checkbox"/> Fourth year
3.	College	<input type="checkbox"/> Management <input type="checkbox"/> Science & Engineering <input type="checkbox"/> Design <input type="checkbox"/> Humanities & Social Sciences <input type="checkbox"/> Informatics
4.	English placement level in the first year	<input type="checkbox"/> Elementary <input type="checkbox"/> Intermediate <input type="checkbox"/> High-intermediate
5.	<i>(First-year students skip this question)</i> English placement level in the second year	<input type="checkbox"/> Elementary <input type="checkbox"/> Intermediate <input type="checkbox"/> High-intermediate
6.	What do you think of the standard of your university's benchmark policy for graduation?	<input type="checkbox"/> Too difficult <input type="checkbox"/> Difficult <input type="checkbox"/> Somewhat difficult <input type="checkbox"/> Fair <input type="checkbox"/> Somewhat easy <input type="checkbox"/> Easy <input type="checkbox"/> Too easy
7.	During the university, have you taken any standardized English proficiency tests?	<input type="checkbox"/> Yes; _____times <input type="checkbox"/> No
8.	Did you already passed the graduation benchmark before entering university?	<input type="checkbox"/> Yes (If yes, skip Q9) <input type="checkbox"/> No (If no, skip Q9 - Q11)
9.	Did you pass the graduation benchmark so far?	<input type="checkbox"/> Yes <input type="checkbox"/> No

Part II:

(1) How do you agree with each of the following statements? Please circle the number that best represents your opinion.

(2) The English exit exam in the following statements refers to the standardised English proficiency test (such as the GEPT, TOEIC, CSEPT or other equivalent language tests).

		<p>1 = <i>Totally disagree</i> 2 = <i>Disagree</i> 3 = <i>Somewhat disagree</i> 4 = <i>Somewhat agree</i> 5 = <i>Agree</i> 6 = <i>Totally agree</i></p>					
Section 1							
I think the English benchmark policy for graduation...							
10.	is necessary.	1	2	3	4	5	6
11.	can enhance students' English learning motivation.	1	2	3	4	5	6
12.	can encourage students to study English hard.	1	2	3	4	5	6
13.	can improve students' overall English abilities.	1	2	3	4	5	6
I think the English exit exam...							
14.	can appropriately assess students' English abilities.	1	2	3	4	5	6
15.	is the best tool to measure students' English abilities.	1	2	3	4	5	6
With regard to the English exit exam,							
16.	I am confident I would pass the English exit exam (reversed).	1	2	3	4	5	6
17.	I think I will still do badly on the English exit exam although I take effort preparing for it.	1	2	3	4	5	6
18.	I worry that I might be held back in university because I would fail the English exit exam.	1	2	3	4	5	6
19.	I feel quite anxious about the English exit exam.	1	2	3	4	5	6

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Section 2*I study English because...*

20.	I have to; my university has established the graduation benchmark.	1	2	3	4	5	6
21.	learning English is interesting.	1	2	3	4	5	6
22.	English is important for my advanced studies or for entering the job market in a field that I like .	1	2	3	4	5	6
23.	I want to actually use English in my life, e.g. for work, travel, and communicating with people through the world.	1	2	3	4	5	6
24.	I enjoy learning English.	1	2	3	4	5	6
25.	I have to; English is a compulsory subject.	1	2	3	4	5	6
26.	if I didn't get any official certificate of English proficiency before graduated, I would feel ashamed.	1	2	3	4	5	6
27.	English will make me a more knowledgeable person.	1	2	3	4	5	6
28.	official certificates of English proficiency are useful for my higher education or future career in a field that I like.	1	2	3	4	5	6
29.	I have to; I am pressured to pass the English exit exam.	1	2	3	4	5	6
30.	I think every university graduating student should get an official certificate of English proficiency.	1	2	3	4	5	6
31.	learning English is a challenge that I enjoy.	1	2	3	4	5	6
32.	as a university student, I feel like I should study English.	1	2	3	4	5	6
33.	I want to get the monetary rewards by doing well on the English exit exam.	1	2	3	4	5	6
34.	I like English.	1	2	3	4	5	6
35.	I would feel guilty if I didn't pass the English exit exam before graduation.	1	2	3	4	5	6

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Section 3							
Achievement goals							
36.	It is important for me to do better than other students on the English exit exam.	1	2	3	4	5	6
37.	I study English hard to avoid doing poorly on the English exit exam.	1	2	3	4	5	6
38.	I want to learn as much as possible for English class.	1	2	3	4	5	6
39.	It is important for me to do well compared to others on the English exit exam.	1	2	3	4	5	6
40.	I study hard to avoid getting a bad score on the English exit exam.	1	2	3	4	5	6
41.	I am striving to avoid doing worse on English performance than before.	1	2	3	4	5	6
42.	I desire to completely master the material presented in English class.	1	2	3	4	5	6
43.	I am striving to avoid losing my English skills.	1	2	3	4	5	6
44.	My fear of performing poorly on the English exit exam is often what motivates me.	1	2	3	4	5	6
45.	I hope I can get a better score than most of the students on the English exit exam.	1	2	3	4	5	6
46.	I am striving to avoid forgetting what I have learned in English class.	1	2	3	4	5	6
47.	It is important for me to understand the content of the English course as thoroughly as possible.	1	2	3	4	5	6

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Section 4**Approaches to Learning**

48.	I find that at times studying English gives me a feeling of deep personal satisfaction.	1	2	3	4	5	6
49.	I find that I have to do enough work on English materials so that I can form my own conclusions before I am satisfied.	1	2	3	4	5	6
50.	My aim is to pass the English exit exam while doing as little work as possible.	1	2	3	4	5	6
51.	I only study seriously what's give out in English class or in the English course outlines.	1	2	3	4	5	6
52.	I feel that virtually any English materials can be highly interesting once I get into it.	1	2	3	4	5	6
53.	I find most new English materials interesting and often spend extra time trying to obtain more information about them.	1	2	3	4	5	6
54.	I do not find my English course very interesting so I keep my work to the minimum.	1	2	3	4	5	6
55.	I learn English materials by rote, going over and over them until I know them by heart even if I do not understand them.	1	2	3	4	5	6
56.	I find that studying English materials can at times be as exciting as a good novel or movie.	1	2	3	4	5	6
57.	I test myself on important English points until I understand them completely.	1	2	3	4	5	6
58.	I find I can get by in most English assessments by memorizing key sections rather than trying to understand them.	1	2	3	4	5	6
59.	I generally restrict my English study to what is specifically set as I think it is unnecessary to do anything extra.	1	2	3	4	5	6
60.	I work hard at my English studies because I find the material interesting.	1	2	3	4	5	6
61.	I spend a lot of my free time finding out more about interesting English topics which have been discussed in English classes.	1	2	3	4	5	6
62.	I find it is not helpful to study English materials in depth. It confuses and wastes time, when all you need is a passing acquaintance with materials.	1	2	3	4	5	6
63.	I believe that English teachers shouldn't expect students to spend significant amounts of time studying material everyone knows won't be examined.	1	2	3	4	5	6
64.	I come to English class with questions in mind that I want answering.	1	2	3	4	5	6
65.	I make a point of looking at most of the suggested English readings that go with the lectures.	1	2	3	4	5	6
66.	I see no point in learning English material which is not likely to be in the examination.	1	2	3	4	5	6
67.	I find the best way to pass the English exit exam is to try to remember answers to likely questions.	1	2	3	4	5	6

If you are interested in participating in an individual interview as a follow-up to this thesis research, please fill in your personal information below. The interview should last less than 20 minutes. You will be sent a 7-11 Gift Voucher worth NT\$100 after the interview.

Name: _____ Phone number: _____

E-mail: _____

Address (for gift voucher): _____

Thank you very much for your help!

Cover Letter to Student Questionnaire

Dear Student,

My name is Pei-Chi Shih. I am an EdD student at Durham University. I am conducting a research study about the English benchmark policy for graduation. This thesis research will investigate three main aspects: (1) technological university students' and teachers' perceptions of the English benchmark policy, (2) students' perceived motivation, and (3) students' perceived approaches to learning. It is hoped that the findings drawn from this research study will be useful for school authorities to reconsider how the benchmark policy can be better modified to improve the current practices and outcomes of standardised English proficiency tests.

Your response is very important to my research. Please find the attached questionnaire and answer the questions based on your learning experience in university of technology. There are no right or wrong answers. All of the data you provide will be used for this research study only.

Thank you very much for your participation. Should you have any questions, please do not hesitate to contact me on sfsuXXXXXX@yahoo.com.tw.

Best wishes
Pei-chi Shih

Part II: How do you agree with each following statement? Please circle the number that best represents your answer.

Note. The English exit exam in the following questions refer to standardised English proficiency tests, such as the GEPT, TOEIC, or other equivalent language tests)

No	Items	1= totally disagree	2= disagree	3= somewhat disagree	4= somewhat agree	5= agree	6= totally agree
I think the implementation of the English graduation threshold...							
8.	can enhance students' English learning motivation.	1	2	3	4	5	6
9.	can enforce students to study English hard.	1	2	3	4	5	6
10.	fails to improve students' overall English abilities because students study towards the test.	1	2	3	4	5	6
I think the English exit exam...							
11.	can accurately assess students' English abilities.	1	2	3	4	5	6
12.	should be one of the multiple assessment tools to assess students' English abilities.	1	2	3	4	5	6
I am worried...							
14.	my students' performance on the English exit exam affects my holding a teaching post in this university.	1	2	3	4	5	6
15.	my students' performance on the English exit exam affects my teaching evaluation this university.	1	2	3	4	5	6

Part III : Please indicate how the English exit exam has influenced the following aspects of your teaching.

No	Items	<u>Influence level</u>					
		1= None	2= Low	3= Moderate-low	4= Moderate	5= Moderate-high	6= High
16.	Teaching syllabus	1	2	3	4	5	6
17.	Teaching content	1	2	3	4	5	6
18.	Teaching methods	1	2	3	4	5	6
19.	Textbook selection	1	2	3	4	5	6
20.	Supplementary materials	1	2	3	4	5	6
21.	Classroom activities	1	2	3	4	5	6
22.	Quizzes	1	2	3	4	5	6
23.	Homework/assignment	1	2	3	4	5	6
24.	Assessment	1	2	3	4	5	6

Thank you very much for your help!

Cover Letter to Teacher Questionnaire

Dear Colleague,

My name is Pei-Chi Shih. I am an EdD student at Durham University. I am writing to request your help with my thesis research entitled “*English Benchmark Policy for Graduation: An Investigation of Perception, Motivation, and Approaches to Learning at a University of Technology in Central Taiwan.*”

This thesis research will investigate three main aspects related to the English benchmark policy for graduation: (1) technological university students’ and teachers’ perceptions of the English benchmark policy, (2) students’ perceived motivation, and (3) students’ perceived approaches to learning. It is hoped that the findings drawn from this research study will be useful for school authorities to reconsider how the benchmark policy can be better modified to improve the current practices and outcomes of standardised English proficiency tests.

If you are interested in participating in this project, please fill in the attached questionnaire according to your teaching experience. All of the data you provide will be used for this research study only.

Thank you very much for your participation. Should you have any questions, please do not hesitate to contact me on sfsuXXXXXX@yahoo.com.tw.

Best wishes
Pei-Chi Shih

Consent Form for Students to be Interviewed

Dear Student,

My name is Pei-Chi Shih. I am an EdD student at Durham University. Thank you very much for volunteering to participate in an individual interview as a follow-up to my thesis research, addressing the related issues of the English benchmark policy for graduation. This thesis research will investigate three main aspects: (1) technological university students' and teachers' perceptions of the English benchmark policy, (2) students' perceived motivation, and (3) students' perceived approaches to learning. In the interview, you will be asked the above-mentioned topics. The responses you give will be based on your learning experiences. There are no right or wrong answers. Your signature on this consent form shows that you have been informed about the following conditions of this research.

1. Even if you agreed to participate in this follow-up interview, you have the right to withdraw at any time.
2. Complete confidentiality is ensured. The interview will be recorded with a digital audio-recorder and then be transcribed, but your name or any identifying information will be reported in a way that it cannot be associated with you personally. All of the data you provide will be used for this research study only.
3. You will be sent a 7-11 gift voucher worth NT\$100 for participating in the interview. Should you have any questions, please do not hesitate to contact me on sfsuXXXXXX@yahoo.com.tw.

I have read the information provided and agree to participate in the interview.

Signature

Date

Please fill in the following information for further contact.

Name: _____

I'd like to have the interview by: (either)

(1) (Home/ Mobile) Phone: _____

(2) Skype: _____

(3) MSN: _____

(4) Other: _____

(5) Date available: _____ Time available: _____

Consent Form for Teachers to be Interviewed

Dear Colleague,

My name is Pei-Chi Shih. I am an EdD student at Durham University. Thank you very much for volunteering to participate in an individual interview as a follow-up to my thesis research entitled “*English Benchmark Policy for Graduation: An Investigation of Perception, Motivation, and Approaches to Learning at a University of Technology in Central Taiwan.*” This thesis research will investigate three main aspects: (1) technological university students’ and teachers’ perceptions of the English benchmark policy, (2) students’ perceived motivation, and (3) students’ perceived approaches to learning. In the interview, you will be expected to express your opinions or comments, on the first research topic, about your attitudes towards the English benchmark policy for graduation.

Your signature on this consent form shows that you have been informed about the following conditions of this research.

1. Even if you agreed to participate in this follow-up interview, you have the right to withdraw at any time.
2. Complete confidentiality is ensured. The interview will be recorded with a digital audio-recorder and then be transcribed, but your name or any identifying information will be reported in a way that it cannot be associated with you personally. All of the data you provide will be used for this research study only.
3. Should you have any questions, please do not hesitate to contact me on sfsuXXXXXX@yahoo.com.tw.

I have read the information provided and agree to participate in the interview.

Signature

Date

Interview Guide for Students

Attitudes towards the English benchmark policy for graduation

- Do you agree the establishment of the English benchmark policy for graduation?
- What do you think of the passing level of the English exit exam in this technological university?
- Do you think the score of the English exit exam can appropriately indicate your overall English competence?
- Do you think your overall English competence is enhanced due to the preparation for the English exit exam?
- Do you think you are motivated to study English harder due to the English exit exam?

Test anxiety

- Do you feel pressured by or anxious about the English exit exam?

Motivation

- Do you like learning English?
- If there were no English benchmark policy for graduation, would you still take standardised English proficiency tests?
- Would you feel ashamed or guilty if you did not get any official certificate of English proficiency before graduated?
- Is certified English ability important or useful for your advanced studies or future career?

Achievement goals

- Is it important for you to outperform others on the English exit exam?
- Do you think you would study English hard simply to avoid doing badly on the English exit exam?
- Is important for you to understand the content of the English course as thoroughly as possible?
- Are you striving to avoid doing worse on the English performance than before?

Approaches to learning

- How do you usually study English?
- How do you usually prepare for English tests?

Interview Guide for Teachers

Attitudes towards the English benchmark policy for graduation

- Do you agree technological universities establish the English benchmark policy for graduation?
- What do you think of the passing level of the English exit exam in this technological university?
- Do you think the score of the English exit exam can appropriately indicate a student's overall English competence?
- Do you think students' overall English competence is enhanced due to the preparation for the English exit exam?
- Do you think students are motivated to study English harder due to the English exit exam?

Worries

- Are you worried many of your students will fail in the English exit exam?
- Does your students' performance on the English exit exam affect your holding a teaching post in this university?
- Do you feel pressured by your students' performance on the English exit exam?

Effects on teaching

- Does the benchmark policy have any impact on your teaching, such as teaching materials, methods, classroom activities, assessment, etc.?

Students' Background Information for Student Questionnaire

		Number (Total=982)	Percent
Gender	Male	401	40.8%
	Female	537	54.7%
	Missing	44	4.5%
Year at school	First year	390	39.7%
	Second year	312	31.8%
	Third year	168	17.1%
	Fourth year	70	7.1%
	Missing	42	4.3%
College	Management	371	37.8%
	Science and Engineering	177	18.0%
	Design	84	8.6%
	Informatics	153	15.6%
	Humanities and Social Sciences	148	15.1%
	Missing	49	5.0%
	English placement level in the first year	Elementary	237
Intermediate		558	57.8%
High-intermediate		118	12.0%
Missing		59	6.0%
English placement level in the second year	Elementary	187	19.0%
	Intermediate	315	32.1%
	High-intermediate	34	3.5%
	N/A	390	39.7%
	Missing	56	5.7%
Perceived difficulty of the English exit exam	Too difficult	62	6.3%
	Difficult	69	7.0%
	Somewhat difficult	153	15.6%
	Fair	452	46.0%
	Somewhat easy	115	11.7%
	Easy	49	5.0%
	Too easy	33	3.4%
	Missing	49	5.0%
Test status	Passed before university	192	19.6%
	Passed after university	226	23.0%
	Failed	271	27.6%
	Untaken	250	25.5%
	Missing	43	4.4%

Teachers' Background Information for Teacher Questionnaire

		Number (Total= 15)	Percent
Gender	Male	1	6.7%
	Female	14	97.3%
	Missing	0	0%
Teaching position	Professor	0	0%
	Associate professor	0	0%
	Assistant professor	0	0%
	Lecturer	15	100%
	Missing	0	0%
Full time/ Part time	Full time	3	20%
	Part time	12	80%
	Missing	0	0%
Highest degree	Ph.D./ Ed.D.	2	13.3%
	M.A.	13	86.7%
	B.A.	0	0%
	Missing	0	0%
Years of teaching at an university level	5 or under 5 years	7	46.7%
	6-10 years	5	33.3%
	11-15 years	1	6.7%
	16-20 years	2	13.3%
	more than 20 years	0	0%
	Missing	0	0%
Perceived difficulty of the English exit exam	Too difficult	0	0%
	Difficult	2	13.3%
	Somewhat difficult	1	6.7%
	Fair	9	60%
	Somewhat easy	1	6.7%
	Easy	2	13.3%
	Too easy	0	0%
	Missing	0	0%

Interviewed Participants' Background Information

Teachers

Teacher	Gender	Full/Part time	Teaching courses related to English exit exam	Note
1	F	F	Regular English classes	Coordinator of English Certificate Programs
2	F	P	TOEIC, GEPT, and IELTS	-----
3	F	P	TOEIC, GEPT, and IELTS Regular English classes	-----

Students

Student	Gender	Year	College/ Department	Test status	Type(s) of English exit exam taken
1	M	1	Management/ Finance	Passed (A)	CSEPT
2	M	1	Management/ Insurance	Had not taken (HN)	-----
3	F	2	Management/ Marketing and Logistics Management	Passed (A)	TOEIC
4	M	1	Science and Engineering/ Applied Chemistry	Failed	TOEIC
5	M	2	Informatics/ Computer Science and Information Engineering	Passed (A)	TOEIC GEPT
6	F	1	Management/ Golden-Ager Industry Management	Passed (B)	GEPT
7	F	2	Management/ Senior Citizen Service Management	Passed (B)	GEPT
8	F	3	Informatics/ Information Management	Failed (Twice)	TOEIC CSEPT
9	F	1	Design/ Industrial Design	Failed (Once)	GEPT

Note: Pass (A): passed after entering university;

Pass (B): passed before entering university

Factor Analysis Tables
for Perception, Motivational Regulations, and Achievement Goal Measures

Table 3-1 Rotated component and pattern matrix for PCA with varimax and oblimin rotation of two factor solution of Perception items

	Rotated coefficients		Pattern coefficients	
	Factor 1	Factor 2	Factor 1	Factor 2
20 I worry that I might be held back in university because I would fail the English exit exam.	.883		.116	.916
21 I feel quite anxious about the English exit exam.	.872			.897
18 I am confident I would pass the English exit exam (reversed).	.822	-.225		.817
19 I think I will still do badly on the English exit exam although I take effort preparing for it.	.788	-.238	-.111	.780
12 I think the policy can encourage students to study English hard.	-.152	.827	.838	
11 I think the policy can enhance students' English learning motivation.	-.214	.793	.792	
13 I think the policy can improve students' overall English abilities.	-.109	.765	.781	
16 I think the English exit exam is the best tool to measure students' English abilities.		.644	.665	
14 I think the English exit exam can appropriately assess students' English abilities.		.613	.628	
10 I think the policy is necessary.	[-.463]	.574	.519	[-.379]

Note. Major loadings for each item are bolded. Cross-loadings are in brackets.

Table 3-2 Varimax rotation of four factor solution of Motivational Regulation items

	Factor			
	1	2	3	4
I study English because...				
23 learning English is interesting.	.829	.187	.107	-.293
33 learning English is a challenge that I enjoy.	.727	.234	.312	-.272
29 English will make me a more knowledgeable person.	.459	[.451]	[.373]	-.259
24 official certificates of English proficiency are useful for my higher education or future career in a field that I like.	.249	.835	.149	-.210
30 English is important for my advanced studies or for entering the job market in a field that I like.	.122	.825	.233	-.146
25 I want actually use English in my life (e.g., for work, travel, and communicate with foreigners).	[.465]	.586		
28 if I didn't get any official certificate of English proficiency before graduated, I would feel ashamed.			.879	-.140
32 I think every university graduating student should get an official certificate of English proficiency.	.215	.269	.801	-.116
34 as a university student, I feel like I should study English.	[.362]	.342	.590	
22 I have to; my university has established the benchmark policy.	-.237	-.193		.803
27 I have to; English is a compulsory subject.	-.169			.784
31 I have to; I am pressured to pass the English exit exam.	-.209	-.103		.697

Note. Major loadings for each item are bolded. Cross-loadings in brackets.

Table 3-3 Pattern matrix with oblimin rotation of four factor solution of Motivational Regulation items

	Factor			
	1	2	3	4
I study English because...				
23 learning English is interesting.	.952			
35 I like English.	.951			
26 I enjoy studying English.	.921			
33 learning English is a challenge that I enjoy.	.772		.165	
29 English will make me a more knowledgeable person	.343	[.331]	.234	
30 English is important for my advanced studies or for entering the job market in a field that I like.	-.208	.940		
24 official certificates of English proficiency are useful for my higher education or future career in a field that I like.		.932		
25 I want actually use English in my life (e.g., for work, travel, and communicate with foreigners)	[-.396]	.565	-.133	.136
28 if I didn't get any official certificate of English proficiency before graduated, I would feel ashamed.		-.164	.991	
32 I think every university graduating student should get an official certificate of English proficiency.			.817	
34 as a university student, I feel like I should study English.	.233	.179	.528	
27 I have to; English is a compulsory subject.		.134		.817
22 I have to; my university has established the benchmark policy.		-.139		.809
31 I have to; I am pressured to pass the English exit exam.				.705

Note. Major loadings for each item are bolded. Cross-loadings are in bold with brackets.

Table 3-4 Varimax rotation of four factor solution of Achievement Goal items

	Factor			
	1	2	3	4
41 It is important for me to do well compared to others on the English exit exam.	.806		.194	
38 It is important for me to do better than other students on the English exit exam.	.787			
40 I hope I can get a better score than most of the students on the English exit exam.	.771	.128		
43 I desire to completely master the material presented in English class.		.828	.127	
49 It is important for me to understand the content of the English course as thoroughly as possible.		.828	.134	
46 I want to learn as much as possible from English class.		.637	.180	-.331
47 I am striving to avoid performing worse than before.	.100	.152	.854	
48 I am striving to avoid forgetting what I have learned.	.113	.137	.843	-.126
44 I am striving to avoid losing my English skills.	[.362]	.233	.452	
42 My fear of performing badly on the English exit exam is often what motivates me to study English hard.	{.676}	-.110	.118	.286
45 I study hard to avoid doing badly on the English exit exam.				.873
39 I study hard to avoid getting a bad score on the English exit exam.		-.139		.858

Note. N=980. Major loadings are in bold; cross-loadings are in brackets. Loadings on an unexpected factor are in braces.

Table 3-5 Pattern matrix with oblimin rotation of four factor solution of Achievement Goal items

	Factor			
	1	2	3	4
47 I am striving to avoid performing worse than before.	.890			
48 I am striving to avoid forgetting what I have learned.	.875			
44 I am striving to avoid losing my English skills..	.399	.294		.160
38 It is important for me to do better than other students on the English exit exam.			.807	
41 It is important for me to do well compared to others on the English exit exam.			.800	
40 I hope I can get a better score than most of the students on the English exit exam.			.788	.114
42 My fear of performing badly on the English exit exam is often what motivates me to study English hard.		{.667}	.269	-.105
45 I study hard to avoid doing badly on the English exit exam.			.884	
39 I study hard to avoid getting a bad score on the English exit exam.			.865	
49 It is important for me to understand the content of the English course as thoroughly as possible.				.858
43 I desire to completely master the material presented in English class.				.857
46 I want to learn as much as possible from English class.			-.257	.604

Note. $N=980$. Major factor loadings are in bold. Loadings on an unexpected factor are in braces.

Statistical Tests for Students' Perception of the English Benchmark Policy

Table 4-1 Descriptive statistics of approval measure for males and females

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 Male	400	4.24	.999	.050	4.14	4.34	1	6
2 Female	537	4.51	.794	.034	4.45	4.58	2	6

Table 4-2 Independent-samples t-test for group differences in approval of the policy between males and females

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
								Lower	Upper
Approval of the policy*	17.267	.000	-4.574	740.425	.000	-.277	.061	-.396	-.158

*Equal variances not assumed

Table 4-3 Descriptive statistics of approval measure for four year groups

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Year 1	390	4.43	.928	.047	4.33	4.52	1	6
Year 2	312	4.47	.819	.046	4.38	4.56	1	6
Year 3	167	4.21	.940	.073	4.07	4.36	1	6
Year 4	70	4.33	.898	.107	4.11	4.54	1	6

Table 4-4 ANOVA for group differences in approval of the policy across four year groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
2.500	3	935	.058

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	8.003	3	2.668	3.342	.019
Within Groups	746.363	935	.798		
Total	754.366	938			

Table 4-5 Post hoc comparisons for individual group differences on approval measure across four year groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tukey HSD	Scheffé	Gabriel
Approval of the policy	Year 1	Year 2	-.05	.068	.907	.929	.984
		Year 3	.21	.083	.051	.087	.052
		Year 4	.10	.116	.834	.871	.933
	Year 2	Year 3	.26*	.086	.014	.029	.014
		Year 4	.14	.118	.618	.689	.733
	Year 3	Year 4	-.11	.127	.805	.847	.929

*The mean difference is significant at the .05 level

Table 4-6 Descriptive statistics of approval measure for five discipline groups

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Min.	Max.
					Lower Bound	Upper Bound		
1 Management	371	4.54	.821	.043	4.45	4.62	1	6
2 Science and Engineering	176	4.37	.961	.072	4.22	4.51	1	6
3 Design	84	4.19	.939	.102	3.98	4.39	1	6
4 Informatics	153	4.30	.937	.076	4.15	4.45	1	6
5 Humanities and Social Sciences	148	4.31	.899	.074	4.16	4.46	1	6

Table 4-7 ANOVA for group differences in approval of the policy across five discipline groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
1.754	4	927	.136

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	13.538	4	3.384	4.262	.002
Within Groups	736.188	927	.794		
Total	749.726	931			

Table 4-8 Post hoc comparisons for individual group differences on approval measure across five discipline groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tukey HSD	Scheffé	Gabriel
Approval of the policy	1 Management	2 Science & Engineering	.17	.084	.236	.371	.305
		3 Design	.35*	.111	.011	.035	.006
		4 Informatics	.24*	.087	.044	.104	.045
		5 Humanities & Social Sciences	.22	.085	.073	.154	.078
	2 Science & Engineering	3 Design	.18	.125	.553	.682	.305
		4 Informatics	.07	.105	.956	.974	.733
		5 Humanities & Social Sciences	.06	.103	.981	.989	.999
	3 Design	4 Informatics	-.11	.127	.894	.935	.988
		5 Humanities & Social Sciences	-.12	.126	.849	.906	.974
	4 Informatics	5 Humanities & Social Sciences	-.01	.106	1.000	1.000	1.000

*The mean difference is significant at the .05 level

Table 4-9 Descriptive statistics of approval measure for three English proficiency groups

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 Elementary	237	4.06	1.072	.070	3.92	4.20	1	6
2 Intermediate	567	4.49	.773	.032	4.42	4.55	1	6
3 High-intermediat	118	4.61	.865	.080	4.45	4.77	1	6

Table 4-10 ANOVA for group differences in approval of the policy across three English proficiency groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
15.429	2	919	.000

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	37.000	2	18.500	24.390	.000
Within Groups	697.074	919	.759		
Total	734.074	921			

Table 4-11 Post hoc comparisons for individual group differences on approval measure across three proficiency groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Approval of the policy	1 Elementary	2 Intermediate	-.43*	.077	.000	.000	.000
		3 High-Intermediate	-.55*	.106	.000	.000	.000
	2 Intermediate	3 High-Intermediate	-.12	.086	.405	.404	.336

*The mean difference is significant at the .05 level

Table 4-12 Descriptive statistics of approval measure for four test status groups

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 passed before university	192	4.65	.828	.060	4.54	4.77	1	6
2 passed after university	226	4.52	.696	.046	4.43	4.61	3	6
3 failed	270	4.16	.987	.060	4.04	4.28	1	6
4 not taken	250	4.34	.935	.059	4.22	4.45	1	6

Table 4-13 ANOVA for group differences in approval of the policy across four test status groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
7.904	3	934	.000

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	32.221	3	10.740	13.941	.000
Within Groups	719.571	934	.770		
Total	751.791	937			

Table 4-14 Post hoc comparisons for individual group differences on approval measure across four test status groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Approval of the policy	1 PB	2 PA	.13	.076	.395	.393	.297
		3 F	.49*	.085	.000	.000	.000
		4 NT	.32*	.084	.001	.001	.001
	2 PA	3 F	.36*	.076	.000	.000	.000
		4 NT	.19	.075	.079	.079	.065
	3 F	4 NT	-.18	.084	.210	.210	.103

Note.

1 PB= students who passed the English proficiency test before university;

2 PA = students who passed the English proficiency test after university;

3 F = students who failed the English proficiency test after university;

4 NT = students who had not taken the English proficiency test yet

*The mean difference is significant at the .05 level

Table 4-15 Descriptive statistics of test anxiety measure for males and females

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 Male	290	3.72	1.249	.073	3.58	3.87	1	6
2 Female	229	3.42	1.173	.078	3.27	3.58	1	6

Table 4-16 Independent-samples t-test for group differences in test anxiety between males and females

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
								Lower	Upper
Test anxiety	2.323	.128	2.753	517	.006	.296	.108	.085	.507

Table 4-17 Descriptive statistics of test anxiety measure for four year groups

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
Year 1	236	3.26	1.220	.079	3.10	3.41	1	6
Year 2	86	3.49	1.313	.142	3.21	3.78	1	6
Year 3	136	3.99	1.019	.087	3.81	4.16	2	6
Year 4	62	4.10	1.120	.142	3.81	4.38	1	6

Table 4-18 ANOVA for group differences in test anxiety across four year groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
3.979	3	515	.008

Robust Tests of Equality of Means				
	Statistic ^a	df1	df2	Sig.
Welch	16.516	3	191.104	.000
Brown-Forsythe	15.463	3	330.458	.000

a. Asymptotically F distributed.

Table 4-19 Post hoc comparisons for individual group differences on test anxiety measure across four year groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Test anxiety	Year 1	Year 2	-.24	.162	.625	.621	.474
		Year 3	-.73*	.118	.000	.000	.000
		Year 4	-.84*	.163	.000	.000	.000
	Year 2	Year 3	-.49*	.166	.021	.021	.018
		Year 4	-.60*	.201	.019	.019	.017
	Year 3	Year 4	-.11	.167	.987	.986	.913

*The mean difference is significant at the .05 level

Table 4-20 Descriptive statistics of test anxiety measure for five discipline groups

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 Management	174	3.58	1.211	.092	3.40	3.76	1	6
2 Science & Engineering	127	3.62	1.205	.107	3.41	3.84	1	6
3 Design	51	3.41	1.204	.169	3.07	3.75	1	6
4 Informatics	114	3.65	1.179	.110	3.43	3.87	1	6
5 Humanities & Social Sciences	48	3.58	1.512	.218	3.14	4.02	1	6

Table 4-21 ANOVA for group differences in test anxiety across five discipline groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
2.589	4	509	.036

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	2.157	4	.539	.354	.841
Within Groups	773.325	508	1.522		
Total	775.482	512			

Table 4-22 Descriptive statistics of test anxiety measure for three English proficiency groups

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
1 Elementary	233	4.16	1.135	.074	4.01	4.30	2	6
2 Intermediate	232	3.23	1.038	.068	3.09	3.36	1	6
3 High-intermediate	44	2.50	1.254	.189	2.12	2.88	1	6

Table 4-23 ANOVA for group differences in approval of the policy across three English proficiency groups

Test of Homogeneity of Variances			
Levene Statistic	df1	df2	Sig.
2.183	2	506	.114

ANOVA					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	157.497	2	78.749	64.748	.000
Within Groups	615.417	506	1.216		
Total	772.915	508			

Table 4-24 Post hoc comparisons for individual group differences on test anxiety measure across three English proficiency groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tukey HSD	Scheffé	Gabriel
Test anxiety	1Elementary	2Intermediate	.93*	.102	.000	.000	.000
		3High-intermediate	1.66*	.181	.000	.000	.000
	2Intermediate	3High-intermediate	.73*	.181	.000	.000	.000

*The mean difference is significant at the .05 level

Table 4-25 Descriptive statistics of test anxiety measure for F and NT

	N	Mean	Std. Deviation	Std. Error	95% CI for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
3 failed (F)	270	3.85	1.179	.072	3.71	3.99	1	6
4 not taken (NT)	250	3.31	1.211	.077	3.15	3.46	1	6

Table 4-26 Independent-samples t-test for group differences in test anxiety between F and NT

	Levene's Test for Equality of Variances		t-test for Equality of Means						
	F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% CI of the Difference	
								Lower	Upper
Test anxiety	.323	.570	5.200	518	.000	.545	.105	.339	.751

MANOVA Tests for Motivational Regulations

Table 5-1 Descriptive statistics of motivational regulation measures for males and females

	Gender	Mean	Std. Deviation	N
Intrinsic	1 Male	3.58	1.174	400
	2 Female	4.03	1.027	535
	Total	3.84	1.114	935
External	1 Male	4.07	1.176	400
	2 Female	3.74	1.118	535
	Total	3.88	1.154	935
Introjected	1 Male	3.85	1.147	400
	2 Female	4.34	.930	535
	Total	4.13	1.056	935
Identified	1 Male	4.94	.987	400
	2 Female	5.11	.818	535
	Total	5.04	.897	935

Table 5-2 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity

Box's Test of Equality of Covariance Matrices^a

Box's M	60.582
F	6.029
df1	10
df2	3479407.426
Sig.	.000

a. Design: Intercept + Gender

Univariate Tests of Homoscedasticity

Levene's Test of Equality of Error Variances^a

	F	df1	df2	Sig.
Intrinsic	11.918	1	933	.001
External	1.578	1	933	.209
Introjected	16.489	1	933	.000
Identified	8.925	1	933	.003

a. Design: Intercept + Gender

Table 5-3 Multivariate and univariate tests for gender differences in motivational regulations

Multivariate Tests

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.069	17.299	4.000	930.000	.000	.069	69.197	1.000
Wilks' Lambda	.931	17.299	4.000	930.000	.000	.069	69.197	1.000
Hotelling's Trace	.074	17.299	4.000	930.000	.000	.069	69.197	1.000
Roy's Largest Root	.074	17.299	4.000	930.000	.000	.069	69.197	1.000

^a Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Intrinsic	45.753 ^b	1	45.753	38.335	.000	.039	38.335	1.000
External	24.460 ^c	1	24.460	18.719	.000	.020	18.719	.991
Introjected	55.039 ^d	1	55.039	52.023	.000	.053	52.023	1.000
Identified	6.419 ^e	1	6.419	8.032	.005	.009	8.032	.808

^a Computed using alpha = .05

^b $R^2 = .039$ (Adjusted $R^2 = .038$)

^c $R^2 = .020$ (Adjusted $R^2 = .019$)

^d $R^2 = .053$ (Adjusted $R^2 = .052$)

^e $R^2 = .009$ (Adjusted $R^2 = .007$)

Figure 5-1 Boxplots of motivational regulation measures for males and females

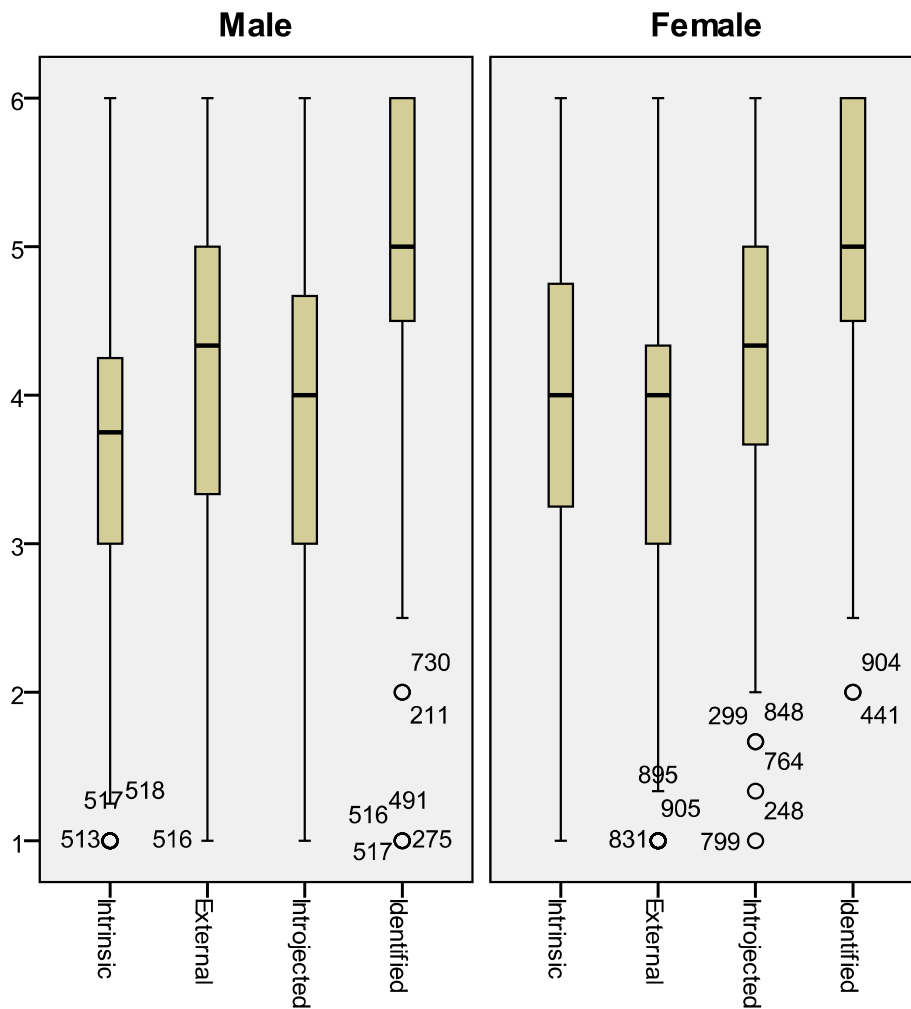


Table 5-4 Descriptive statistics of motivational regulation measures for four year groups

	Year	Mean	Std. Deviation	N
Intrinsic	Year 1	3.96	1.109	389
	Year 2	3.99	1.027	312
	Year 3	3.44	1.128	166
	Year 4	3.42	1.160	70
	Total	3.84	1.113	937
External	Year 1	3.84	1.117	389
	Year 2	3.59	1.141	312
	Year 3	4.33	.987	166
	Year 4	4.39	1.297	70
	Total	3.88	1.153	937
Introjected	Year 1	4.24	1.069	389
	Year 2	4.29	.989	312
	Year 3	3.75	1.022	166
	Year 4	3.79	1.071	70
	Total	4.14	1.056	937
Identified	Year 1	5.20	.822	389
	Year 2	5.05	.868	312
	Year 3	4.73	.961	166
	Year 4	4.79	1.037	70
	Total	5.04	.897	937

Table 5-5 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity

<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	71.672
F	2.360
df1	30
df2	274005.516
Sig.	.000

a. Design: Intercept + Year

Univariate Tests of Homoscedasticity

<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Intrinsic	1.589	3	933	.190
External	2.830	3	933	.037
Introjected	.702	3	933	.551
Identified	4.254	3	933	.005

a. Design: Intercept + Year

Table 5-6 Multivariate and univariate tests for year differences in motivational regulations

Multivariate Tests

Statistical Test	Value	F	Hypothesis			η^2	Noncent. Parameter	Observed Power ^a
			df	Error df	Sig.			
Pillai's Trace	.108	8.665	12.000	2796.000	.000	.036	103.975	1.000
Wilks' Lambda	.894	8.861	12.000	2460.840	.000	.037	93.538	1.000
Hotelling's Trace	.117	9.019	12.000	2786.000	.000	.037	108.229	1.000
Roy's Largest Root	.097	22.666	4.000	932.000	.000	.089	90.663	1.000

^a Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Intrinsic	50.854 ^b	3	16.951	14.268	.000	.044	42.803	1.000
External	78.486 ^c	3	26.162	20.938	.000	.063	62.815	1.000
Introjected	45.370 ^d	3	15.123	14.127	.000	.043	42.380	1.000
Identified	30.285 ^e	3	10.095	13.028	.000	.040	39.084	1.000

^a Computed using alpha = .05

^b $R^2 = .044$ (Adjusted $R^2 = .041$)

^c $R^2 = .063$ (Adjusted $R^2 = .060$)

^d $R^2 = .043$ (Adjusted $R^2 = .040$)

^e $R^2 = .040$ (Adjusted $R^2 = .037$)

Figure 5-2 Boxplots of motivational regulation measures for four different year groups

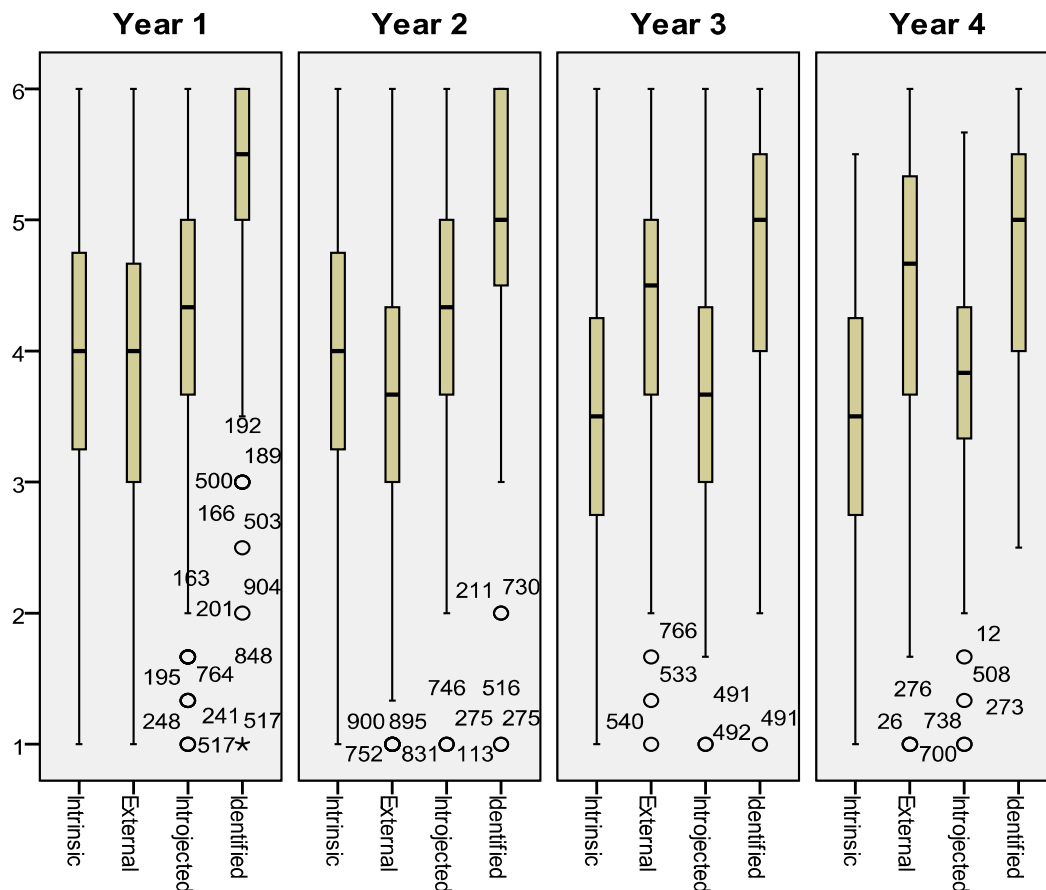


Table 5-7 Post hoc comparisons for individual group differences on motivational regulation measures across four different year groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnett's T3	Games-Howell
Intrinsic motivation	Year 1	Year 2	-.04	.081	.999	.998	.972
		Year 3	.51*	.104	.000	.000	.000
		Year 4	.54*	.150	.003	.003	.001
	Year 2	Year 3	.55*	.105	.000	.000	.000
		Year 4	.57*	.150	.001	.001	.001
	Year 3	Year 4	.02	.164	1.000	1.000	.999
External regulation	Year 1	Year 2	.24*	.086	.028	.028	.024
		Year 3	-.49*	.095	.000	.000	.000
		Year 4	-.55*	.165	.007	.007	.006
	Year 2	Year 3	-.74*	.100	.000	.000	.000
		Year 4	-.80*	.168	.000	.000	.000
	Year 3	Year 4	-.06	.173	1.000	1.000	.986
Introjected Regulation	Year 1	Year 2	-.06	.078	.980	.979	.893
		Year 3	.49*	.096	.000	.000	.000
		Year 4	.45*	.139	.010	.010	.009
	Year 2	Year 3	.55*	.097	.000	.000	.000
		Year 4	.51*	.140	.003	.003	.003
	Year 3	Year 4	-.04	.151	1.000	1.000	.994
Identified regulation	Year 1	Year 2	.15	.064	.109	.109	.088
		Year 3	.47*	.085	.000	.000	.000
		Year 4	.41*	.131	.014	.014	.012
	Year 2	Year 3	.32*	.089	.003	.003	.002
		Year 4	.26	.133	.284	.281	.215
	Year 3	Year 4	-.06	.145	.999	.999	.978

*The mean difference is significant at the .05 level

Table 5-8 Descriptive statistics of motivational regulation measures for five different discipline groups

	Discipline	Mean	Std. Deviation	N
Intrinsic	1 Management	3.89	1.150	369
	2 Science and Engineering	3.83	1.097	177
	3 Design	3.91	1.048	84
	4 Informatics	3.56	1.023	152
	5 Humanities and Social Sciences	3.92	1.144	148
	Total	3.83	1.115	930
External	1 Management	3.80	1.158	369
	2 Science and Engineering	4.10	1.143	177
	3 Design	3.99	1.080	84
	4 Informatics	3.95	1.128	152
	5 Humanities and Social Sciences	3.69	1.180	148
	Total	3.88	1.153	930
Introjected	1 Management	4.38	1.061	369
	2 Science and Engineering	4.09	1.003	177
	3 Design	4.09	1.066	84
	4 Informatics	3.75	1.043	152
	5 Humanities and Social Sciences	4.00	.986	148
	Total	4.14	1.058	930
Identified	1 Management	5.14	.858	369
	2 Science and Engineering	5.03	.870	177
	3 Design	5.11	.944	84
	4 Informatics	4.90	.912	152
	5 Humanities and Social Sciences	4.88	.957	148
	Total	5.04	.898	930

Table 5-9 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	63.442
F	1.567
df1	40
df2	624308.637
Sig.	.012

a. Design: Intercept + Discipline

Univariate Tests of Homoscedasticity				
<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Intrinsic	.900	4	925	.463
External	.249	4	925	.910
Introjected	.507	4	925	.731
Identified	.845	4	925	.496

a. Design: Intercept + Discipline

Table 5-10 Multivariate and univariate tests for discipline differences in motivational regulations

Multivariate Tests

Statistical Test	Value	F	Hypothesis			Sig.	η^2	Noncent. Parameter	Observed Power ^a
			df	Error df	df				
Pillai's Trace	.080	4.691	16.000	3700.000	.000	.020	75.051	1.000	
Wilks' Lambda	.922	4.728	16.000	2817.394	.000	.020	57.591	1.000	
Hotelling's Trace	.082	4.740	16.000	3682.000	.000	.020	75.847	1.000	
Roy's Largest Root	.050	11.457	4.000	925.000	.000	.047	45.827	1.000	

^a Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Intrinsic	14.145 ^b	4	3.536	2.868	.022	.012	11.473	.780
External	18.136 ^c	4	4.534	3.445	.008	.015	13.780	.858
Introjected	47.556 ^d	4	11.889	11.078	.000	.046	44.312	1.000
Identified	10.902 ^e	4	2.726	3.415	.009	.015	13.658	.855

^a Computed using alpha = .05

^b R² = .012 (Adjusted R² = .008)

^c R² = .015 (Adjusted R² = .010)

^d R² = .046 (Adjusted R² = .042)

^e R² = .015 (Adjusted R² = .010)

Figure 5-3 Boxplots of motivational regulation measures for five different discipline groups

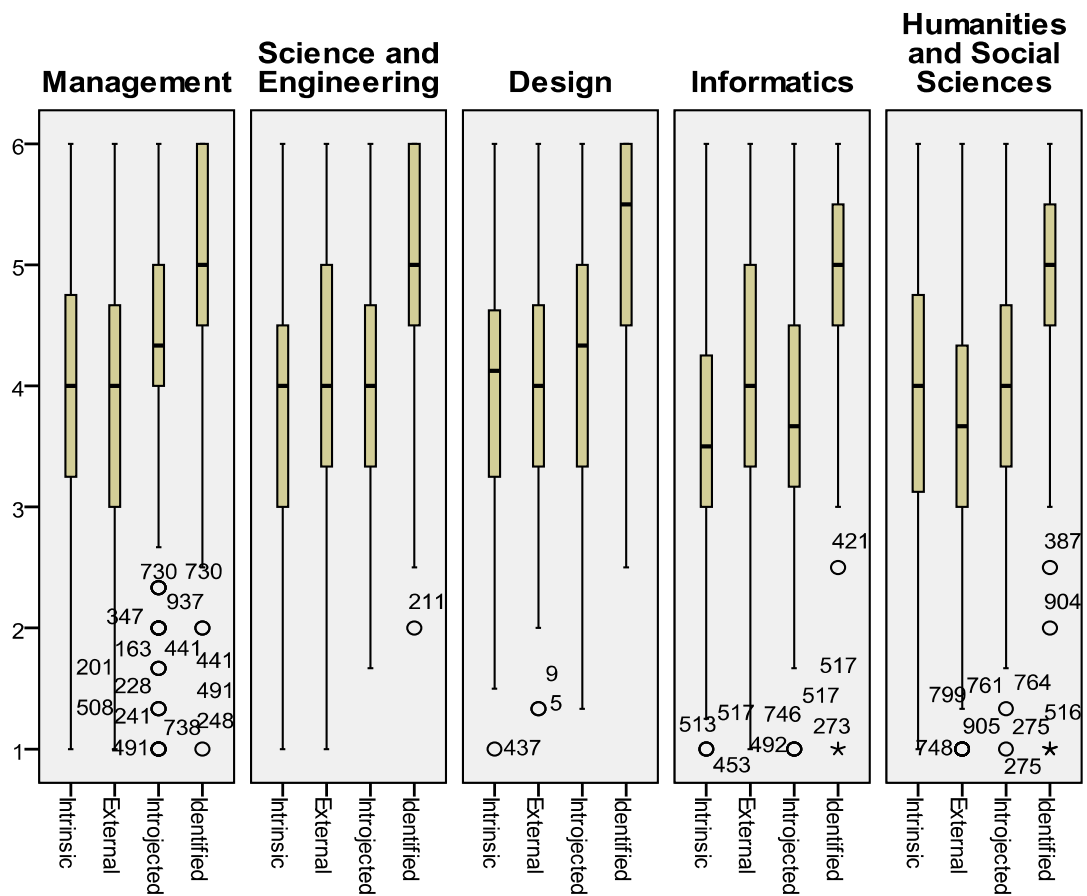


Table 5-11 Post hoc comparisons for individual group differences on motivational regulation measures across five different discipline groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison			
	Group I	Group J	Mean Difference	Standard Error	Tukey HSD	Scheffé	Gabriel	
Intrinsic motivation	1 Management	2 Science & Engineering	.06	.102	.980	.988	1.000	
		3 Design	-.02	.134	1.000	1.000	1.000	
		4 Informatics	.33*	.107	.018	.051	.016	
		5 Humanities & Social Sciences	-.03	.108	.999	.999	1.000	
	2 Science & Engineering	3 Design	-.08	.147	.984	.991	1.000	
		4 Informatics	.27	.123	.174	.297	.237	
		5 Humanities & Social Sciences	-.09	.124	.955	.973	.998	
	3 Design	4 Informatics	.35	.151	.137	.248	.173	
		5 Humanities & Social Sciences	-.01	.152	1.000	1.000	1.000	
	4 Informatics	5 Humanities & Social Sciences	-.36*	.128	.041	.097	.050	
	External regulation	1 Management	2 Science & Engineering	-.30*	.105	.032	.081	.033
			3 Design	-.19	.139	.641	.753	.787
4 Informatics			.16	.111	.627	.742	.806	
5 Humanities & Social Sciences			.11	.112	.880	.926	.983	
2 Science & Engineering		3 Design	.11	.152	.948	.969	.998	
		4 Informatics	.15	.127	.770	.851	.938	
		5 Humanities & Social Sciences	.41*	.128	.013	.038	.014	
3 Design		4 Informatics	.04	.156	.999	1.000	1.000	
		5 Humanities & Social Sciences	.30	.157	.322	.466	.439	
4 Informatics		5 Humanities & Social Sciences	.26	.132	.284	.426	.399	
Introjected regulation		1 Management	2 Science & Engineering	.29*	.095	.018	.051	.018
			3 Design	.29	.125	.143	.256	.136
	4 Informatics		.63*	.100	.000	.000	.000	
	5 Humanities & Social Sciences		.38*	.101	.001	.006	.001	
	2 Science & Engineering	3 Design	.00	.137	1.000	1.000	1.000	
		4 Informatics	.33*	.115	.030	.076	.035	
		5 Humanities & Social Sciences	.09	.115	.935	.961	.996	
	3 Design	4 Informatics	.34	.141	.118	.222	.147	
		5 Humanities & Social Sciences	.09	.142	.965	.979	.999	
	4 Informatics	5 Humanities & Social Sciences	-.24	.120	.250	.388	.350	
	Identified regulation	1 Management	2 Science & Engineering	.11	.082	.685	.788	.867
			3 Design	.03	.108	.998	.999	1.000
4 Informatics			.24*	.086	.039	.094	.039	
5 Humanities & Social Sciences			.26*	.087	.025	.065	.023	
2 Science & Engineering		3 Design	-.07	.118	.972	.984	.999	
		4 Informatics	.14	.099	.644	.756	.842	
		5 Humanities & Social Sciences	.15	.100	.544	.674	.740	
3		4 Informatics	.21	.121	.421	.564	.575	

Design	5 Humanities & Social Sciences	.23	.122	.347	.492	.475
4 Informatics	5 Humanities & Social Sciences	.02	.103	1.000	1.000	1.000

*The mean difference is significant at the .05 level

Table 5-12 Descriptive statistics of motivational regulation measures for three different English proficiency groups

	English proficiency levels	Mean	Std. Deviation	N
Intrinsic	1 Elementary	3.21	1.095	236
	2 Intermediate	3.96	1.022	566
	3 High-intermediate	4.52	.942	118
	Total	3.84	1.111	920
External	1 Elementary	4.61	.949	236
	2 Intermediate	3.74	1.067	566
	3 High-intermediate	3.12	1.202	118
	Total	3.89	1.155	920
Introjected	1 Elementary	3.65	1.138	236
	2 Intermediate	4.31	.961	566
	3 High-intermediate	4.32	1.001	118
	Total	4.14	1.054	920
Identified	1 Elementary	4.67	1.030	236
	2 Intermediate	5.13	.811	566
	3 High-intermediate	5.36	.739	118
	Total	5.04	.894	920

Table 5-13 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity

<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	70.793
F	3.505
df1	20
df2	475148.574
Sig.	.000

a. Design: Intercept + English Proficiency Levels

Univariate Tests of Homoscedasticity

<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Intrinsic	3.801	2	917	.023
External	4.836	2	917	.008
Introjected	2.935	2	917	.054
Identified	12.348	2	917	.000

a. Design: Intercept + English Proficiency Levels

Table 5-14 Multivariate and univariate tests for English proficiency differences in motivational regulations

Multivariate Tests

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.230	29.791	8.000	1830	.000	.115	238.332	1.000
Wilks' Lambda	.773	31.322 ^a	8.000	1828	.000	.121	250.573	1.000
Hotelling's Trace	.288	32.858	8.000	1826	.000	.126	262.863	1.000
Roy's Largest Root	.269	61.587 ^c	4.000	915	.000	.212	246.348	1.000

^a Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Intrinsic	157.377 ^b	2	78.688	73.921	.000	.139	147.843	1.000
External	202.319 ^c	2	101.160	90.580	.000	.165	181.161	1.000
Introjected	78.277 ^d	2	39.138	38.059	.000	.077	76.118	1.000
Identified	49.207 ^e	2	24.604	32.936	.000	.067	65.872	1.000

^a Computed using alpha = .05

^b $R^2 = .139$ (Adjusted $R^2 = .137$)

^c $R^2 = .165$ (Adjusted $R^2 = .163$)

^d $R^2 = .077$ (Adjusted $R^2 = .075$)

^e $R^2 = .067$ (Adjusted $R^2 = .065$)

Figure 5-4 Boxplots of motivational regulation measures for three different English proficiency groups

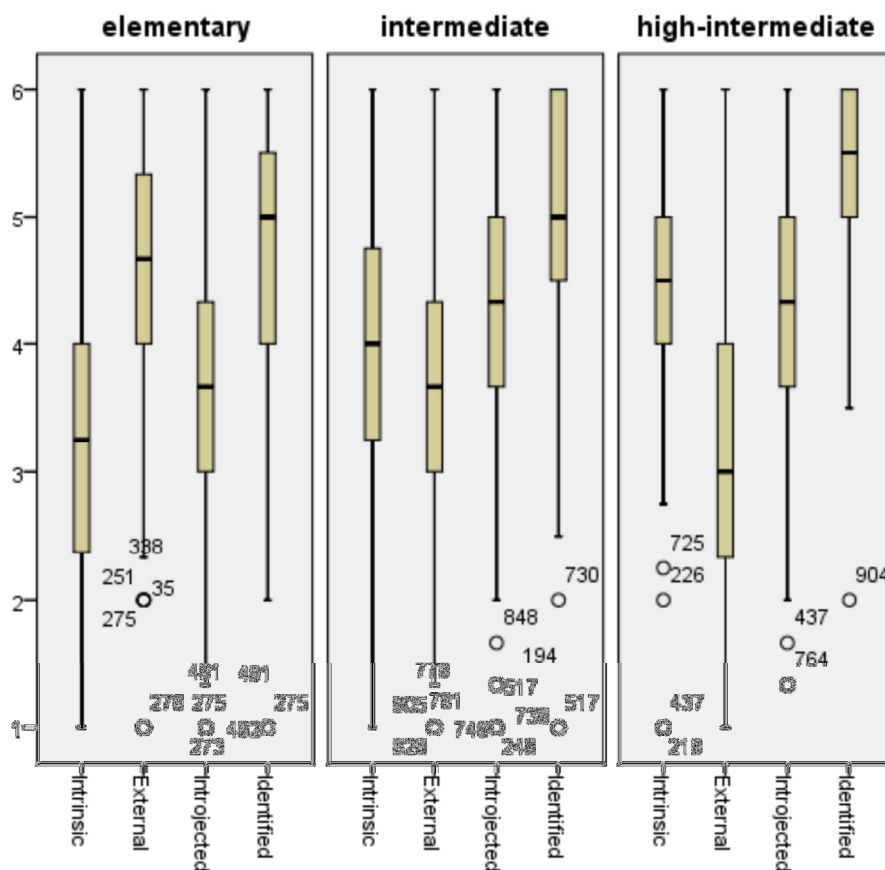


Table 5-15 Post hoc comparisons for individual group differences on motivational regulation measures across three different English proficiency groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Intrinsic	1 Elementary	2 Intermediate	-.76*	.083	.000	.000	.000
		3 High-intermediate	-1.31*	.112	.000	.000	.000
	2 Intermediate	3 High-intermediate	-.55*	.097	.000	.000	.000
External	1 Elementary	2 Intermediate	.86*	.076	.000	.000	.000
		3 High-intermediate	1.48*	.127	.000	.000	.000
	2 Intermediate	3 High-intermediate	.62*	.119	.000	.000	.000
Introjected	1 Elementary	2 Intermediate	-.67*	.084	.000	.000	.000
		3 High-intermediate	-.67*	.118	.000	.000	.000
	2 Intermediate	3 High-intermediate	.00	.101	1.000	1.000	1.000
Identified	1 Elementary	2 Intermediate	-.46*	.075	.000	.000	.000
		3 High-intermediate	-.69*	.095	.000	.000	.000
	2 Intermediate	3 High-intermediate	-.24*	.076	.007	.006	.000

*The mean difference is significant at the .05 level

Table 5-12 Descriptive statistics of motivational regulation measures for five different test status groups

	Test Status	Mean	Std. Deviation	N
Intrinsic	1 passed before university (PB)	4.49	.929	190
	2 passed after university (PA)	3.87	.963	226
	3 failed (F)	3.45	1.118	270
	4 not taken (NT)	3.73	1.144	250
	Total	3.84	1.114	936
External	1 passed before university (PB)	3.16	1.078	190
	2 passed after university (PA)	3.65	1.082	226
	3 failed (F)	4.42	.924	270
	4 not taken (NT)	4.06	1.158	250
	Total	3.88	1.153	936
Introjected	1 passed before university (PB)	4.48	1.035	190
	2 passed after university (PA)	4.32	.878	226
	3 failed (F)	3.86	1.082	270
	4 not taken (NT)	4.00	1.087	250
	Total	4.13	1.055	936
Identified	1 passed before university (PB)	5.34	.709	190
	2 passed after university (PA)	5.07	.793	226
	3 failed (F)	4.75	1.027	270
	4 not taken (NT)	5.09	.879	250
	Total	5.04	.897	936

Table 5-13 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	102.413
F	3.387
df1	30
df2	2108206.615
Sig.	.000

a. Design: Intercept + Test Status

Univariate Tests of Homoscedasticity

<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Intrinsic	4.591	3	932	.003
External	4.786	3	932	.003
Introjected	3.158	3	932	.024
Identified	8.940	3	932	.000

a. Design: Intercept + Test Status

Table 5-14 Multivariate and univariate tests for test status differences in motivational regulations

Multivariate Tests

Statistical Test	Value	Hypothesis		Error		Noncent. Parameter	Observed Power ^a	
		F	df	df	Sig.			
Pillai's Trace	.214	17.860	12.000	2793.000	.000	.071	214.325	1.000
Wilks' Lambda	.792	18.920	12.000	2458.194	.000	.075	199.172	1.000
Hotelling's Trace	.257	19.832	12.000	2783.000	.000	.079	237.981	1.000
Roy's Largest Root	.228	53.023 ^c	4.000	931.000	.000	.186	212.093	1.000

^a Computed using alpha = .05**Tests of Between-Subjects Effects**

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Intrinsic	125.260 ^b	3	41.753	37.633	.000	.108	112.898	1.000
External	195.910 ^c	3	65.303	58.173	.000	.158	174.518	1.000
Introjected	55.574 ^d	3	18.525	17.525	.000	.053	52.575	1.000
Identified	39.743 ^e	3	13.248	17.327	.000	.053	51.980	1.000

^a Computed using alpha = .05^b $R^2 = .108$ (Adjusted $R^2 = .105$)^c $R^2 = .158$ (Adjusted $R^2 = .155$)^d $R^2 = .053$ (Adjusted $R^2 = .050$)^e $R^2 = .053$ (Adjusted $R^2 = .050$)

Figure 5-4 Boxplots of motivational regulation measures for four different test status groups

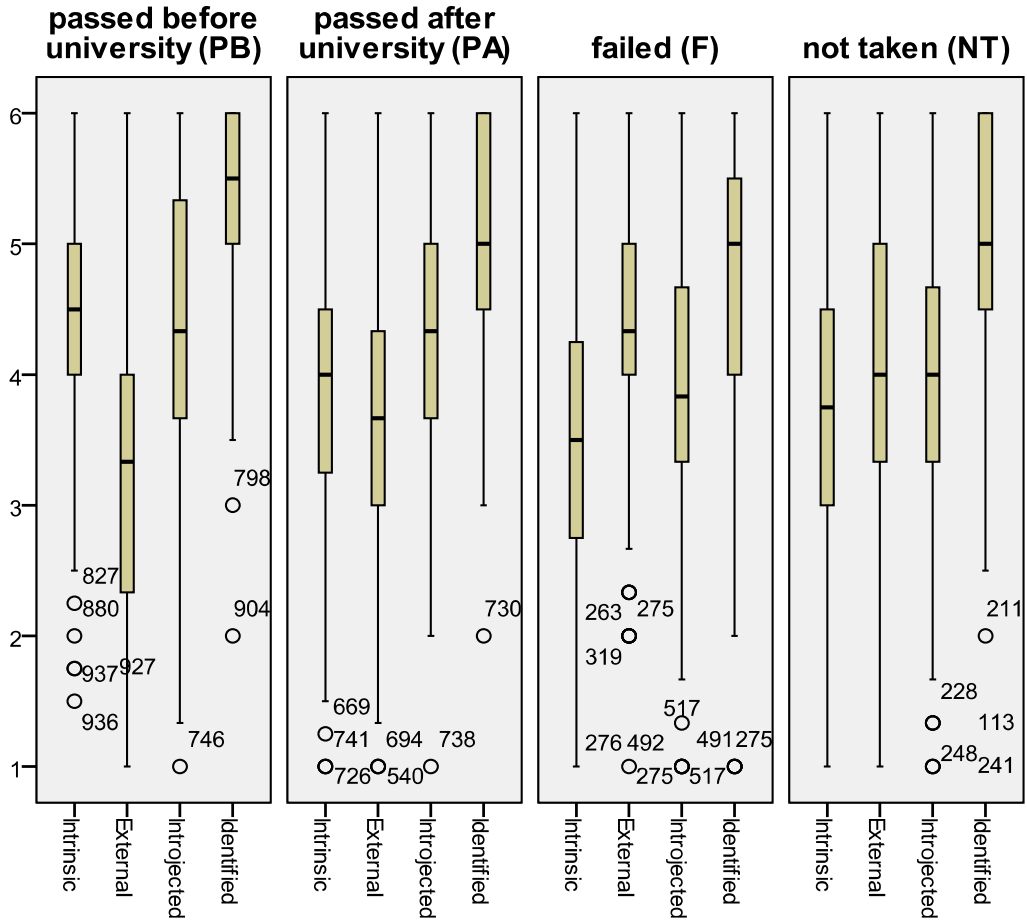


Table 5-15 Post hoc comparisons for individual group differences on motivational regulation measures across four different test status groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnett's T3	Games-Howell
Intrinsic	1 Passed before	2 Passed after	.62*	.093	.000	.000	.000
		3 Failed	1.04*	.096	.000	.000	.000
		4 Not taken	.76*	.099	.000	.000	.000
	2 Passed after	3 Failed	.42*	.093	.000	.000	.000
		4 Not taken	.14	.097	.654	.653	.500
	3 Failed	4 Not taken	-.28*	.099	.024	.024	.021
External	1 Passed before	2 Passed after	-.49*	.106	.000	.000	.000
		3 Failed	-1.26*	.096	.000	.000	.000
		4 Not taken	-.90*	.107	.000	.000	.000
	2 Passed after	3 Failed	-.77*	.091	.000	.000	.000
		4 Not taken	-.41*	.103	.000	.000	.000
	3 Failed	4 Not taken	.36*	.092	.001	.001	.001
Introjected	1 Passed before	2 Passed after	.16	.095	.453	.452	.341
		3 Failed	.62*	.100	.000	.000	.000
		4 Not taken	.48*	.102	.000	.000	.000
	2 Passed after	3 Failed	.46*	.088	.000	.000	.000
		4 Not taken	.32*	.090	.002	.002	.002
	3 Failed	4 Not taken	-.14	.095	.596	.595	.452
Identified	1 Passed before	2 Passed after	.26*	.074	.002	.002	.002
		3 Failed	.58*	.081	.000	.000	.000
		4 Not taken	.25*	.076	.007	.007	.007
	2 Passed after	3 Failed	.32*	.082	.001	.001	.001
		4 Not taken	-.02	.077	1.000	1.000	.996
	3 Failed	4 Not taken	-.34*	.084	.000	.000	.000

Note.

1 Passed before = students who passed the English Proficiency test before university

2 Passed after = students who passed the English Proficiency test after university

3 Failed = students who failed the English Proficiency test after university

4 Not taken=students who had not taken the English Proficiency test yet

*The mean difference is significant at the .05 level

MANOVA Tests for Achievement Goals

Table 5-16 Descriptive statistics of achievement goal measures for males and females

	Gender	Mean	Std. Deviation	N
Performance-approach	1 Male	3.53	1.106	399
	2 Female	3.78	.929	536
	Total	3.68	1.016	935
Mastery-approach	1 Male	4.50	.981	399
	2 Female	4.67	.758	536
	Total	4.60	.864	935
Performance-avoidance	1 Male	2.97	1.163	399
	2 Female	2.83	1.006	536
	Total	2.89	1.078	935
Mastery-avoidance	1 Male	4.10	1.013	399
	2 Female	4.16	.790	536
	Total	4.13	.892	935

Table 5-17 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity

<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	89.007
F	8.858
df1	10
df2	3461842.327
Sig.	.000

a. Design: Intercept + Gender

Univariate Tests of Homoscedasticity

<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Performance-approach	10.232	1	933	.001
Mastery-approach	22.120	1	933	.000
Performance-avoidance	5.446	1	933	.020
Mastery-avoidance	18.115	1	933	.000

a. Design: Intercept + Gender

Table 5-18 Multivariate and univariate tests for gender differences in achievement goals

Multivariate Tests

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.025	5.968	4.000	930.000	.000	.025	23.872	.985
Wilks'	.975	5.968	4.000	930.000	.000	.025	23.872	.985
Lambda	.026	5.968	4.000	930.000	.000	.025	23.872	.985
Hotelling's Trace	.026	5.968	4.000	930.000	.000	.025	23.872	.985
Roy's Largest Root								

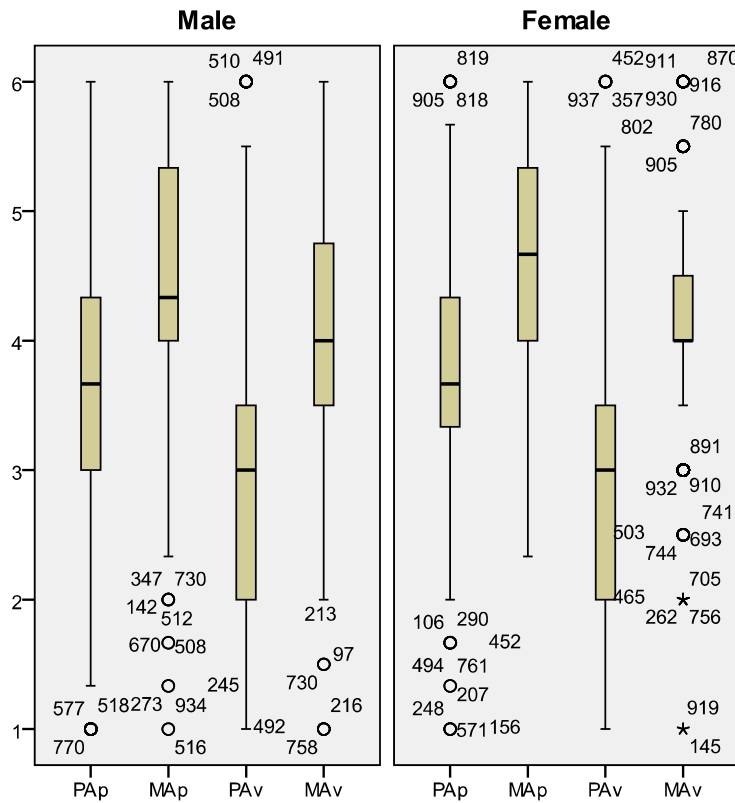
^aComputed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Performance-approach	14.314 ^b	1	14.314	14.074	.000	.015	14.074	.963
Mastery-approach	6.904 ^c	1	6.904	9.320	.002	.010	9.320	.862
Performance-avoidance	4.607 ^d	1	4.607	3.979	.046	.004	3.979	.513
Mastery-avoidance	.909 ^e	1	.909	1.143	.285	.001	1.143	.187

^a Computed using alpha = .05
^b $R^2 = .015$ (Adjusted $R^2 = .014$)
^c $R^2 = .010$ (Adjusted $R^2 = .009$)
^d $R^2 = .004$ (Adjusted $R^2 = .003$)
^e $R^2 = .001$ (Adjusted $R^2 = .000$)

Figure 5-5 Boxplots of achievement goal measures for males and females



Note.
PAp = performance-approach goals
MAp = mastery-approach goals
PAv = performance-avoidance goals
MAv = mastery-avoidance goals

Table 5-19 Descriptive statistics of achievement goal measures for four year groups

	Year	Mean	Std. Deviation	N
Performance-approach	Year 1	3.73	1.038	389
	Year 2	3.72	.980	312
	Year 3	3.64	.975	168
	Year 4	3.33	1.115	68
	Total	3.68	1.017	937
Mastery-approach	Year 1	4.67	.851	389
	Year 2	4.56	.809	312
	Year 3	4.49	.913	168
	Year 4	4.67	1.035	68
	Total	4.60	.865	937
Performance-avoidance	Year 1	2.76	1.113	389
	Year 2	2.82	.937	312
	Year 3	3.22	1.084	168
	Year 4	3.17	1.260	68
	Total	2.89	1.078	937
Mastery-avoidance	Year 1	4.20	.934	389
	Year 2	4.08	.795	312
	Year 3	4.13	.877	168
	Year 4	3.99	1.056	68
	Total	4.13	.891	937

Table 5-20 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	59.635
F	1.963
df1	30
df2	257122.459
Sig.	.001

a. Design: Intercept + Year

Univariate Tests of Homoscedasticity				
<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Performance-approach	1.452	3	933	.226
Mastery-approach	4.015	3	933	.007
Performance-avoidance	3.714	3	933	.011
Mastery-avoidance	4.495	3	933	.004

a. Design: Intercept + Year

Table 5-21 Multivariate and univariate tests for year differences in achievement goals

Multivariate Tests

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.048	3.756	12.000	2796.000	.000	.016	45.074	.999
Wilks' Lambda	.953	3.775	12.000	2460.840	.000	.016	39.909	.997
Hotelling's Trace	.049	3.788	12.000	2786.000	.000	.016	45.453	.999
Roy's Largest Root	.036	8.399 ^c	4.000	932.000	.000	.035	33.595	.999

^aComputed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Performance-approach	9.927 ^b	3	3.309	3.220	.022	.010	9.660	.743
Mastery-approach	4.645 ^c	3	1.548	2.077	.102	.007	6.230	.533
Performance-avoidance	31.995 ^d	3	10.665	9.420	.000	.029	28.261	.997
Mastery-avoidance	3.870 ^e	3	1.290	1.629	.181	.005	4.887	.430

^aComputed using alpha = .05

^bR² = .010 (Adjusted R² = .007)

^cR² = .007 (Adjusted R² = .003)

^dR² = .029 (Adjusted R² = .026)

^eR² = .005 (Adjusted R² = .002)

Figure 5-6 Boxplots of achievement goal measures for four different year groups

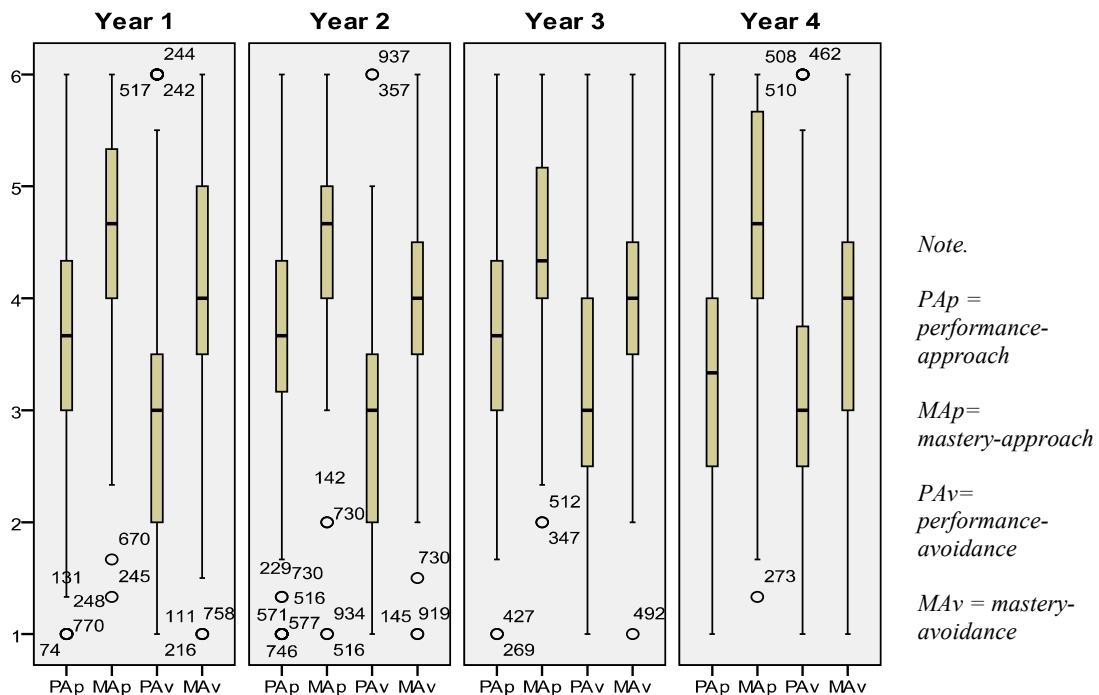


Table 5-22 Post hoc comparisons for individual group differences on achievement goal measures across four different year groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tukey HSD	Scheffé	Gabriel
Performance-approach	Year1	Year 2	.01	.077	.999	1.000	1.000
		Year 3	.09	.094	.757	.808	.895
		Year 4	.40*	.133	.016	.032	.008
	Year 2	Year 3	.08	.097	.827	.865	.946
		Year 4	.39*	.136	.023	.044	.015
	Year 3	Year 4	.30	.146	.159	.228	.183
Mastery-approach	Year1	Year 2	.11	.066	.337	.422	.444
		Year 3	.18	.080	.120	.180	.135
		Year 4	.00	.113	1.000	1.000	1.000
	Year 2	Year 3	.07	.083	.852	.885	.960
		Year 4	-.11	.116	.777	.824	.893
	Year 3	Year 4	-.18	.124	.485	.568	.609
Performance-avoidance	Year1	Year 2	-.07	.081	.835	.872	.953
		Year 3	-.46*	.098	.000	.000	.000
		Year 4	-.41*	.140	.017	.034	.009
	Year 2	Year 3	-.40*	.102	.001	.002	.001
		Year 4	-.35	.142	.073	.118	.059
	Year 3	Year 4	.05	.153	.987	.990	1.000
Mastery-avoidance	Year1	Year 2	.12	.068	.305	.389	.402
		Year 3	.07	.082	.822	.861	.995
		Year 4	.21	.117	.290	.374	.964
	Year 2	Year 3	-.05	.085	.948	.961	.995
		Year 4	.09	.119	.878	.906	.964
	Year 3	Year 4	.14	.128	.715	.772	.859

*The mean difference is significant at the .05 level

Table 5-23 Descriptive statistics of achievement goal measures for five different discipline groups

	Discipline	Mean	Std. Deviation	N
Performance-approach	1 Management	3.79	1.018	370
	2 Science and Engineering	3.70	1.000	176
	3 Design	3.70	1.124	84
	4 Informatics	3.50	.988	153
	5 Humanities and Social Sciences	3.55	.978	147
	Total	3.68	1.018	930
Mastery-approach	1 Management	4.63	.839	370
	2 Science and Engineering	4.52	.896	176
	3 Design	4.61	.862	84
	4 Informatics	4.58	.916	153
	5 Humanities and Social Sciences	4.62	.846	147
	Total	4.59	.865	930
Performance-avoidance	1 Management	2.88	1.132	370
	2 Science and Engineering	2.90	1.017	176
	3 Design	2.77	.971	84
	4 Informatics	2.99	1.141	153
	5 Humanities and Social Sciences	2.87	1.013	147
	Total	2.89	1.080	930
Mastery-avoidance	1 Management	4.18	.912	370
	2 Science and Engineering	4.12	.912	176
	3 Design	4.07	.979	84
	4 Informatics	4.11	.887	153
	5 Humanities and Social Sciences	4.10	.753	147
	Total	4.13	.890	930

Table 5-24 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	47.052
F	1.162
df1	40
df2	623787.068
Sig.	.222

a. Design: Intercept + Discipline

Univariate Tests of Homoscedasticity				
<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Performance-approach	1.579	4	925	.178
Mastery-approach	.508	4	925	.730
Performance-avoidance	1.031	4	925	.390
Mastery-avoidance	1.026	4	925	.393

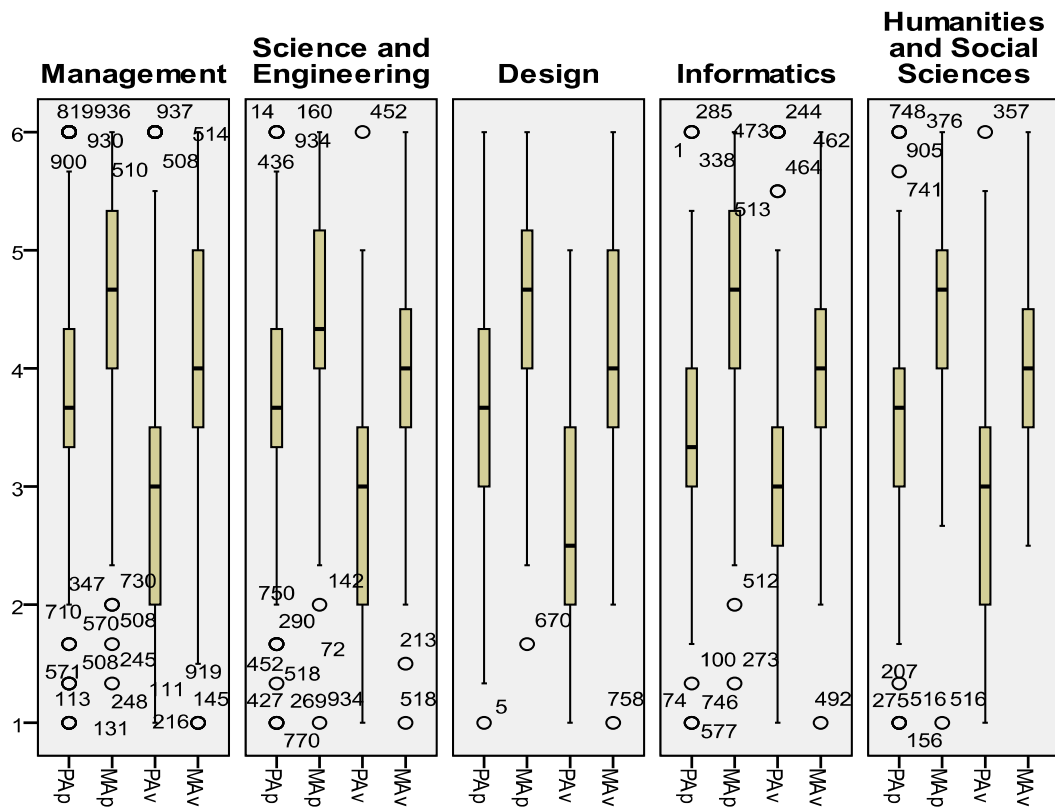
a. Design: Intercept + Discipline

Table 5-25 Multivariate tests for discipline differences in achievement goals

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.018	1.039	16.000	3700.000	.411	.004	16.623	.719
Wilks' Lambda	.982	1.040	16.000	2817.394	.410	.004	12.695	.566
Hotelling's Trace	.018	1.040	16.000	3682.000	.410	.004	16.640	.719
Roy's Largest Root	.013	3.084	4.000	925.000	.015	.013	12.335	.812

^a Computed using alpha = .05

Figure 5-7 Boxplots of achievement goal measures for five different discipline groups



Note.

PAp = performance-approach goals

MAp = mastery-approach goals

PAv = performance-avoidance goals

MAv = mastery-avoidance goals

Table 5-26 Descriptive statistics of achievement goal measures for three different English proficiency groups

	English proficiency levels	Mean	Std. Deviation	N
Performance-approach	1 Elementary	3.45	1.085	237
	2 Intermediate	3.74	.976	565
	3 High-intermediate	3.89	1.034	118
	Total	3.68	1.023	920
Mastery-approach	1 Elementary	4.47	1.012	237
	2 Intermediate	4.63	.814	565
	3 High-intermediate	4.71	.779	118
	Total	4.60	.868	920
Performance-avoidance	1 Elementary	3.41	1.176	237
	2 Intermediate	2.78	.982	565
	3 High-intermediate	2.40	.953	118
	Total	2.90	1.082	920
Mastery-avoidance	1 Elementary	4.07	1.053	237
	2 Intermediate	4.12	.843	565
	3 High-intermediate	4.28	.741	118
	Total	4.13	.892	920

Table 5-27 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	91.255
F	4.519
df1	20
df2	475219.235
Sig.	.000

a. Design: Intercept + English Proficiency Levels

Univariate Tests of Homoscedasticity				
<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Performance-approach	3.010	2	917	.050
Mastery-approach	9.841	2	917	.000
Performance-avoidance	6.074	2	917	.002
Mastery-avoidance	8.184	2	917	.000

a. Design: Intercept + English Proficiency Levels

Table 5-28 Multivariate and univariate tests for English proficiency differences in achievement goals

Multivariate Tests								
Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.977	9713.874	4	914	.000	.977	38855.496	1.000
Wilks' Lambda	.023	9713.874	4	914	.000	.977	38855.496	1.000
Hotelling's Trace	42.511	9713.874	4	914	.000	.977	38855.496	1.000
Roy's Largest Root	42.511	9713.874	4	914	.000	.977	38855.496	1.000

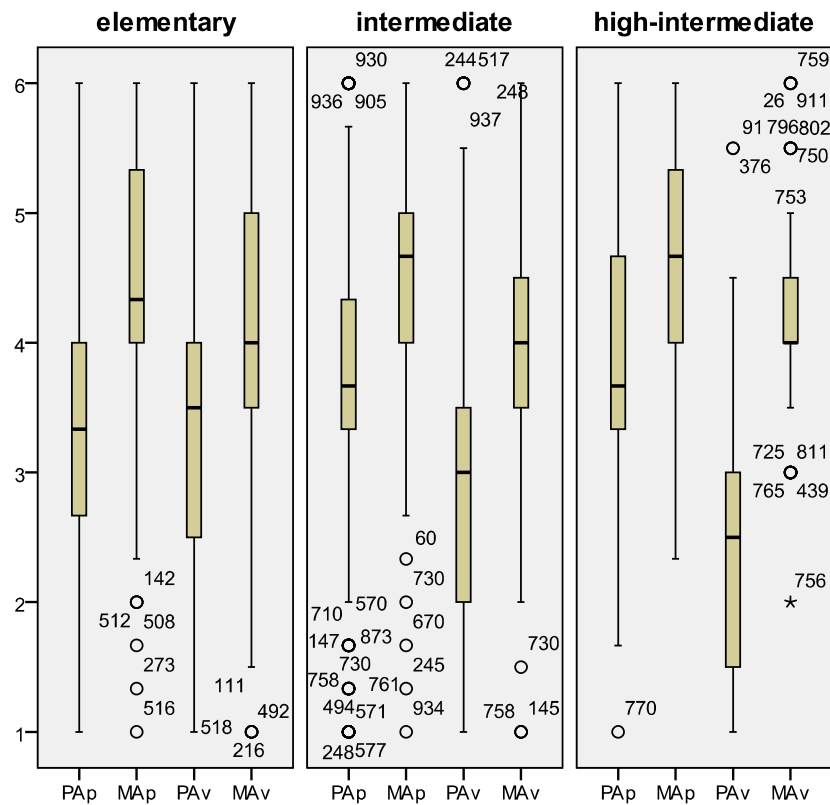
^a Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Performance-approach	20.415 ^b	2	10.207	9.952	.000	.021	19.904	.985
Mastery-approach	5.954 ^c	2	2.977	3.977	.019	.009	7.953	.713
Performance-avoidance	100.117 ^d	2	50.058	47.008	.000	.093	94.015	1.000
Mastery-avoidance	3.436 ^e	2	1.718	2.166	.115	.005	4.333	.444

^a Computed using alpha = .05
^b $R^2 = .021$ (Adjusted $R^2 = .019$)
^c $R^2 = .009$ (Adjusted $R^2 = .006$)
^d $R^2 = .093$ (Adjusted $R^2 = .091$)
^e $R^2 = .005$ (Adjusted $R^2 = .003$)

Figure 5-8 Boxplots of achievement goal measures for three different English proficiency groups



Note.

PAp = performance-approach goals
MAp = mastery-approach goals
PAv = performance-avoidance goals
MAv = mastery-avoidance goals

Table 5-29 Post hoc comparisons for individual group differences on motivational regulation measures across three different English proficiency groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Performance-approach	1 Elementary	2 Intermediate	-.30*	.082	.001	.001	.001
		3 High-intermediate	-.45*	.118	.001	.001	.001
	2 Intermediate	3 High-intermediate	-.15	.104	.376	.375	.312
Mastery-approach	1 Elementary	2 Intermediate	-.16	.074	.089	.082	.078
		3 High-intermediate	-.24*	.097	.043	.043	.038
	2 Intermediate	3 High-intermediate	-.08	.079	.693	.692	.587
Performance-avoidance	1 Elementary	2 Intermediate	.63*	.07	.000	.000	.000
		3 High-intermediate	1.02*	.116	.000	.000	.000
	2 Intermediate	3 High-intermediate	.38*	.097	.000	.000	.000
Mastery-avoidance	1 Elementary	2 Intermediate	-.06	.077	.841	.840	.738
		3 High-intermediate	-.21	.097	.094	.093	.081
	2 Intermediate	3 High-intermediate	-.15	.077	.147	.147	.125

*The mean difference is significant at the .05 level

Table 5-30 Descriptive statistics of achievement goal measures for five different test status groups

	Test Status	Mean	Std. Deviation	N
Performance-approach	1 passed before university (PB)	4.49	.929	190
	2 passed after university (PA)	3.87	.963	226
	3 failed (F)	3.45	1.118	270
	4 not taken (NT)	3.73	1.144	250
	Total	3.84	1.114	936
Mastery-approach	1 passed before university (PB)	3.16	1.078	190
	2 passed after university (PA)	3.65	1.082	226
	3 failed (F)	4.42	.924	270
	4 not taken (NT)	4.06	1.158	250
	Total	3.88	1.153	936
Performance-avoidance	1 passed before university (PB)	4.48	1.035	190
	2 passed after university (PA)	4.32	.878	226
	3 failed (F)	3.86	1.082	270
	4 not taken (NT)	4.00	1.087	250
	Total	4.13	1.055	936
Mastery-avoidance	1 passed before university (PB)	5.34	.709	190
	2 passed after university (PA)	5.07	.793	226
	3 failed (F)	4.75	1.027	270
	4 not taken (NT)	5.09	.879	250
	Total	5.04	.897	936

Table 5-31 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	110.534
F	3.656
df1	30
df2	2130670.066
Sig.	.000

a. Design: Intercept + Test Status

Univariate Tests of Homoscedasticity				
<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Performance-approach	2.279	3	932	.078
Mastery-approach	3.579	3	932	.014
Performance-avoidance	3.531	3	932	.014
Mastery-avoidance	6.319	3	932	.000

a. Design: Intercept + Test Status

Table 5-32 Multivariate and univariate tests for test status differences in achievement goals

Multivariate Tests

Statistical Test	Value	F	Hypothesis			η^2	Noncent. Parameter	Observed Power ^a
			df	Error df	Sig.			
Pillai's Trace	.111	8.938	12.000	2793.000	.000	.037	107.258	1.000
Wilks' Lambda	.890	9.240	12.000	2458.194	.000	.038	97.536	1.000
Hotelling's Trace	.123	9.505	12.000	2783.000	.000	.039	114.062	1.000
Roy's Largest Root	.116	26.896	4.000	931.000	.000	.104	107.584	1.000

^a Computed using alpha = .05

Tests of Between-Subjects Effects

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Performance-approach	19.906 ^b	3	6.635	6.518	.000	.021	19.553	.972
Mastery-approach	3.968 ^c	3	1.323	1.771	.151	.006	5.314	.464
Performance-avoidance	94.873 ^d	3	31.624	29.675	.000	.087	89.025	1.000
Mastery-avoidance	5.814 ^e	3	1.938	2.463	.061	.008	7.389	.614

^a Computed using alpha = .05

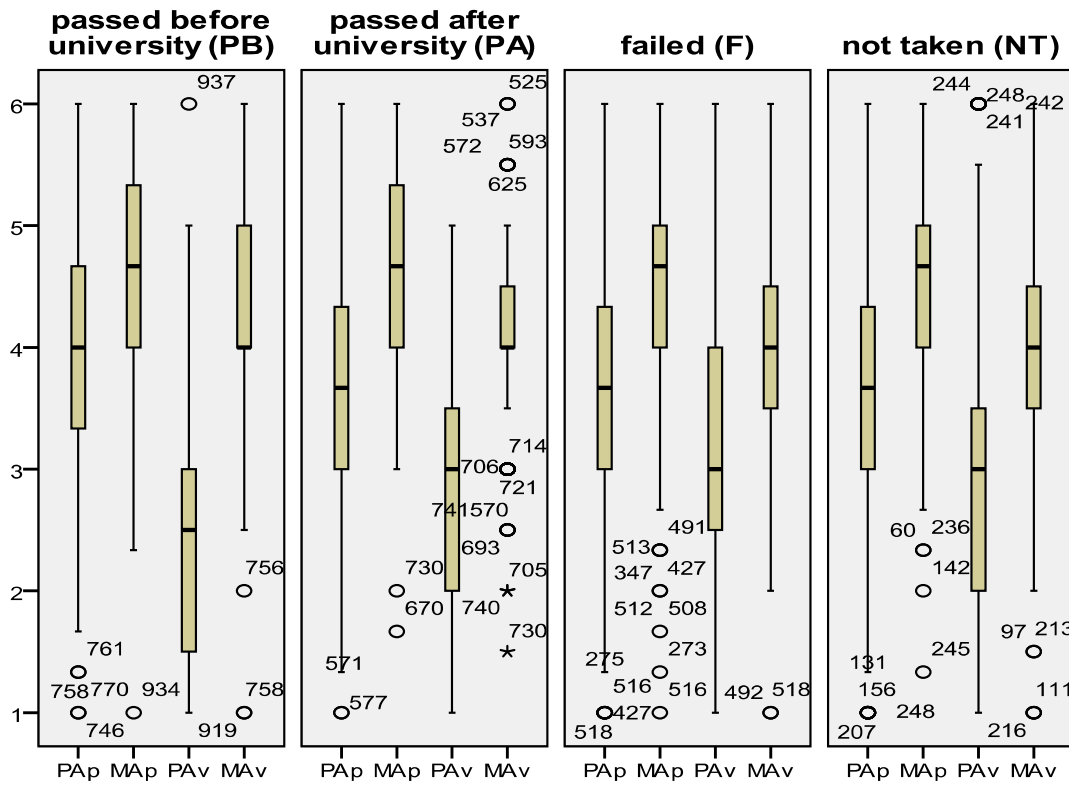
^b $R^2 = .021$ (Adjusted $R^2 = .017$)

^c $R^2 = .006$ (Adjusted $R^2 = .002$)

^d $R^2 = .087$ (Adjusted $R^2 = .084$)

^e $R^2 = .008$ (Adjusted $R^2 = .005$)

Figure 5-9 Boxplots of achievement goal measures for four different test status groups



Note.

PAp = performance-approach goals

MAp = mastery-approach goals

PAv = performance-avoidance goals

MAv = mastery-avoidance goals

Table 5-33 Post hoc comparisons for individual group differences on achievement goal measures across four different test status groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Performance-approach	1 Passed before	2 Passed after	.25	.095	.058	.058	.049
		3 Failed	.37*	.097	.001	.001	.001
		4 Not taken	.39*	.102	.001	.001	.001
	2 Passed after	3 Failed	.12	.085	.651	.650	.497
		4 Not taken	.14	.093	.548	.547	.414
		3 Failed	4 Not taken	.02	.093	1.000	1.000
Mastery-approach	1 Passed before	2 Passed after	.00	.079	1.000	1.000	1.000
		3 Failed	.15	.083	.371	.370	.280
		4 Not taken	.11	.084	.708	.706	.546
	2 Passed after	3 Failed	.14	.076	.298	.297	.227
		4 Not taken	.11	.077	.656	.655	.502
		3 Failed	4 Not taken	-.04	.080	.998	.998
Performance-avoidance	1 Passed before	2 Passed after	-.41*	.091	.000	.000	.000
		3 Failed	-.90*	.097	.000	.000	.000
		4 Not taken	-.59*	.099	.000	.000	.000
	2 Passed after	3 Failed	-.49*	.090	.000	.000	.000
		4 Not taken	-.18	.092	.279	.279	.213
		3 Failed	4 Not taken	.31*	.098	.009	.009
Mastery-avoidance	1 Passed before	2 Passed after	.14	.078	.391	.389	.294
		3 Failed	.15	.084	.368	.367	.278
		4 Not taken	.23	.089	.059	.059	.049
	2 Passed after	3 Failed	.01	.027	1.000	1.000	.998
		4 Not taken	.09	.079	.810	.809	.645
		3 Failed	4 Not taken	.08	.085	.926	.926

Note.

1 Passed before= students who passed the English Proficiency test before university

2 Passed after = students who passed the English Proficiency test after university

3 Failed = students who failed the English Proficiency test after university

4 Not taken=students who had not taken the English Proficiency test yet

*The mean difference is significant at the .05 level

MANOVA Tests for Approaches to Learning

Table 6-1 Descriptive statistics of approaches to learning measures for males and females

	Gender	Mean	Std. Deviation	N
Deep approaches	1 Male	3.33	.846	399
	2 Female	3.49	.717	537
	Total	3.42	.778	936
Surface approaches	1 Male	3.36	.941	399
	2 Female	3.11	.826	537
	Total	3.22	.885	936

Table 6-2 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity*Box's Test of Equality of Covariance Matrices^a*

Box's M	33.346
F	11.089
df1	3
df2	85396030.625
Sig.	.000

^a Design: Intercept + Gender**Univariate Tests of Homoscedasticity***Levene's Test of Equality of Error Variances^a*

	F	df1	df2	Sig.
Deep approaches	8.887	1	934	.003
Surface approaches	7.324	1	934	.007

^a Design: Intercept + Gender

Table 6-3 Multivariate and univariate tests for gender differences in approaches to learning

Multivariate Tests

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.022	10.675	2.000	933.000	.000	.022	21.350	.990
Wilks' Lambda	.978	10.675	2.000	933.000	.000	.022	21.350	.990
Hotelling's Trace	.023	10.675	2.000	933.000	.000	.022	21.350	.990
Roy's Largest Root	.023	10.675	2.000	933.000	.000	.022	21.350	.990

^a Computed using alpha = .05**Tests of Between-Subjects Effects**

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Deep approaches	5.692 ^a	1	5.692	9.482	.002	.010	9.482	.868
Surface approaches	13.926 ^c	1	13.926	18.115	.000	.019	18.115	.989

^a Computed using alpha = .05^b $R^2 = .010$ (Adjusted $R^2 = .009$)^c $R^2 = .019$ (Adjusted $R^2 = .018$)

Figure 6-1 Boxplots of approaches to learning measures for males and females

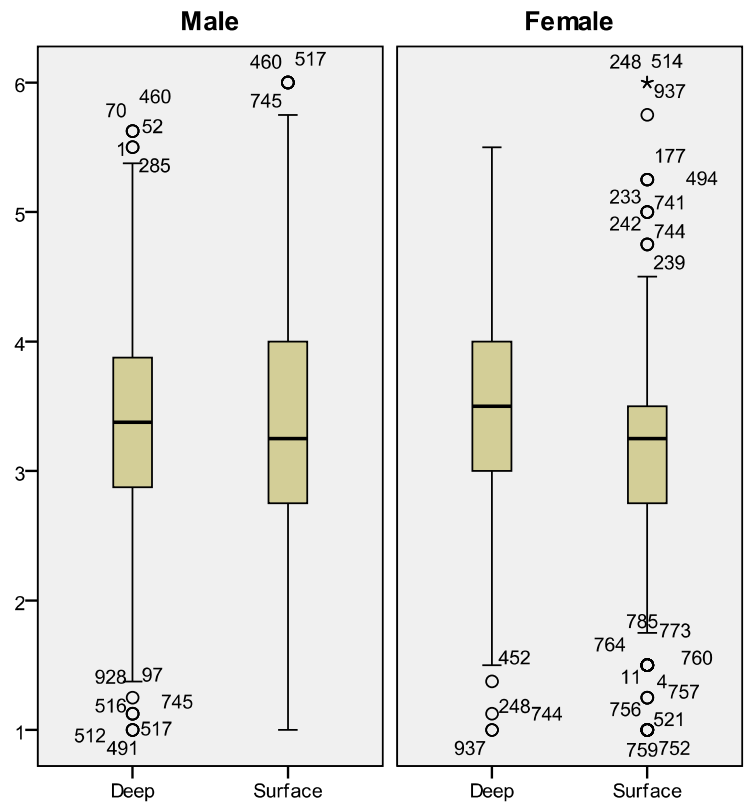


Table 6-4 Descriptive statistics of approaches to learning measures for four year groups

	Year	Mean	Std. Deviation	N
Deep approaches	Year 1	3.47	.784	389
	Year 2	3.43	.711	312
	Year 3	3.37	.819	168
	Year 4	3.28	.912	69
	Total	3.42	.778	938
Surface approaches	Year 1	3.12	.954	389
	Year 2	3.19	.799	312
	Year 3	3.42	.813	168
	Year 4	3.37	.935	69
	Total	3.22	.885	938

Table 6-5 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	45.361
F	5.009
df1	9
df2	497570.644
Sig.	.000

a. Design: Intercept + Year

Univariate Tests of Homoscedasticity

<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Deep approaches	4.008	3	934	.008
Surface approaches	3.578	3	934	.014

a. Design: Intercept + Year

Table 6-6 Multivariate and univariate tests for year differences in approaches to learning

<i>Multivariate Tests</i>								
Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.018	2.895	6.000	1868.000	.008	.009	17.371	.898
Wilks' Lambda	.982	2.902	6.000	1866.000	.008	.009	17.414	.899
Hotelling's Trace	.019	2.909	6.000	1864.000	.008	.009	17.456	.900
Roy's Largest Root	.018	5.449	3.000	934.000	.001	.017	16.348	.938

^a Computed using alpha = .05*Tests of Between-Subjects Effects*

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Deep	2.884 ^a	3	.961	1.592	.190	.005	4.776	.421
Surface	12.245 ^c	3	4.082	5.287	.001	.017	15.862	.931

^a Computed using alpha = .05^b $R^2 = .005$ (Adjusted $R^2 = .002$)^c $R^2 = .017$ (Adjusted $R^2 = .014$)

Figure 6-2 Boxplots of approaches to learning measures for four different year groups

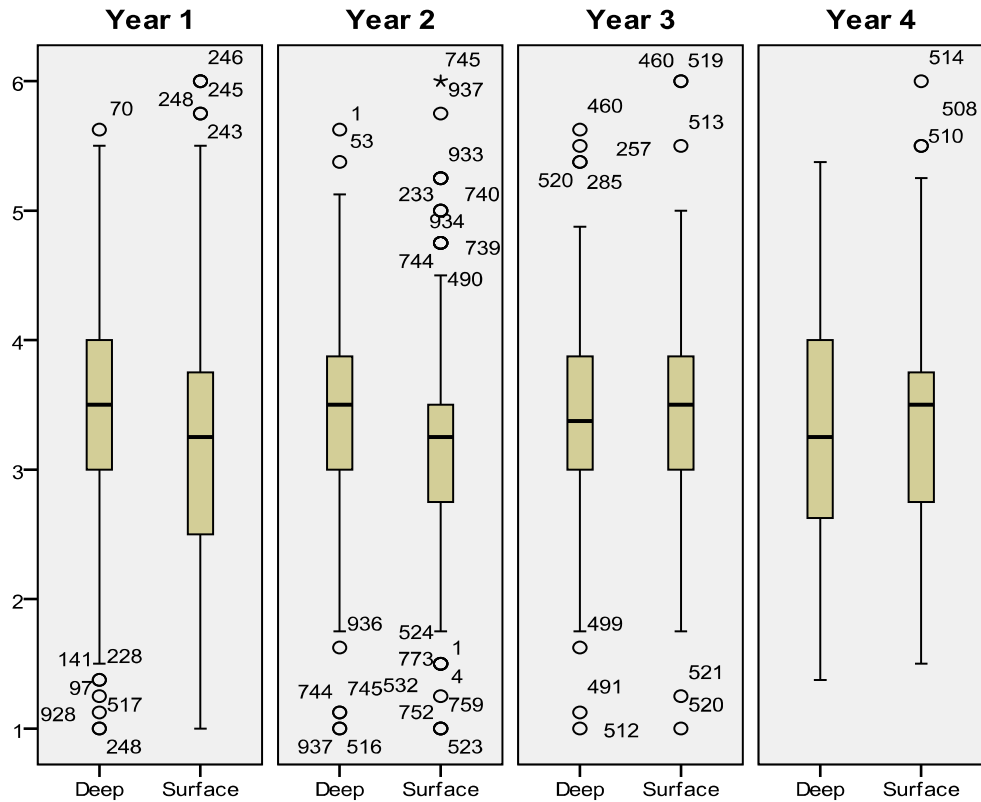


Table 6-7 Post hoc comparisons for individual group differences on surface approaches to learning measures across four different year groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnett's T3	Games-Howell
Surface	Year 1	Year 2	-.07	.066	.866	.866	.708
		Year 3	-.30*	.079	.001	.001	.001
		Year 4	-.25	.123	.245	.241	.186
	Year 2	Year 3	-.23*	.077	.021	.021	.018
		Year 4	-.18	.121	.616	.609	.466
	Year 3	Year 4	.05	.129	.999	.999	.980

*The mean difference is significant at the .05 level

Table 6-8 Descriptive statistics of approaches to learning measure for five different discipline groups

	Discipline	Mean	Std. Deviation	N
Deep approaches	1 Management	3.42	.801	371
	2 Science and Engineering	3.52	.742	175
	3 Design	3.55	.795	84
	4 Informatics	3.29	.777	153
	5 Humanities and Social Sciences	3.38	.744	148
	Total	3.42	.779	931
Surface approaches	1 Management	3.24	.899	371
	2 Science and Engineering	3.35	.887	175
	3 Design	3.01	.920	84
	4 Informatics	3.31	.884	153
	5 Humanities and Social Sciences	3.03	.788	148
	Total	3.22	.886	931

Table 6-9 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	11.793
F	.977
df1	12
df2	1323815.923
Sig.	.468

a. Design: Intercept + Discipline

Univariate Tests of Homoscedasticity				
<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Deep approaches	.246	4	926	.912
Surface approaches	.827	4	926	.508

a. Design: Intercept + Discipline

Table 6-10 Multivariate and univariate tests for discipline differences in approaches to learning

<i>Multivariate Tests</i>								
Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.032	3.758	8.000	1852.000	.000	.016	30.067	.989
Wilks' Lambda	.968	3.759	8.000	1850.000	.000	.016	30.070	.989
Hotelling's Trace	.033	3.759	8.000	1848.000	.000	.016	30.072	.989
Roy's Largest Root	.022	5.200	4.000	926.000	.000	.022	20.800	.969

^a Computed using alpha = .05

<i>Tests of Between-Subjects Effects</i>								
Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Deep	6.023 ^b	4	1.506	2.495	.041	.011	9.982	.713
Surface	13.438 ^c	4	3.359	4.343	.002	.018	17.370	.933

^a Computed using alpha = .05; ^b $R^2 = .011$ (Adjusted $R^2 = .006$); ^c $R^2 = .018$ (Adjusted $R^2 = .014$)

Figure 6-3 Boxplots of approaches to learning measures for five different discipline groups

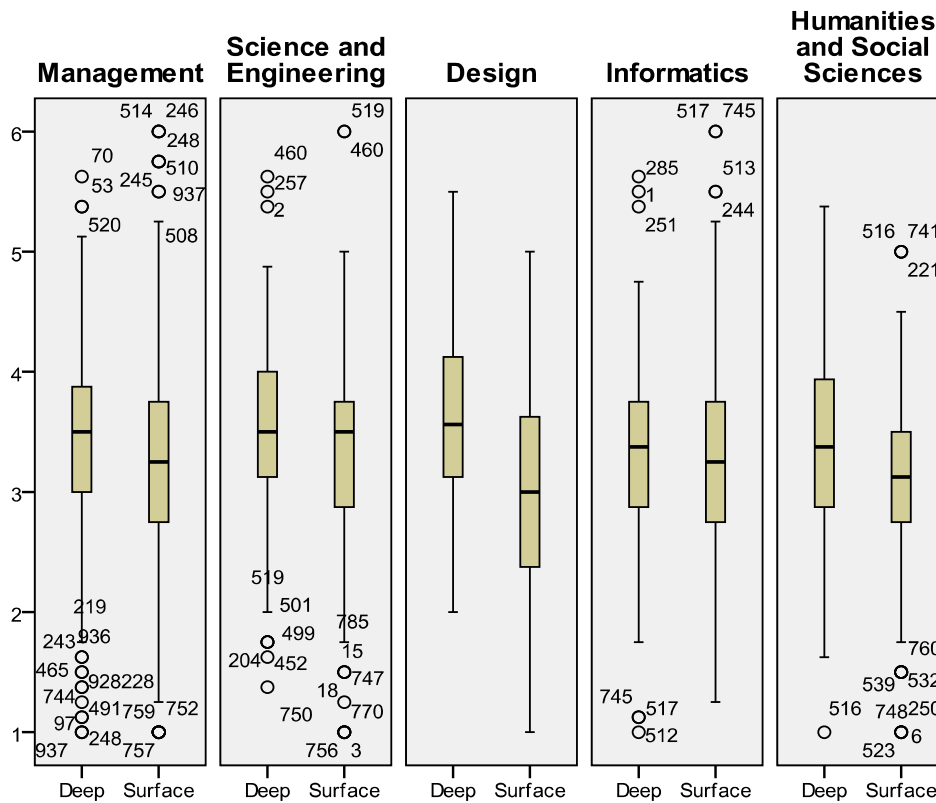


Table 6-11 Post hoc comparisons for individual group differences on surface approaches to learning measures across five different discipline groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean difference	Standard Error	Tukey HSD	Scheffé	Gabriel
Surface approaches	1 Management	2 Science & Engineering	-.10	.081	.710	.806	.887
		3 Design	.24	.117	.168	.290	.1686
		4 Informatics	-.06	.097	.948	.969	.997
		5 Humanities & Social Sciences	.22	.098	.085	.173	.093
		3 Design	.34*	.117	.030	.077	.031
Science & Engineering	2	4 Informatics	.04	.119	.994	.997	1.000
		5 Humanities & Social Sciences	.32*	.120	.011	.033	.012
		3 Design	-.30	.119	.090	.179	.108
Design	4	5 Humanities & Social Sciences	-.02	.120	1.000	1.000	1.000
		5 Humanities & Social Sciences	.28	.101	.048	.111	.060

*The mean difference is significant at the .05 level

Table 6-12 Descriptive statistics of approaches to learning measure for three different English proficiency groups

	English proficiency levels	Mean	Std. Deviation	N
Deep	1 Elementary	3.19	.864	237
	2 Intermediate	3.45	.728	567
	3 High-intermediate	3.77	.688	117
	Total	3.42	.779	921
Surface	1 Elementary	3.48	.833	237
	2 Intermediate	3.20	.872	567
	3 High-intermediate	2.82	.888	117
	Total	3.22	.885	921

Table 6-13 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity**Box's Test of Equality of Covariance Matrices^a**

Box's M	27.218
F	4.514
df1	6
df2	1065051.393
Sig.	.000

a. Design: Intercept + English Proficiency Levels

Univariate Tests of Homoscedasticity**Levene's Test of Equality of Error Variances^a**

	F	df1	df2	Sig.
Deep	6.985	2	918	.001
Surface	.781	2	918	.458

a. Design: Intercept + English Proficiency Levels

Table 6-14 Multivariate and univariate tests for English proficiency differences in approaches to learning

Multivariate Tests

Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power^a
Pillai's Trace	.074	17.633	4	1836	.000	.037	70.532	1.000
Wilks' Lambda	.926	17.965	4	1834	.000	.038	71.859	1.000
Hotelling's Trace	.080	18.296	4	1832	.000	.038	73.185	1.000
Roy's Largest Root	.080	36.656	2	918	.000	.074	73.312	1.000

^a Computed using alpha = .05**Tests of Between-Subjects Effects**

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power^a
Deep	27.552 ^b	2	13.776	23.800	.000	.049	47.600	1.000
Surface	35.196 ^c	2	17.598	23.556	.000	.049	47.113	1.000

^a Computed using alpha = .05^b $R^2 = .049$ (Adjusted $R^2 = .047$)^c $R^2 = .049$ (Adjusted $R^2 = .047$)

Figure 6-4 Boxplots of approaches to learning measure for three different English proficiency groups

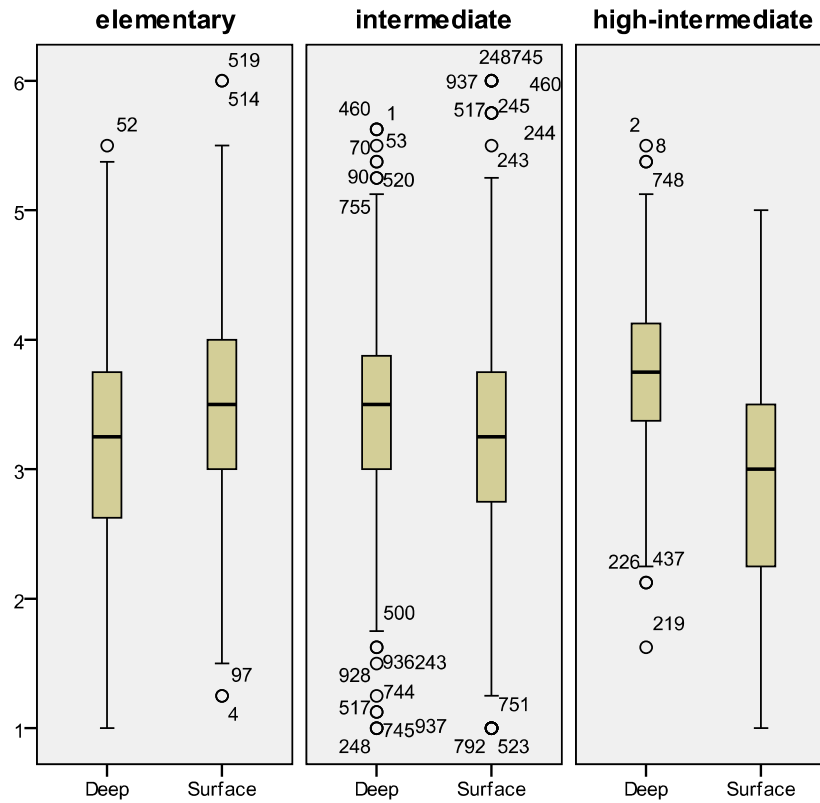


Table 6-15 Post hoc comparisons for individual group differences on approaches to learning measure across three different English proficiency groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean Difference	Standard Error	Tamhane's T2	Dunnnett's T3	Games-Howell
Deep	1 Elementary	2 Intermediate	-.26*	.064	.000	.000	.000
		3 High-intermediate	-.58*	.085	.000	.000	.000
	2 Intermediate	3 High-intermediate	-.32*	.071	.000	.000	.000
Surface	1 Elementary	2 Intermediate	.29*	.065	.000	.000	.000
		3 High-intermediate	.66*	.098	.000	.000	.000
	2 Intermediate	3 High-intermediate	.37*	.090	.000	.000	.000

*The mean difference is significant at the .05 level

Table 6-16 Descriptive statistics of approaches to learning measures for five different test status groups

	Test Status	Mean	Std. Deviation	N
Deep approaches	1 passed before university (PB)	3.69	.704	192
	2 passed after university (PA)	3.37	.681	226
	3 failed (F)	3.29	.812	271
	4 not taken (NT)	3.41	.834	248
	Total	3.42	.778	937
Surface approaches	1 passed before university (PB)	2.95	.840	192
	2 passed after university (PA)	3.15	.784	226
	3 failed (F)	3.46	.826	271
	4 not taken (NT)	3.21	.994	248
	Total	3.22	.884	937

Table 6-17 Multivariate and univariate measures for testing homoscedasticity

Multivariate Test of Homoscedasticity	
<i>Box's Test of Equality of Covariance Matrices^a</i>	
Box's M	42.042
F	4.653
df1	9
df2	7837050.793
Sig.	.000

a. Design: Intercept + Test Status

Univariate Tests of Homoscedasticity

<i>Levene's Test of Equality of Error Variances^a</i>				
	F	df1	df2	Sig.
Deep approaches	3.189	3	933	.023
Surface approaches	4.969	3	933	.002

a. Design: Intercept + Test Status

Table 6-18 Multivariate and univariate tests for test status differences in approaches to learning

Multivariate Tests								
Statistical Test	Value	F	Hypothesis df	Error df	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Pillai's Trace	.059	9.485	6.000	1866.000	.000	.030	56.907	1.000
Wilks' Lambda	.941	9.570	6.000	1864.000	.000	.030	57.417	1.000
Hotelling's Trace	.062	9.654	6.000	1862.000	.000	.030	57.926	1.000
Roy's Largest Root	.056	17.493	3.000	933.000	.000	.053	52.480	1.000

^a Computed using alpha = .05**Tests of Between-Subjects Effects**

Dependent Variable	Sum of Squares	df	Mean Square	F	Sig.	η^2	Noncent. Parameter	Observed Power ^a
Deep	18.379 ^b	3	6.126	10.420	.000	.032	31.261	.999
Surface	30.755 ^c	3	10.252	13.636	.000	.042	40.907	1.000

^a Computed using alpha = .05^b $R^2 = .032$ (Adjusted $R^2 = .029$)^c $R^2 = .042$ (Adjusted $R^2 = .039$)

Figure 6-5 Boxplots of approaches to learning measures for four different test status groups

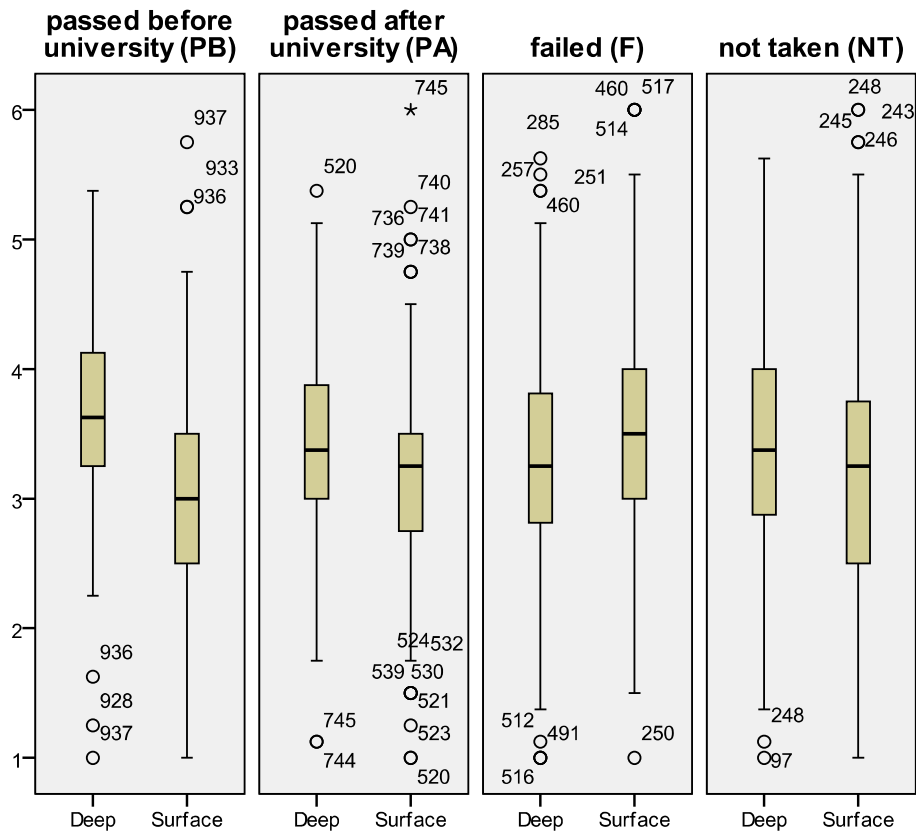


Table 6-15 Post hoc comparisons for individual group differences on approaches to learning measure across four different test status groups

Dependent Variable	Groups to Be Compared		Mean Difference Between Groups (I-J)		Statistical Significance of Post Hoc Comparison		
	Group I	Group J	Mean	Standard	Tamhane's T2	Dunnnett's T3	Games-Howell
			Difference	Error			
Deep approaches	1 Passed before	2 Passed after	.31*	.068	.000	.000	.000
		3 Failed	.39*	.071	.000	.000	.000
		4 Not taken	.28*	.073	.001	.001	.001
		2 Passed after	3 Failed	.08	.067	.833	.832
	4 Not taken	3 Failed	-.04	.070	.996	.996	.954
	4 Not taken	3 Failed	-.11	.072	.543	.541	.410
Surface approaches	1 Passed before	2 Passed after	-.20	.080	.066	.066	.055
		3 Failed	-.51*	.079	.000	.000	.000
		4 Not taken	-.26*	.088	.017	.017	.015
	2 Passed after	3 Failed	-.31*	.072	.000	.000	.000
		4 Not taken	-.06	.082	.978	.978	.889
		3 Failed	.25*	.081	.013	.013	.012

Note.

1 Passed before= students who passed the English Proficiency test before university

2 Passed after = students who passed the English Proficiency test after university

3 Failed = students who failed the English Proficiency test after university

4 Not taken=students who had not taken the English Proficiency test yet

*The mean difference is significant at the .05 level

Selected Output of Logistic Regression

Outlier Detection Results

Case	Selected Status ^a	Observed	Predicted	Predicted Group	Temporary Variable	
		Passed			Resid	ZResid
250	S	N**	.989	Y	-.989	-9.619
261	S	N**	.963	Y	-.963	-5.092
309	S	N**	.957	Y	-.957	-4.708
319	S	N**	.992	Y	-.992	-11.119
407	S	N**	.989	Y	-.989	-9.298
543	S	Y**	.021	N	.979	6.799

a. S = Selected, U = Unselected cases, and ** = Misclassified cases.

b. Cases with studentized residuals greater than 2.500 are listed.

Classification Table

		Observed		Predicted		Percentage Correct
				Passed		
				0 No	1 Yes	
Step 1	Passed	0 No	136	40	77.3	
		1 Yes	14	355	96.3	
Overall Percentage					90.1	

a. The cut value is .500

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	420.921	22	.000
	Block	420.921	22	.000
	Model	420.921	22	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	264.550 ^a	.538	.752

a. Estimation terminated at iteration number 7 because parameter estimates changed by less than .001.

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	1.971	8	.982

Selected Output of Logistic Regression
(80-20 split-sample validation)

Classification Table^d

Observed			Predicted					
			Selected Cases ^a			Unselected Cases ^{b,c}		
			Passed		Percentage Correct	Passed		Percentage Correct
			0 No	1 Yes		0 No	1 Yes	
Step 1	Passed	0 No	102	34	75.1	35	6	86.2
		1 Yes	14	286	95.4	0	69	100.0
Overall Percentage			89.1			94.9		

a. Selected cases split EQ 1

b. Unselected cases split NE 1

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	312.328	22	.000
	Block	312.328	22	.000
	Model	312.328	22	.000

Variables in the Equation

Step 1 ^a		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
<i>Perception</i>	Approval	.164	.262	.393	1	.531	1.178	.705	1.969
	Test anxiety	-1.054	.260	16.460	1	.000	.348	.209	.580
<i>Motivational regulations</i>	Intrinsic	-.413	.278	2.211	1	.137	.662	.384	1.140
	External	-.203	.228	.797	1	.372	.816	.522	1.275
	Introjected	-.157	.260	.364	1	.546	.855	.513	1.423
	Identified	.162	.275	.348	1	.555	1.176	.686	2.015
<i>Achievement goals</i>	PAP	.198	.212	.867	1	.352	1.219	.804	1.848
	MAP	-.081	.256	.101	1	.751	.922	.558	1.523

	PAv	-.261	.225	1.343	1	.246	.770	.495	1.198
	MAv	-.015	.258	.004	1	.953	.985	.594	1.632
Approaches to learning	Deep	-.482	.379	1.614	1	.204	.618	.294	1.299
	Surface	-.345	.249	1.912	1	.167	.708	.434	1.155
Year				17.442	3	.001			
	Year 1	.348	.842	.171	1	.679	1.417	.272	7.382
	Year 2	2.100	.843	6.199	1	.013	8.167	1.564	42.656
	Year 3	.725	.887	.668	1	.414	2.064	.363	11.739
Gender	Female	.147	.476	.095	1	.758	1.158	.455	2.944
Discipline				11.247	4	.024			
	Science & Engineering	-.986	.580	2.892	1	.089	.373	.120	1.162
	Design	-.407	.595	.468	1	.494	.666	.207	2.137
	Informatics	-1.025	.655	2.448	1	.118	.359	.099	1.295
	Humanities & Social Sciences	1.058	.532	3.950	1	.047	2.881	1.015	8.180
English class level				31.198	2	.000			
	Elementary	-4.087	.906	20.354	1	.000	.017	.003	.099
	Intermediate	-.061	.645	.009	1	.924	.940	.265	3.331
Constant		8.690	2.481	12.270	1	.000	5940.510		

Selected Output of Logistic Regression
(70-30 split-sample validation)

Classification Table^d

Observed		Predicted						
		Selected Cases ^a			Unselected Cases ^{b,c}			
		Passed		Percentage Correct	Passed		Percentage Correct	
		0 No	1 Yes		0 No	1 Yes		
Step 1	Passed	0 No	95	24	79.8	43	13	76.8
		1 Yes	11	243	95.7	11	105	90.7
	Overall Percentage			90.6				86.2

a. Selected cases split30 EQ 1

b. Unselected cases split30 NE 1

c. Some of the unselected cases are not classified due to either missing values in the independent variables or categorical variables with values out of the range of the selected cases.

d. The cut value is .500

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	294.531	22	.000
	Block	294.531	22	.000
	Model	294.531	22	.000

Variables in the Equation

Step 1 ^a		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
<i>Perception</i>	Approval	-.189	.311	.368	1	.544	.828	.450	1.523
	Test anxiety	-1.392	.306	20.676	1	.000	.249	.136	.453
<i>Motivational regulations</i>	Intrinsic	-.618	.348	3.151	1	.076	.539	.273	1.066
	External	-.321	.256	1.573	1	.210	.726	.440	1.198
	Introjected	-.231	.298	.598	1	.439	.794	.442	1.425

	Identified	.224	.301	.556	1	.456	1.251	.694	2.255
<i>Achievement goals</i>	PAP	.059	.278	.044	1	.833	1.060	.615	1.829
	MAp	-.274	.305	.804	1	.370	.760	.418	1.384
	PAv	-.266	.280	.904	1	.342	.766	.442	1.327
	MAv	.489	.314	2.422	1	.120	1.631	.881	3.019
<i>Approaches to learning</i>	Deep	-.250	.466	.287	1	.592	.779	.313	1.941
	Surface	-.427	.271	2.476	1	.116	.653	.384	1.111
<i>Year</i>				17.979	3	.000			
	Year 1	.022	.886	.001	1	.980	1.022	.180	5.800
	Year 2	2.327	.932	6.236	1	.013	10.246	1.650	63.636
	Year 3	.888	.991	.801	1	.371	2.429	.348	16.955
<i>Gender</i>	Female	-.049	.552	.008	1	.929	.952	.323	2.809
<i>Discipline</i>				9.892	4	.042			
	Science & Engineering	-.794	.671	1.403	1	.236	.452	.121	1.682
	Design	-.365	.667	.299	1	.585	.694	.188	2.568
	Informatics	-.630	.772	.665	1	.415	.533	.117	2.420
	Humanities & Social Sciences	1.404	.639	4.834	1	.028	4.072	1.165	14.235
<i>English class level</i>				26.340	2	.000			
	Elementary	-4.647	1.116	17.337	1	.000	.010	.001	.085
	Intermediate	.452	.679	.443	1	.506	1.572	.415	5.950
Constant		10.981	2.753	15.916	1	.000	58762.597		

Selected Output of Logistic Regression
(A model without demographic predictors)

Omnibus Tests of Model Coefficients

		Chi-square	df	Sig.
Step 1	Step	229.469	12	.000
	Block	229.469	12	.000
	Model	229.469	12	.000

Model Summary

Step	-2 Log likelihood	Cox & Snell R Square	Nagelkerke R Square
1	474.734 ^a	.338	.471

a. Estimation terminated at iteration number 6 because parameter estimates changed by less than .001.

Classification Table^a

Observed			Predicted		
			Passed		Percentage Correct
			0 No	1 Yes	
Step 1	Passed	0 No	117	66	64.0
		1 Yes	38	337	89.8
		Overall Percentage			81.3

a. The cut value is .500

Hosmer and Lemeshow Test

Step	Chi-square	df	Sig.
1	5.982	8	.649

Variables in the Equation

Step 1 ^a		B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
								Lower	Upper
<i>Perception</i>	Approval	.097	.178	.299	1	.585	1.102	.777	1.563
	Test anxiety	-1.219	.154	62.312	1	.000	.295	.218	.400
<i>Motivational regulations</i>	Intrinsic	-.061	.190	.102	1	.749	.941	.649	1.365
	External	-.391	.155	6.333	1	.012	.677	.499	.917

	Introjected	.328	.166	3.905	1	.048	1.388	1.003	1.920
	Identified	.053	.164	.102	1	.749	1.054	.764	1.455
<i>Achievement goals</i>	PAp	-.019	.152	.016	1	.900	.981	.728	1.322
	MAp	-.157	.169	.862	1	.353	.855	.614	1.191
	PAv	-.074	.141	.278	1	.598	.928	.704	1.224
	MAv	-.056	.167	.112	1	.737	.946	.682	1.311
<i>Approaches to learning</i>	Deep	-.892	.252	12.572	1	.000	.410	.250	.671
	Surface	-.344	.173	3.938	1	.047	.709	.505	.996
Constant		9.661	1.530	39.889	1	.000	15696.866		

Interview Transcript

Student A

- I: Do you agree with the English benchmark policy for graduation.
- A1: Of course!
- I: Why?
- A2: I think it's a very good policy. If there were no such a policy, few students would study English hard.
- I: Do you feel you're more motivated because of the policy?
- A3: Well...actually...yes, for me, sort of. But I didn't really prepare for the test before I took the CSEPT... I think the bar is set too low on the English exit exam... The students in intermediate and high-intermediate English classes can easily pass the CSEPT.
- I: In your opinion, why does the university require students to pass the standardized English proficiency test as an English exit exam?
- A4: To promote students' competitiveness, of course. If *students'* competitiveness is enhanced, so is the university's. The university will be able to recruit more students.
- I: Do you think your English abilities will be improved if you prepare for the English exit exam?
- A5: More or less....Yes, it will definitely help!
- I: Will you get further education or go for a job after graduating from university?
- A6: I will go for further studies.
- I: Do you think an official certificate of English proficiency is important or useful for your further studies?
- A7: It depends. I think the TOEIC certificate is, compared to others.
- I: Why?
- A8: Well... the TOEIC...umm...many people think...it's a recommended test for students whose majors are business or management, and they might think that the TEOIC should be better than the GEPT or CSEPT.
- I: You mentioned that you already took the standardized English proficiency test in your questionnaire. Did you take the TOEIC as the English exit exam?
- A9: No. The CSEPT.
- I: The CSEPT?
- A10: Yes.
- I: Why did you choose to take the CSEPT if you think the TOEIC is more useful for you?
- A11: Because it was easier. {laughs} To be honest, I don't think I can pass the TOEIC 350

now.

I: Were you confident that you would pass the CSEPT?

A12: Yes. The CSEPT was really easy.

I: So, can I conclude that you chose the CSEPT as your English exit exam were because you had to pass the graduation benchmark policy and it was easier to pass?

A13: Yes.

I: Will you take the TOEIC before you graduate?

A14: Yes... yes, yes, yes. I might take the TOEIC.

I: You mentioned earlier that you did not prepare for the CSEPT because it was easier to pass.

A15: For me, yes. But on the other hand, if the standard is set too high, low-achievers will feel very pressured and stressed.

I: Does English play an important role in terms of your academic achievement?

A16: Well...so far, I don't think so. Umm... in fact, we used English textbooks in many subjects, such as Economics. We had to memorize all of the difficult English terms... because other English words are easy...if you memorize all the key terms, the test would become much easier. If my future job needs English or when English becomes a necessary tool for my academic studies, then I will study English hard.

I: OK. Let's go back to what you said earlier. You said the CSEPT was easy for you, so I assumed that you did not feel anxious when you took it?

A17: Actually...in fact, no. I felt relaxed. I treated it as another in-class English test.

I: Does the CSEPT include speaking and writing sections?

A18: No, no. Because the test doesn't include these two, the test becomes very easy.

I: Would you become nervous if the CSEPT included speaking and writing sections?

A19: Umm... not really.

I: Why?

A20: Because I think if I can't answer these test questions, others can't either. So actually...in fact... I think my English is getting worse after entering university.

I: Why do you think your English becomes worse?

A21: I feel...I am worried that I cannot attain a higher level of proficiency.

I: What makes you feel that way?

A22: I don't know...maybe because the English teachers in the university do not really push students to study English. Although the university adopts ability grouping, General English courses were quite easy.

I: Including in-class tests?

A23: Yes, as long as we followed the teacher's way to study English, it's easy to get a high score. You just needed to memorize what the teacher had told you. If the teacher said something was important, like a grammatical rule, you memorized it. The teacher even

- told you which words would be tested!
- I: I see. Did you feel frustrated or pressured when you learned English before university?
- A24: Oh, yeah, very pressured and frustrated.
- I: Why?
- A25: We had vocabulary quizzes...everyday!
- I: Did you go to a vocational high school or a regular high school?
- A26: A vocational high school.
- I: Did the English teachers in your vocational high school pushed you hard to study English?
- A27: Oh, yes!
- I: Do you think your learned much back then?
- A28: Yes! I think vocabulary is really important!
- I: How about...
- A29: Yes, really! Because...the more vocabulary words you memorize, the better you understand English articles.
- I: Right. Do you still try to memorize many English words?
- A30: Actually, I think many people, just like me, are very passive in terms of learning English.
- I: How do you perceive your English competence? Compared to peers?
- A31: I'm quite confident and I don't know why. {Laughs}
- I: (Laughs). Do you like English?
- A32: Umm...good English teachers make me...I won't say I dislike English. I kind of like it.
- I: Why do you kind of like English?
- A33: If I have a very good command of English, I feel proud and can show it off.
- I: Show off your English?
- A34: Exactly. I major in Finance. If I can use English to communicate with foreigners fluently, that must be an amazing feeling!
- I: I see. Do you study English in your free time?
- A35: Because I am studying for my entrance exam for a masters degree program, I attended the cram school. The teacher would give us an article every day, no, every week, to translate. The quiz would be based on the article, including 15 vocabulary words and 5 multiple choice questions. So I still spend some time studying English, memorizing new words.
- I: Besides working on English assignments from the cram school, do you engage in some extracurricular activities, such as reading English newspapers or magazines, or listen to the English radio programs?
- A36: Seldom.
- I: If the university didn't require you to take the standardized English proficiency tests, would you still take it?

A37: No.

I: Students who do well on the English exit exam, such as passing the intermediate or high-intermediate level are entitled to get monetary rewards or to exempt from General English courses. Do these incentives make you work on the English exam harder?

A38: Umm...I don't think they can be tempting for most students.

I: How about you?

A39: No.

I: Why not?

A40: Umm...Actually, monetary rewards...monetary rewards have to be large; otherwise we, I mean the students from the College of Management, cannot be tempted. In addition, it's not easy...take an intermediate level for example. If a student can pass the intermediate level of the GEPT, his or her English ability should be roughly equivalent to that of a high school graduate. (Yes) I think most students from the College of Management in this university cannot pass that level. They must spend a lot of time preparing for the test to attain success.

I: Have you ever attended any intensive English courses held by the university?

A41: I went to the course only twice. I stopped going there after the second time. {Laughs}.

I: Why?

S42: Umm....I felt...umm...it's more like...because...at the beginning I thought the course was challenging and could help me improve my English. Besides, I only had to pay the deposit NT\$500 and could get it back if I attended most of the sessions. But I only went there twice, so I couldn't get my deposit back?

I: Was because of the teacher? Any specific reasons?

A43: Actually, I feel...umm....maybe because I didn't really need that course. It was a short-term intensive English course.

I: In your opinion, do you think every university graduate should pass the elementary level of the English exit exam?

A44: I think...if university students are not going to pursue further studies, there is no need for them to get an official certificate of English proficiency. Take the students whose major is Finance for example. If you want to work in a bank or a stock industry as a salesperson, an official certificate of English proficiency is not going to be helpful because these industries don't care. It doesn't matter if you pass an elementary or intermediate level. They pay attention to your professional skills. (OK, so...) Official certificates of English proficiency...actually, no, I don't think they will be helpful in my field. It's true for the students majoring in Finance.

I: OK. If you didn't get pass the elementary level of the English proficiency tests before graduation, would it be okay with you? Would you feel guilty, ashamed or...?

A45: No, I don't think I would. Not everyone needs an official certificate of English.

I: Do you think the university has been helpful for preparing students to pass the English exit exam?

A46: Compared to other universities, yes.

I: How?

A47: I think the university holds more activities recently. When I was in the first year, the university had much fewer English activities. As for the English classes...the benchmark has been established. If you don't pass the benchmark, you cannot graduate. That's why students are willing to register for these intensive English courses. (OK) Let me put it this way: students need it, and the university provides it. So you can see these English classes are always full.

I: Because the students need it...

A48: Right. Because you have to pass the benchmark to graduate. If students think their English ability is too low, they will attend the course. Anyway, you can get the deposit back and you also can improve your English, and then pass the benchmark.

I: Do you wish you could get a very good test score or do you feel satisfied as long as you passed the benchmark?

A49: I am satisfied as long as I passed it. Developing professional skills is more important for me.

I: OK. When you got your test score result of the English proficient test, did you and your classmates compare the scores?

A50: No, I don't. I don't compare myself to others. In my department, the students always mind their own business, and so do I.

I: Oh, really?

A51: Yes. It's more like...like a "culture" thing. I would say students who major in finance are selfish. My definition of "selfish" here means that you never let others know what you are doing. For example, when I took the English proficiency test, I just realized my classmate was also there.

I: Did you have the desire to outperform your peers on the English exit exam?

A52: Come again? What's your question?

I: I was asking if you had a desire to outperform your peers.

A53: No, I don't. I don't compare myself to others. Like what I said, the students in my department just mind their own business, and so do I.

I: Do you strive to understand the content of the English course materials as thoroughly possible?

A54: It's not that difficult. I told you that General English courses were easy.

I: Right. Do you have any comments on the benchmark policy for graduation?

A55: An official certificate of English proficiency is the key to landing a job. But when you start to work, you need English knowledge.

I: OK. You were saying getting an English certificate is a basic requirement for job hunting...

A56: Yes, it's a basic requirement. But knowledge is what you will need in working places. You cannot rely on that certificate for the rest of your life.

I: I agree. Any other suggestions you'd like to add?

A57: Umm...no. I can't think of any now.

I: Well, thank you very much for your time, and for being very helpful.

A58: No problem.

I: If I have any further questions, can I contact you again?

A50: Of course. You have my e-mail.

I: Thank you so much for being interviewed.

Interview Transcript

Student B

- I: Do you agree with the English benchmark policy for graduation?
- S1: Yes.
- I: Why?
- S2: I think the establishment of the graduation benchmark policy is an inevitable trend for universities in Taiwan.
- I: A social trend?
- S3: Yeah, kind of. It forces university students to enhance their competitiveness. Actually there are two groups of students. The first group is students who often perform well on tests and they can easily pass the benchmark. The second group is students who often do badly on tests and they have to work very hard to pass the benchmark.
- I: Which group are you in?
- S4: The second group. I am aware that I have to work very hard to pass the benchmark, but to be honest, my English abilities can thus be improved.
- I: Do you mean that you're more motivated to learn English due to the implementation of the graduation benchmark policy?
- S5: Yes.
- I: Do you think the policy is fair? I mean, under this policy, the test score can determine whether students can graduate or not. Is it fair for you?
- S6: I think it's fair because everyone has to pass the same level.
- I: OK. In your opinion, what do you think the main purpose of passing the standardised English proficiency test and getting an official certificate?
- S7: I like this question. A typical answer would be something like, for job hunting. If you learn English well, you can get good jobs.
- I: How about your answer?
- S8: But I think the main purpose depends on what kinds of companies you want to work for or what kind of business you want to run.
- I: What's yours?
- S9: I'd like to say I really wish one day the Chinese language is more important than the English language. So it would become people who can speak Chinese look down on people who can speak English. But this day hasn't come yet.
- I: Do you think the scores on standardized English proficiency tests appropriately indicate

one's English competence?

S10: I don't know. I don't know what good English is or bad English is. I think people who can use English to communicate with others are amazing. I wish I could be like that.

I: You mentioned earlier that you would be more motivated to learn English due to the policy. Will you study hard only for the exam? Or will you keep studying English after the exam?

S11: Only for the exam. But I have a lazy way to learn English. I practice spelling when I hear new English words. I don't know if I spell them correctly. I don't know their meanings either. But I do my best trying to spell them.

I: Will you look them up afterwards to see if you are right?

S12: Seldom.

I: In the questionnaire, you mentioned that you haven't attended the English exit exam yet. Which standardized English proficiency test you will choose as your English exit exam?

S13: The CSEPT.

I: Why?

S14: I don't know...I was told it was the easiest, compared to other standardized English proficiency tests.

I: OK. When you attend the test, do you think you will be nervous?

S15: Yes. I just have no confidence at all.

I: Are you very worried that you might not pass the benchmark?

S16: Yes.

I: Do you feel frustrated when you learn English?

S17: Very frustrated! I really hate it when I take a lot of efforts, but the results don't turn out well.

I: Do you mean that you used to study English hard, but the test performance was not as good as you expected?

S18: Yes. But it didn't last long. I usually studied English hard only for one month. People used to tell me I had the potential to learn the English language very well. When people told me that, I would study hard, but it wouldn't last long. One more thing, I easily forget words that I've learned. I try to memorize words, but I forget them quickly. I memorize them again and forget them again, so I feel very frustrated.

I: Do you dislike English?

S19: I hate English!

I: Why? Since you started to learn English?

S20: You can say that. But I would put it differently, in a more radical way.

I: What is it?

S21: If the Chinese language were an international language now, I didn't have to learn English. If I were born in the U.S., Spain, or France...these countries emphasize their

native languages a lot.

I: What do you mean?

S22: I have no desire to learn the English language. But it's an international language. What can you do about that? Sometimes I would force myself to accept the reality. If I want to broaden my world view, I have to learn English. But I just can't force myself all the time.

I: Is the motive still not strong enough?

S23: No, it is not.

I: So if there were no graduation benchmark policy, you wouldn't take the test at all? Or you still would?

S24: To be honest, I wish there were no English exit exam.

I: Why?

S25: No special reasons. I just don't want to face it. But I know I don't have a choice. You still have to take it.

I: Do you think every university graduating student should get an official certificate of English proficiency?

S26: Yes, I do. Just like what I said earlier. When I said I agreed with the benchmark, it also means I think everyone should take the standardized English proficiency test. It's an inevitable trend.

I: Would you feel ashamed or guilty if you didn't get any official certificate of English proficiency before graduation?

S27: Yes. Because people look down on you if your English is very bad.

I: Based on your personal experience?

S28: I had that kind of experience. But not anymore in the university. Maybe because my academic performance was very bad before senior high school or because I went to a bad school. The reason I could study in this technological university was because my test scores on specialized subject were pretty good.

I: When you said "people," do you refer to your classmates, or English teachers, or...?

S29: My teachers and peers. They would judge you based on your English performance. Other academic subjects didn't have such effects, but English did.

I: Really?

S30: I wanted to say no, but it's the truth. If the Chinese language were an international language now, I didn't have to learn English.

I: OK. Will you go for advanced studies or go job hunting after you graduate?

S31: I'll start to look for jobs. Do you know my major?

I: I only know you are in the College of Management. What's your major?

S32: Insurance. Actually you don't have to study university to work in insurance companies. You can start to work after graduating from high school.

I: Do you think English is important for you to work in insurance companies?

S33: Maybe yes, maybe no. I don't know.

I: What do you think of the purpose of studying English?

S34: For right now, not to fail the English exit exam. After that...I don't know... if one day I force myself to study English hard, it's probably because I want to show my English abilities to others. Just like what I said earlier: I don't want to be looked down again.

I: Do you prefer course materials that really challenge you so you can learn new things?

S35: I think a good English teacher should be able to precisely judge his students' study progress.

I: What do you mean by that?

S36: I mean, if there were no tests.

I: What?

S37: When I study English, I will ask myself to understand at least 80%. I didn't study English in my junior high and senior high. I decided to give up on English. I don't think you can force me to study all the time. You can push me to study hard for a short time, but definitely not for the rest of my life. If I make up my mind to do something, I will do my best and become very active.

I: But not for English?

S38: No. Not for English.

I: OK. Thanks. Finally, do you have any other comments you'd like to add in terms of the English benchmark policy for graduation?

S39: I think teachers should do their best to help students prepare for the English exit exam. For example, teach students how to learn. Students' attitude is very important.

I: Yes. I agree. Anything else?

S40: No.

I: Thank you very much for your time. If I have any further questions, can I still contact you?

S41: Anytime.

I: Thank you again for being interviewed.

Interview Transcript

Student C

- I: Do you agree with the Graduation English Language Proficiency benchmarks?
- S1: Yes. Well...Taiwanese students' English proficiency is poor in general.
- I: Do you suggest that the policy could help improve Taiwanese students' English abilities?
- S2: Yeah...because students will take the English exam more seriously...{laughs} and take more efforts to prepare for it.
- I: What is your purpose of passing the English proficiency test?
- S3: To demonstrate my English abilities.
- I: To whom?
- S4: To my future employers. A certified English ability is required in many companies.
- I: OK. You mentioned earlier that the establishment of the benchmark might make students to study English harder and improve their English abilities. Does it also work for you?
- S5: If I prepared for the test. {laughs}
- I: What do you mean by that?
- S6: I didn't prepare for the test.
- I: Why not?
- S7: I think the standard set by the university is too low.
- I: Oh yeah in the survey, you said you were in high-intermediate English class.
- S8: The elementary level is relatively easy to pass.
- I: Did you take the GEPT as an English exit exam?
- S9: No. The GEPT... in the future...will not be so...so...{chuckle} will be less public-recognized. I mean, it is not an internationally-recognized language test.
- I: So what kind of standardized English proficiency test you chosen to take?
- S10: After I entered university?
- I: Yes.
- S11: I took the TOEIC.
- I: Why did you choose the TOEIC?
- S12: Because my friend took the TOEIC and she said that most of the content of the TEOIC met our English needs. By the way, our major is Marketing and Logistics Management.
- I: Although you already passed the benchmark, will you take the English proficiency

test again before you graduate from university?

S13: Yes, I will.

I: Still the TOEIC?

S14: Yeah...The TOEIC... In fact, I have set my own standard. I hope I can reach my target score.

I: For better employment opportunities?

S15: No. It's because I want to enhance my English proficiency.

I: Do you think the test results of the standardized English proficiency tests can appropriately reflect one's English abilities?

S16: No...not really...because sometimes luck can affect test performance.

I: Can you explain more?

S17: Umm...multiple choice questions are mainly employed in the tests. Sometimes you might correctly guess many questions; sometimes you might not.

I: You said you might take the TOEIC again before graduated. The TOEIC includes only listening and reading sections. {Yes} Will you try to enhance your writing and oral skills even though they are not tested?

S18: Umm...I don't think so.

I: Does it mean that you will tend to focus on only reading and listening skills?

S19: Yes. And there are many books that I can practice with.

I: What do you mean by "many books"?

S20: Like, exam books or previous exam papers. You can find many of them in the library.

I: Do you think you're good at learning English?

S21: When I was in senior high, my major was Applied English.

I: Oh...really? What do you think the General English courses?

S22: The textbooks are too easy.

I: Do you feel that your English abilities are getting worse after entering university?

S23: Worse.

I: Are you worried?

S24: Yeah...I'm worried. But to be honest I don't do anything about it. I mean, I still don't take efforts even though I am aware that my English is getting worse.

I: Do you think learning English is interesting?

S25: Yes.

I: Why do you find it interesting?

S26: I don't know...I have been learning English since I was a little girl. English has been an interesting subject to me since I was in elementary school.

I: Since you find it interesting, do you study English in your free time?

S27: Say again?

- I: Do you engage in any English activities in your free time? For example, listen to English radios or read English newspapers?
- S28: I listen to ICRT, but seldom.
- I: Anything else?
- S29: No...not really.
- I: Do you think yourself as a passive English learner? I mean, do you study harder when English teachers push you to study?
- S30: Actually I study harder only for English tests.
- I: Do you mean only for test preparation? After the tests are over, you don't study English hard anymore?
- S31: Exactly.
- I: Do you know that students who do well on the English exit exam, such as passing the intermediate or high-intermediate level are entitled to get monetary rewards or to exempt from General English courses?
- S32: Yeah, I know.
- I: Do these incentives make you work harder on English?
- S33: Yes! It's always good to get some monetary rewards.
- I: You mentioned earlier that you think university students are in general bad at English. Do you think every university graduate should pass the elementary level of the English exit exam?
- S34: Yes.
- I: Why?
- S35: It's not a high standard.
- I: If university graduates cannot pass the elementary level of the English proficiency tests before graduation, do you think they are shameful?
- S36: No, everyone is good at different skills.
- I: Will you get further education or go for a job after graduating from university?
- S37: Go for a job.
- I: Do you think an official certificate of English proficiency will be helpful for your future career?
- S37: It should be.
- I: Are you interested in knowing your peers' test results?
- S38: No. Developing my English proficiency is all I care about.
- I: How about your classmates? Do they often compare English test results?
- S39: Yes!
- I: Do you want to outperform your classmates? Is it important for you?
- S40: No, it's not. I don't like comparisons.
- I: Do you hope English teachers can teach more difficult materials, so you can learn

more English knowledge?

S41: Actually, I prefer teachers can use more authentic materials.

I: What do you mean? How did your English teachers teach?

S42: My English teachers just followed textbooks.

I: So what kind of authentic materials do you refer to?

S43: {Long pause} I don't know how to describe.

I: That's ok. What do you think of the main purposes of learning English?

S44: To actually use English...to use English to communicate with other people.

I: Do you desire to completely master the material presented in English class?

S45: Yes I do. It is very important for me. I told you earlier that I wanted to be proficient in English, so I do my best do understand what the teacher has taught in class.

I: Finally, do you have any other opinions or suggestions about the English benchmark policy for graduation?

S46: I hope that the standard could be set a little higher, so I would be more motivated...For me, a more appropriate level should be...Take the GEPT for example. The standard should be like... the intermediate level, the first stage.

I: Thank you very much for your time. Do you have any other comments you'd like to add?

S47: No.

I: If I have any further questions, may I ask you again?

S48: No problem.

I: Thanks again for being interviewed.

Interview Transcript

Student D

- I: Do you agree with the English benchmark policy for graduation?
- S1: I don't...My English proficiency is very poor. I am really worried...It was not a fair policy. I mean some students are just bad at language subjects, but they are good at specialized subjects.
- I: What do you think of the main purpose of studying English?
- S2: To get a good job in the future.
- I: And the purpose of getting an official certificate of English proficiency?
- S3: To have more job opportunities.
- I: Do you think the test preparation will help you improve your English abilities?
- S4: I think so. More or less.
- I: Do you think the test result can appropriately assess students' English abilities?
- S5: Not really. Because sometimes you get nervous, you could perform very badly.
- I: Were you nervous when you took the standardized English proficiency test?
- S6: Yes.
- I: Why?
- S7: My English has been very bad. I don't expect I would do well. I just don't want to fail the test. Who wants to get held back in the university.
- I: Which test did you choose as an English exit exam?
- S8: The TOEIC.
- I: Why the TOEIC?
- S9: I was told it was the easiest among English proficiency tests. But after I took it, I found that it was not easy at all. {Laughs}
- I: Do you often feel frustrated when you learn English?
- S10: Yes.
- I: Why?
- S11: I have tried my best to memorize vocabulary words, but I keep forgetting. It's really frustrating.
- I: I see. Have you ever found that learning English can be interesting?
- S12: Never! I hate memorizing English words!
- I: Do you think every university graduating student should get an official certificate of English proficiency?
- S13: No.

I: Why?

S14: Not every university in Taiwan has established the benchmark policy for graduation

I: If your university did not have the policy, would you take the standardized English proficiency test?

S15: No.

I: Would you feel guilty if you didn't pass the benchmark before graduation?

S16: No. Everybody is good at different subjects. English has never my strong suit.

I: Do you wish to get a high score on the English exit exam, maybe to get a monetary reward?

S17: Not really. I'm satisfied as long as I can pass it.

I: If it is possible, do you hope you can outperform your classmates?

S18: I don't really care. The test is not a competition among students.

I: Do you think your English abilities have improved or become worse after entering university? If worse, are you worried?

S19: My English has been bad, so I'm not worried... Actually, I think my English skills have been enhanced after university. The university adopts ability grouping. I like ability grouping because the course materials are not very difficult. English learning seems to be less challenging. I think I've paid more attention to the English teacher, and tried to understand what the teacher has taught.

I: That's good. Do you study English in your free time?

S20: No. I don't like English although I am aware it might be useful for the future.

I: For the future?

S21: Yeah, to have a better job.

I: Finally, do you have any other opinions or suggestions about the English benchmark policy for graduation?

S22: No... but I wish the university didn't have the policy, but I know it is impossible.
{laughs}

I: (Laughs) Thank you very much for your time. If I have any further questions, can I contact you again?

S23: Sure.

I: Thank you for being interviewed.

Interview Transcript

Student E

- I: Do you agree with the English benchmark policy for graduation?
- S1: Yes.
- I: Why?
- S2: Enhance qualities.
- I: What do you mean?
- S3: When you hold official certificates of English proficiency, your competitiveness is enhanced in the job market.
- I: How do you think non-English major's English abilities in this university?
- S4: Poor.
- I: I assumed, then, you would think the elementary level of standardized English proficiency tests should be an appropriate standard for non-English majors?
- S5: I think an appropriate level should be more like the first stage of GEPT High-intermediate level.
- I: Did you already achieve the goal?
- S6: For the GEPT, yes. But not for the TOEIC. I'm not satisfied with my TOEIC scores.
- I: How many times did you attend the standardized English proficiency tests?
- S7: Four times.
- I: The types of tests you took were the GEPT or the TOEIC?
- S8: I took both before.
- I: What's your target score for the TOEIC?
- S9: 550, at least.
- I: Why 550?
- S10: Because that's a required score by some big companies.
- I: Do you wish to work in big companies?
- S11: Yes.
- I: You mentioned earlier that you weren't satisfied with your previous TOEIC scores. Will you take the TOEIC again before you graduate?
- S12: Yes.
- I: Will you stop taking the TOEIC after you pass 550?
- S13: I will still take the test again even after achieving my goal.
- I: Why?

- S14: To know if my English abilities have been improved.
- I: Did you and your classmates compare the scores after the test results came out?
- S15: Yes, we did.
- I: Is important for you to outperform your classmates?
- S16: I don't think so. I don't care much about competing with my classmates or my friends. I'm more concerned about whether I have made progress.
- I: Do you think the graduation benchmark policy is fair? I mean, using the test scores to determine if students can graduate is fair to you?
- S17: It's not fair, but the university has provided some remedial courses for the students who failed the English exit exam.
- I: Do you think the university has been making efforts to help students to pass the benchmark?
- S18: Yes.
- I: Have you attended any English certificate courses held by the university to improve your English exit exam performance?
- S19: Yes.
- I: Helpful?
- S20: Umm... The TOEIC course I attended was not really helpful.
- I: Why not?
- S21: Because ...the purpose of the course was to train your reading and listening skills, but you don't really understand the content...not in meaningful ways.
- I: Do you mean the course was to enhance your test-taking skills?
- S22: Yes.
- I: How did you usually prepare for the GEPT or the TOEIC?
- S23: Applied the skills I learned.
- I: Ummm...What do you mean by that?
- S24: I attended a cram school before. The school focused on extensive reading. The tests were based on the articles we read. The vocabulary tested was from the articles. When the teacher said an English word or sentence, we wrote it down and translated it to Chinese.
- I: Do you think it was useful to enhance your English skills?
- S25: I think so. The English sentences were made up by the teacher. It was helpful for my listening skills.
- I: Do you think your English abilities were improved due to the preparation for the GEPT or the TOEIC?
- S26: More or less.
- I: Which English skills? All four skills?

- S27: No, only listening and reading skills.
- I: Do you attempt to improve your speaking and writing abilities? Not for test purposes?
- S28: Umm... I don't know how. I mean I need a teacher who can edit my writing and I don't know how to practice my speaking.
- I: Do you engage in some extracurricular activities related to English? For example, listening to English radios or reading English novels?
- S29: I used to read English novels.
- I: Not anymore?
- S30: I don't buy them anymore. They cost a lot of money.
- I: Do you think the scores on standardized English proficiency tests can appropriately indicate one's English competence?
- S31: Not really. Sometimes if you are luckier, you get better scores.
- I: Why do you think it has something do to with luck?
- S32: Just a feeling.
- I: Were you nervous when you attended the English proficiency tests?
- S33: Yes, I was very nervous because I was worried that I couldn't perform well as I expected.
- I: Do you feel frustrated when you learn English ?
- S34: When I was in the elementary, I felt frustrated. But after I changed the cram school, I started to like English.
- I: What was the main reason you felt frustrated?
- S35: The teacher's teaching style.
- I: Can you explain more?
- S36: He used something like "natural ways" to teach us English. I had no idea what he was doing.
- I: You said you began to like English after you transferred to another cram school. Do you still like English?
- S37: Yes.
- I: Why?
- S38: Learning English sometimes can be interesting.
- I: In your opinion, what's the main purpose of learning English?
- S39: The 3rd language.
- I: What do you mean by that?
- S40: You learned another language. You use English in most foreign countries.
- I: Do you suggest...the purpose of learning English is to communicate with foreigners?
- S41: Yeah...for communication purposes.

- I: How about the main purpose of getting official certificates of English proficiency?
- S42: The need of future career.
- I: Do you think every university graduating student should get an official certificate of English proficiency?
- S43: Yes. To prove your English proficiency to others. I think a certified English ability can make you look more competent.
- I: Would you feel ashamed if you did not get any official certificate of English proficiency before graduated?
- S44: Yeah. It means I didn't work hard enough.
- I: If there were no benchmark policy, would you still take the standardized English proficiency tests?
- S45: Yes.
- I: Why?
- S46: To ensure more job opportunities. I really hope I can get a job in a big company.
- I: Do you prefer English course material which are much more challenging?
- S47: Yeah, I think so. I think I will learn more.
- I: Is it important for you to understand the content of the English course as thoroughly as possible?
- S48: I do my best.
- I: Are you worried that your English abilities are getting worse?
- S49: Yes. People often say their English abilities were much better in high school. But after entering university, they are losing English proficiency.
- I: Do you agree with that?
- S50: I do. That's why I have to push myself to study English.
- I: How do you usually push yourself to study English?
- S51: I attend some selective English courses.
- I: Do you consider yourself as a more passive English learner?
- S52: Yeah, that's why I have registered for English classes. I'm not that kind of student who studies English at their free time.
- I: Finally, do you any other comments about the implementation of the graduation benchmark policy?
- S53: I think the graduation benchmark policy is not suitable for technological universities.
- I: Does it mean you disagree with the establishment of the benchmark policy?
- S54: Not really. I just think students with low English abilities have difficulty passing the benchmark.
- I: Do you have any suggestions?
- S55: I think that this university is doing the right thing, providing some make-up

courses and make-up exams for at-risk students.

I: Do you think the make-up courses can enhance these students' English abilities?

S56: No. But they can graduate, at least. {chuckles}

I: Do you think intermediate or high-intermediate students are more motivated because of the English exit exam?

S57: Umm... I think it depends on students. If you want to study English, you do it with or without the policy.

I: How about you?

S58: Yes, I will study hard. I already paid a lot of tuition. Why not?

I: (Laughs) Yes. The tuition is really expensive. Do you have any other comments you'd like to add?

S59: No.

I: Thank you very much for your time. If I have any further questions, may I ask you again?

S60: Of course!

I: Thanks again for being interviewed.

Interview Transcript

Student F

- I: Do you agree with the English benchmark policy for graduation?
- S1: Yes.
- I: Why?
- S2: Because English is an international language, and every university student should have some basic English abilities. Besides, English serves as a communication tool to make friends with foreigners.
- I: Do you think the elementary level of standardized English proficiency tests is an appropriate standard for non-English majors?
- S3: It's fair.
- I: Why do you think it is fair?
- S4: Because it's not a high standard. Most of non-English majors should be able to pass it.
- I: Do you think passing the English proficiency test will be useful for you?
- S5: I think so...in terms of the job opportunities.
- I: What do you think of the main purpose of learning English?
- S6: Well...to learn a new language...and to see if there is a possibility that I can use English to communicate with foreigners.
- I: OK. Do you have any foreign friends?
- S7: No, I don't. But I used to go to a website where you can make friends from different countries.
- I: I see.
- S8: But I couldn't understand most of what they were saying. {chuckles}
- I: What do you think of the main purposes of getting official certificates of English proficiency?
- S9: To be better in some aspects...I'm not so sure whether English will be important for my future.
- I: What's your major?
- S10: Golden-Ager Industry Management.
- I: Golden-Ager Industry Management?
- S11: Taking care of the old.
- I: Oh. I see.
- S12: Yeah...

- I: Why did you take the standardized English proficiency test before entering university?
- S13: I was told that there would be a graduation benchmark policy in most universities. So I took the test when I was in the 1st or 2nd year in high school.
- I: You prepared early for the English exit exam.
- S14: Yes. Also because many friends of mine already took the test, I think I also had to take it and pass it.
- I: OK. So you were also affected by your friends.
- S15: That's right.
- I: I know you already passed the English proficiency test before entering university. Will you take it again before you graduate?
- S16: Yes.
- I: Why? To see if you have made progress?
- S17: No. To satisfy the benchmark policy. My English certificate has expired, so I have to take it again.
- I: Are you currently preparing for the standardized English proficiency test?
- S18: No. I will do it later.
- I: Have you thought about what kind of standardized English proficiency test you will choose as an English exit exam?
- S19: Maybe the TOEIC.
- I: Why the TOEIC?
- S20: Unlike the GEPT, the TOEIC is an international language test, right?
- I: Right. But the TOEIC only tests your listening and reading skills. Will you try to enhance your speaking and writing abilities as well?
- S21: I don't think so... {laughs}
- I: Do you think the score of the English proficiency tests can appropriately reflect your English abilities?
- S22: Not really.
- I: Why?
- S23: For example, when I took the GEPT, the questions appeared to be very difficult. But it turned out I got a very good test score. {laughs}
- I: (Laughs) You couldn't believe you did well?
- S24: Yeah! Lucky guesses. {laughs}
- I: (Laughs) When you said "guesses," do you mean guess on multiple choice questions?
- S25: Yes.
- I: But you can't guess on the writing section. So when you prepared for the GEPT, did you pay extra effort preparing for the writing test?
- S26: Yes, I did. I attended a cram school for the GEPT. The teacher especially focused on

- the writing skills, so I got a pretty high score on the writing section.
- I: How about the oral section? The GEPT also tests your oral skills.
- S27: The oral section...I barely passed it.
- I: Did you also pay much effort to improve your speaking abilities?
- S28: Yes I did. But the examiner spoke too fast. I didn't understand what he said.
- I: When you took the standardized English proficiency test, were you nervous?
- S29: Yes, I was.
- I: Why?
- S30: When I was doing the listening section of the GEPT, an ambulance just passed by. The noise made me very nervous.
- I: Were you nervous when you were listening to the listening section? Did you also feel nervous before you took the GEPT?
- S31: At that time...because the teacher in the cram school already gave us some mock tests...The teacher also said that when you had difficulty understanding the listening section, just listen to the key words. Such a strategy was helpful.
- I: That's how you dealt with your nervousness.
- S32: Right.
- I: Were you worried that you might not do well on the test?
- S33: Yes.
- I: You felt worried that you might perform badly. Was the standard set by the school or did you have your own goal?
- S34: I wanted to pass the benchmark set by the school.
- I: Do you feel frustrated when you learn English?
- S35: Sometimes.
- I: When do you feel frustrated?
- S36: When I learn grammatical rules. They often confuse me.
- I: That's the main problem you have?
- S37: The accents. Sometimes I really don't understand their accents.
- I: Do you think you have put a great deal of effort into English?
- S38: Sometimes. I have tried to memorize a lot of vocabulary.
- I: I see. So that's why you also felt frustrated. Do you think learning English is interesting?
- S39: Yeah, it is.
- I: Since you started to learn English?
- S40: At the beginning...not really. I started to find it interesting after I was getting better at English.
- I: Since you feel that learning English is interesting, do you study English in your free time?

- S41: Study English in my free time?
- I: Yes.
- S42: Sometimes...I listen to English songs. Sometimes I go to the Foreign Language Centre to use some multimedia software to improve my listening skills.
- I: Anything else?
- S43: I also watch animated movies in English. I listen to the movies without reading English captions. It's helpful to improve my listening
- I: It seems that you tend to focus on building your listening skills. {Yes} Would you take the standardized English proficiency test if the university didn't set the graduation benchmark policy?
- S44: Yes, I would.
- I: Why?
- S45: To give myself a idea of my level of English.
- I: Students who do well on the English exit exam, such as passing the intermediate or high-intermediate level are entitled to get monetary rewards or to exempt from General English courses. Do these incentives make you work on the English exam harder?
- S46: Yes. It's not easy to make money. {Laughs}
- I: (Laughs) Do you think every university graduating student should get an official certificate of English proficiency?
- S47: Come again?
- I: Do you think every university graduating student should get an official certificate of English proficiency?
- S48: Yes! It's a basic requirement for a university graduating student, don't you think? I would feel guilty if I didn't.
- I: You mentioned earlier that you think the standard of the benchmark is fair. You're in an intermediate level of English class. Do you think it could be too difficult for students with lower English abilities?
- S49: Yes. I have a friend who is very good at math, but he really has difficulty in English. He just cannot learn English.
- I: Does he feel very frustrated?
- S50: Yes.
- I: The university has provide some make-up courses or remedial courses for these students who cannot pass the benchmark. Do you agree that the university should provide these courses for them?
- S51: Those courses are free, aren't them?
- I: Yes.
- S52: Such courses can help students enhance their English knowledge. It's good.

- I: Is important for you to demonstrate your English abilities to others?
- S53: Yeah, I think so.
- I: Why?
- S54: Ummm... I hope others are impressed by my English skills. It's just like a feeling... ummm... I feel proud, happy when people think I am good at English.
- I: Do you or your classmates compare the test score to see who got the highest score?
- S55: Sometimes.
- I: Do you feel pressured by it?
- S56: If I know my classmate who gets a higher score, then I do. But if my classmates gets a lower score, then I don't. {Chuckles}
- I: Is it important for you to outperform your classmates?
- S57: Not really. If I know my classmates perform better than I do, I might feel pressured and study harder for the next test. But if I know I outperform my classmates, of course it's nice, but I won't say it's important.
- I: Do you think your English abilities are getting better or worse?
- S58: Pretty much the same level so far... because I don't really take constant efforts studying English.
- I: Do you take some selective English courses?
- S59: No.
- I: Do you prefer that the English teacher uses course material that really challenges you, so you can learn new things?
- S60: But if the English teacher teach more difficult materials, I don't think I can understand. Then I might lose interest in English class.
- I: Do you demand yourself to completely master the material presenting in English class?
- S61: Not really. About 80%.
- I: 80% is not bad. Finally, do you have any other opinions or suggestions about the implementation of the Graduation English Language Proficiency benchmarks?
- S62: Umm...no.
- I: Thank you so much for your time. If I have any further questions, can I still contact you?
- S63: Sure.
- I: Thank you again for being interviewed.

Interview Transcript

Student G

- I: Do you agree with the English benchmark policy for graduation?
- S1: Yes.
- I: Why?
- S2: Because the benchmark will...it makes me feel like I am given a goal to achieve that I must achieve... Without the graduation benchmark policy, I wouldn't be very motivated to study English. Besides, the university offers intensive certificate courses. I don't have to pay extra money to go to a cram school. I can just attend the TOEIC course in the evening.
- I: Do you think this kind of course is helpful?
- S3: Not bad. The one I attended...I felt that English teacher was good at teaching.
- I: Do you think the benchmark policy is fair? I mean, the score of English proficiency test is used to determine whether non-English majors can graduate or not.
- S4: It is fair because the standard is set at a lowest level. Take myself for example, I took standardized English proficiency tests many times when I was in senior high school. It took me a lot of time to pass the test.
- I: I know you already passed the benchmark. Do you think you will still take the standardized English proficiency test again?
- S5: Yes, I will.
- I: Why?
- S6: I hope I can achieve the goal I have set for myself.
- I: What's your goal?
- S7: Something like a TOEIC score of 500.
- I: Why do you want to set your own standard?
- S8: Self-improvement.
- I: Do you think an official certificate of English proficiency is helpful for your future career?
- S9: I think so. Because something like business e-mail...is written in English.
- I: In your opinion, what do you think of the main purpose of studying English?
- S10: To read different things.
- I: What do you mean by that?
- S11: You can read something you don't understand.

- I: Something like...?
- S12: Umm...Something like...for example, when I read an advertisement or when I watch TV programs, you have no difficulty understanding them. It's convenient. (OK. So you mean...) You can start to work on something easier. To train your listening skills.
- I: Umm...Do you mean that since English is like an international language, it helps you understand different reading materials or TV programs in English?
- S13: Yeah...I think so. Very helpful.
- I: OK. You mentioned earlier that you took the standardized English proficiency tests many times in high school. Do you think that the test preparation was helpful to enhance your English abilities?
- S14: Umm.... Not for my oral skills. I think I am not good at speaking. The GEPT has a speaking section. I always failed in that section.
- I: How about writing?
- S15: I barely passed it. It was an unsatisfactory score.
- I: Has the university offered some English speaking courses?
- S16: Umm...Yes.
- I: Have you ever attended such courses?
- S17: I planned to. But somehow I didn't.
- I: Why not?
- S18: I don't feel comfortable... I don't know how to express myself. But later I attended a statistics course. I was surprised that I still had to express myself. (Laughs) But anyway I think I still learned a few things.
- I: Do you think the scores on standardized English proficiency tests can appropriately indicate your English competence?
- S19: I think...only listening scores can. But reading scores...not really, because you can guess.
- I: What kind of standardized English proficiency test you took?
- S20: I took the GEPT in high school.
- I: Did you pass the elementary level?
- S21: Yes. I already passed it before entering university.
- I: Were you nervous when you took the standardized English proficiency tests?
- S22: Not really... because I already took the tests many times. I am already quite familiar with these tests.
- I: Do you often feel frustrated when you learn English?
- S23: Yes. Like when I prepare for the reading section of the test.
- I: Why?
- S24: I don't really know how to enhance my reading skills. I just memorize as much

vocabulary as I can, but I forget them very quickly.

I: Do you think learning English is interesting?

S25: Learning English...umm...if the English activities are not assigned by the English teacher, then I will say yes. I feel like I'll be more motivated to learn English without being pressured.

I: So... in general, you like learning English?

S26: Yes.

I: Do you study English in your free time?

S27: Umm...sometimes...when I prepare for English tests...But I do enjoy watching English movies with English captions.

I: How about reading materials, like English magazines or newspapers?

S28: I often go to the Foreign Language Centre. The multimedia, like "*Interactive ABC*," or some conversation software...I enjoy these. Perhaps these software programs include cartoons or flash animation. (Laughs) Yeah... I find them quite interesting.

I: So you are the one who wanted to go to the language center, not because of the requirement by the teacher saying that you had to go?

S29: I enjoy being there.

I: That's good.

S30: The language centre sometimes has some English activities. I also enjoy participating these activities too.

I: Do you regard yourself as a more active English learner?

S31: Yes I think so. I also attended some short-term evening English courses held by the centre.

I: Do you think you would still take the standardized English proficiency tests if the university did not have the graduation benchmark policy?

S32: Yes, I still would. Like my cousins who also took these English proficiency tests and they passed the tests before I did, so I'd like to *****.

I: Students who do well on the English exit exam, such as passing the intermediate or high-intermediate level are entitled to get monetary rewards or to exempt from General English courses. Do these incentives make you work on the English exam harder?

S33: About that...actually...no.

I: Why not?

S34: Because I don't think I can perform up to that standard. I will just follow my own pace. Of course I wish I could do very well on the test. But I think maybe now it's more possible for me to do very well on the tests which do not contain speaking sections.

I: Do you think every university graduating student should get an official certificate

of English proficiency?

- S35: I think so.
- I: Why?
- S36: I think...such an official certificate of English proficiency should be helpful for the future.
- I: For the future career, advanced studies...or studying aboard...?
- S37: For the future career.
- I: Would you feel ashamed or guilty if you did not get any official certificate of English proficiency before you graduated?
- S38: I would feel very upset and work harder, but I don't think I would feel ashamed or guilty.
- I: OK. Is important for you to demonstrate your English abilities if you get high scores on the English exit exam?
- S39: No. For me the more important thing is to develop my English competence, not to demonstrate my English competence.
- I: How about outperforming your classmates? Is it important?
- S40: Not important either. I don't really care about competing with others.
- I: So you don't compare the test results to your classmates'?
- S41: No. But when I heard others who got good scores on the test, I would feel happy for them. And I would hope I could also do well on the test.
- I: Do you mean that you are motivated by your classmates if they perform well on the test?
- S42: Yeah. I think the motivation affects each other. Like I already took the TOEIC, but my friend hadn't. So she would say something like, "I should also take the TOEIC soon."
- I: Oh, that's nice. It's quite positive. Do you think your English proficiency is improving or getting worse after entering university?
- S43: I think my English abilities are enhanced. Because what I learned in high school was mainly for English tests... such as the College Entrance Examination. But after entering university, I have more time to study English, not only for tests. And there was no Foreign Language Centre in high school. {laughs} So I think my English is getting better. (Good) Because what you have learned belongs to yours.
- I: OK. Do you prefer that the English teacher teaches course material that really challenges you, so you can learn new things?
- S44: The English teacher... Umm, but I don't think you can learn a lot from English courses because sometimes they have to stick to their lesson plans. If you have questions, you still can ask the teachers.
- I: Do you think the General English course is easy?

- S45: It's okay.
- I: Do you demand yourself to completely master the material presenting in English class?
- S46: No. I think I understand the course material when I am in English class, but after class, I sometimes forget what I have learned very quickly. {Laughs} Yeah, it sometimes happens.
- I: (Laughs) Do you have any other opinions or suggestions about the graduation benchmark policy?
- S47: This policy...some people are just really bad at speaking. I think the standard for the oral section should be lower. {Laughs}
- I: But like the TOEIC, it doesn't test your oral skills and writing skills.
- S48: So I will work harder on the TOEIC. {laughs}
- I: Which English skills do you wish to improve the most?
- S49: Reading...and listening.
- I: Reading and listening skills. The TOEIC test only tests these two skills.
- R50: Yeah...
- I: Any other comments about the benchmark policy?
- S51: No.
- I: Thanks a lot for being interviewed. If I have any further questions, can I still contact you?
- S52: Sure.
- I: Thanks.

Interview Transcript

Student H

- I: Do you agree with the graduation benchmark policy?
- S1: Yes.
- I: Why?
- S2: I think the English benchmark policy for graduation is important for the university's reputation.
- I: Do you think the graduation benchmark policy is fair? I mean, using the test scores to determine if students can graduate is fair to you?
- S3: It should be fair. But the students with lower English abilities are struggling with passing the benchmark.
- I: Are you one of them?
- S4: Yes. My English is not good.
- I: Is it because you don't like English and you don't want to learn that language?
- S5: I'm not really motivated. {Sighs}
- I: Since you started to learn English?
- S6: No. When I was in junior high school, I didn't like my English teacher. I have lost interest in learning English since then.
- I: Until now? Are you still not interested in English?
- S7: I think I've made a big mistake. I always took a little effort to learn English, and I have to face the consequences now. I really regret that I didn't try to study English hard. Perhaps, I'm not that interested in the English subjects compared to other academic subjects.
- I: Do you like your specialized subjects?
- S8: It depends. In some subjects, the teachers use English textbooks in class.
- I: If you had a second chance, would you study English hard although you didn't like it?
- S9: Definitely.
- I: What's your major?
- S10: In high school, it was Accounting My university major is Information Management. If I learned English well, I didn't have to be worried about communication problems when I traveled abroad. English is an international language. But it's weird that even though my English is not good, I enjoy listening to English songs.
- I: Is it because you have favorite singers? Or you simply just like to listen to English songs?

S11: I'm not so sure. I have my favorite singers, but I also like to listen to other different kinds of English songs.

I: Do you think your listening skills are improved when you listen to English songs?

S12: A little bit. But I still don't think it's enough. Maybe I don't have basic knowledge of English.

I: I see. In your opinion, what's the main purpose of learning English? Is it what you mentioned earlier: "You didn't have to be worried about communication problems when you traveled abroad?" or something else?

S13: That is only one purpose. I think English can be very useful for job hunting.

I: OK. Do you think your English abilities are enhanced after you prepare for the English exit exam?

S14: A little bit. My cousin married a Greek. English is the only language I can use to talk to him, but I don't really understand what he says. {Sighs} One more thing, I think an environment really makes differences..if you don't use English that often...especially when you don't have much knowledge of English.

I: Do you think that you are motivated to study English harder to communicate your cousin-in-law?

S15: Not entirely. It should be more like...there is no communication barriers thanks to today's technology. I'm interested in making friends with foreigners. {Laughs}

I: I see... In the questionnaire, you mentioned that you already took the standardized English proficiency tests twice after entering university. What kind of tests you did you choose as an English exit exam?

S16: The TOEIC and the CSEPT.

I: Did you pass?

S17: No.

I: Are you preparing for the English exit exam now?

S18: No. I haven't decided when to take the test, so I haven't started to study yet. I still have time.

I: Do you study English in your free time?

S19: No. Not at all. I only study English before the test. But the test is too broad to prepare. I don't know how to prepare for the test.

I: When you said "the test", does it mean the TOEIC?

S20: No. The CSEPT.

I: Why the CSEPT?

S21: It's very expensive to take the TOEIC. Besides, the test score has to be over 500; otherwise, the certificate you get is not very useful. It is impossible for me to reach 500, so why should I waste my money? The CSEPT is much cheaper, and easier to pass. You also can guess. Anyway, I'm in my 3rd year. I just want to pass the benchmark, so of

- course I will take the CSEPT.
- I: I see. Do you think the score on standardized English proficiency tests can appropriately indicate one's English competence?
- S22: I guess so. Otherwise you have to use the standard of oral skills.
- I: What do you mean by that?
- S23: Some standardized English proficiency tests only test your listening and reading skills. If you pass this kind of test, it doesn't mean that your speaking skill is equally good.
- I: Right.
- S24: Take myself for example. My reading skill is not bad, but if I need to answer other people's questions in English, I have great difficulties.
- I: Right. Are you worried that you might not be able to pass the benchmark?
- S25: The students, like me, with poor English proficiency have been really struggling with passing the English exit exam...I just don't know how to prepare for it.
- I: How do you feel about it?
- S26: I'm very worried. I don't want to be held back in the university just because I don't pass the benchmark policy.
- I: The university has provided some make-up courses or remedial courses. Do you think they are helpful?
- S27: Yeah, they are.
- I: In which ways?
- S28: One of my classmates passed the benchmark after attending the course. But I think it depends. For me, I might just pickup what I have learned before.
- I: Would you take the standardized English proficiency test if there were no benchmark policy?
- S29: Maybe...yes, I think so. To test my English level.
- I: Do you think that you are more motivated to learn English because of the implementation of the graduation benchmark policy?
- S30: To be honest, I think students with lower English abilities are much more motivated to study English harder. Students with better English abilities don't need to prepare at all and still can pass the benchmark easily.
- I: You mean...although you feel pressured and stressed, you agree with the benchmark because you feel more motivated to study English?
- S31: Yeah...because...most universities that establish the English benchmark for graduation have a better reputation.
- I: Do you think every university graduating student should get an official certificate of English proficiency?
- S32: I don't think so.
- I: Why not?

- S33: It depends. If you need that certificate, you take the test, If you don't need it, why should you take it? That's what I think. But I still believe that getting an official certificate of English proficiency is doing you good. Good for your future career.
- I: How would you feel if you did not get any official certificate of English proficiency before graduating?
- S34: I would feel awful.
- I: Why would you feel awful?
- S35: I have some friends whose major is Applied English. I kind of envy them. The pressure is also from my parents or other relatives.
- I: Do they place an emphasis on your English test scores?
- S36: Yes! And also on my other academic achievement. They also like to compare me to others.
- I: Does such an expectation induce pressure on you?
- S37: Yeah. I don't like to be compared. I don't care if others do better or I do better. People are good at different things.
- I: How about your classmates? Do your classmates compare scores?
- S38: Not really.
- I: Do you think your English abilities are improving or getting worse, or remaining at a similar level after entering university?
- S39: I think...getting much worse. My English was much better when I was in junior high or senior high.
- I: Why? Are you worried?
- S40: Of course I'm worried. We are placed into an English class proper for our English level but my junior high and senior high schools didn't group students according to our levels. If the teacher used more difficult materials, we had no choice. We had to study them. More importantly, my English teachers used to push us very hard.
- I: Have you attempted to do anything to improve your English skills?
- S41: I don't know how. The test content is too broad to prepare. But perhaps I have never found right ways to study English. I memorize a lot of vocabulary items but have no idea how to use them. I'm not so sure how to use them in sentences.
- I: You mentioned earlier that since the university has adopted ability grouping, the English studying isn't quite challenging for you. Do you prefer that the English teacher can teach something more challenging so you can learn more knowledge of English?
- S42: Yes. I think I learn more from more difficult learning materials.
- I: Do you demand yourself to understand the content of the English course as thoroughly as possible?
- S43: No, I don't. I'm satisfied as long as I have learned some English knowledge which I think it's important.

- I: Do you agree with this sentence: “I study English hard to avoid performing poorly on the English exit exam”?
- S44: I don't. Just like what I said earlier. If I study English hard, it's because I'd like to make friends with foreigner people.
- I: Finally, do you have any comments or opinions about the implementation of the graduation benchmark policy?
- S45: Not really. The university has provided some courses. They have put efforts. I'm the one who decides if my English gets better or worse.
- I: Any other comments you'd like to add?
- S46: Umm....No.
- I: OK. That's all. Thank you so much for your time. If I have any further questions, can I ask you again?
- S47: Of course.
- I: Thank you again for being interviewed

Interview Transcript

Student I

- I: Do you agree with the English benchmark policy for graduation?
- S1: Yes.
- I: Why?
- S2: I don't study English in my free time and I don't like English, so I think the establishment of the graduation benchmark policy should force me to spend more time studying English.
- I: Be forced? Do you think English is very important?
- S3: Of course! Many jobs require English certificates. You have to be able to read English...and speak English.
- I: Why don't you like English?
- S4: When I started to learn English, I felt it was ok, but later I realize that I am not good at learning this language. When I don't do well on the test, my parents are unhappy about it. I feel very annoyed. They also often compare me to other relatives. It is even more annoying!
- I: I see. You major in Design. Do you think you will need an English certificate for your future career?
- S5: If I want to work for big companies.
- I: Do you want to work for big companies?
- S6: [Laughs] Of course! They are welfare-oriented. Besides, they are challenging.
- I: Do you think your English proficiency is improved due to the test preparation for the English exit exam?
- S7: Yes.
- I: Overall English skills?
- S8: Reading and vocabulary development.
- I: When will you take the English exit exam?
- S9: The next semester.
- I: Which standardized English proficiency test will you choose as an English exit exam?
- S10: The CSEPT. But I will take the TOEIC in my third year.
- I: Why?
- S11: The teacher will register for the CSEPT for the whole class. My teacher recommended that one. The teacher said it was easy. But I don't know...I understand the CSEPT was easy to pass, but not useful for the future job career.

- I: Do you study English in your free time?
- S12: I memorize some vocabulary words on weekends. But I will study English much harder before the exam. My English is really poor. If I don't memorize more vocabulary words, I'm worried I cannot even understand the test questions themselves. But I don't spend much time studying English...less than an hour. {chuckles} I usually set an alarm clock and keep repeatedly writing vocabulary words and trying to memorize them.
- I: Do you think it's useful to develop your vocabulary?
- S13: Umm...to be honest, not really. Somehow I quickly forgot the words I tried to remember.
- I: Do you think you will be nervous when you take the English proficiency test?
- S14: I will be very nervous!
- I: Why?
- S15: I don't know how to study English. The only way I know is to memorize as many English vocabulary words as I can. Many English grammatical rules are very confusing. I don't know how to study grammar.
- I: Are you worried that you might be held back in university because you may not be able to pass the benchmark?
- S16: Yes, I am. But I'm much more worried that I cannot find a good job if I don't have any official certificate of English proficiency.
- I: If the university didn't set up the graduation benchmark policy, would you still take the standardized English proficiency test?
- S17: I would be much less motivated, but I think I still would.
- I: Why?
- S18: To satisfy the job requirement.
- I: Do you think every university graduating student should get an official certificate of English proficiency?
- S19: Yes. You cannot deny the importance of the certified English abilities in the job markets.
- I: Would you feel terrible if you did not get any official certificate of English proficiency before graduated?
- S20: Yes, very much.
- I: Why?
- S21: Because I would be worried I couldn't find a good job.
- I: Do you and your classmates usually compare the test scores?
- S21: University classmates?
- I: Yes.
- S23: Not really, but we might ask each other's test results.

I: Is it important for you to outperform your peers?
S24: It's kind of important.
I: Why?
S25: Because it means I have improved my English.
I: Do you think your English is improved after entering university?
S26: A little.
I: Why?
S27: Because we're grouped according to our English ability levels.
I: Do you strive to understand the content of the English course as thoroughly as possible?
S28: Yeah...I think so. Because we're grouped according to our English ability levels, the course materials are neither too difficult nor too easy. I can learn most of them more quickly.
I: Do you prefer English course materials that really challenges you, so you can learn more English knowledge?
S29: Ideally, yes. It should be better. But I'm afraid that if the course material is too difficult, I have a great difficulty learning it.
I: In your opinions, what do you think of the main purpose of studying English?
S30: To give myself an edge in a tight job market.
I: Finally, do you have any comments or opinions about the graduation benchmark policy?
S31: No.
I: Thank you very much for your time. If I have any further questions, can I ask you again?
S32: Yes.
I: Thank you again for being interviewed.

Interview Transcript

Teacher A

- I: Are you in favor of the graduation benchmark policy?
- T1: Because... it gives students a goal.
- I: All students?
- T2: For students who are in the elementary level. I think they are the most affected group by this policy.
- I: In which ways?
- T3: For beginners ... the benchmark is actually very difficult for them to achieve. They might think even though they study very hard for the English exit exam, but still find it difficult to pass.
- I: Have some students expressed such a concern to you?
- T4: Not directly. But the content of English course for beginners is actually quite easy. Even if these students perform well in English class, I don't think they can do well on the English exit exam, unless they study extra hard. So I think the graduation benchmark policy induces some pressure on these students with lower English abilities.
- I: How about the intermediate or high-intermediate students?
- T5: For high-intermediate students...although they...maybe they already passed the benchmark before entering university. I think most of them already did, so the benchmark policy doesn't really have effects on them. As for intermediate students, I think as long as they take efforts, most of them should pass the English exit exam. But for those with lower English abilities, even though they study very hard, they might still fail the English exit exam.
- I: Do you think the elementary level of the graduation benchmark policy is an appropriate standard?
- T6: I think such a standard is too low to meet the job requirements.
- I: So which level do you think is more appropriate?
- T7: Intermediate, at least.
- I: Under the graduation benchmark policy, the test scores are used to determine if students can graduate. Do you think it is fair, especially for the students with low English abilities?
- T8: Fair...? Mmm... I think I wouldn't use the word "fair." I would think whether the policy is "appropriate" or not. It's not the issue of fairness, but appropriateness.

- I: Do you think the test score results of the standardized English proficiency tests can appropriately indicate students' English competence?
- T9: It depends on which test students choose. If the test is the TOEIC or the TOEFL, it probably can...but if it's the CSEPT, not really.
- I: Because the CSEPT is relatively easy in terms of its standard and content?
- T10: The TOEIC and the CSEPT don't test speaking and writing skills. It's possible that some students are good at listening and reading, but bad at speaking and writing. So maybe these students already pass the benchmark, but in fact, they still have difficulty communicating with others.
- I: According to your teaching experience, do you think most students are more passive English learners?
- T11: Mmm...I think it's difficult to make such a generalization because there are some students who study hard and some students don't. Take my current English classes from example. I think...most students are ok. I mean, although my students don't seem to be very actively participating in English tasks, they do understand what I have taught in class. So I don't think they dislike learning English. For me, their learning attitudes are acceptable...not very passive.
- I: Do you think students' learning attitudes are different in terms of their majors?
- T12: Yes.
- I: How?
- T13: For example...such as...it's hard to say. There are several reasons why I feel difficult to answer your question. First, students in the same department...I teach two classes from the same department but the learning atmosphere are different. One class is better than the other one. The students from the better learning atmosphere do better at learning. So I think it's hard, hard...to answer yes or no to your question.
- I: So if you find students are less engaging in English learning, what do you usually do?
- T14: I usually encourage my students.
- I: So you don't do something, like, to push them or force them to study harder?
- T15: Mmm...I usually give them extra points. For example, the Foreign Language Centre provides some English activities. The more students participate, the more points they get.
- I: Is an effective way to enhance students' English learning motivation?
- T16: No...
- I: No?
- T17: No. Take the students from College of Design for example. I don't think they dislike English learning or hate English very much. They have too many subject-

related assignments and they don't even have much time to sleep. They have stay up all night to finish a project. So even though I only ask them to do an easy assignment, they don't really have much time to do it. But I don't really think these two are directly related to each other.

I: What do you think of the make-up courses for students who have failed the English exit exam at least once? Is it necessary?

T18: Because it's an alternative solution...

I: Right...like a "back-door?"

T19: Yeah...you can put it that way. So I feel it's necessary.

I0: Does the implementation of the graduation benchmark policy influence your teaching?

T20: Yes.

I: In which ways? Teaching activities, teaching materials, or assessment?

T21: Teaching materials, test content, and test formats.

I2: Do you mean you adopt items from the mock tests of the GEPT or other equivalent language tests as quizzes?

T22: I focus on the vocabulary development and grammar. Maybe I teach grammatical rules more quickly or teach more grammatical rules.

I: Do you think your teaching is greatly influenced by the English exit exam?

T23: Not really. I would say...I just increase the amount of the teaching content. For example, when I design tests or quizzes, the test format is like the standardized English proficiency tests. So students can be more familiar with the kind of test format.

I: How about reading and writing?

T24: I still try to develop students' reading and writing skills because the university, I mean, the Foreign Language Centre, provided us with the guidelines to promote students' overall English abilities, including listening, speaking, reading, and writing. All these four skills have to be tested in General English courses. For example, 5% out of 100% is for speaking and another 5% is for writing.

I: The way you test students' speaking and writing is related to the test format of the standardized English proficiency tests?

T25: Not really.

I: Are you worried that your students, especially beginners, cannot pass the English exit exam?

T26: Yes.

I: Do you think there are some ways that can improve your students' English proficiency?

T27: I encourage them to take the intensive English certificate courses.

- I: Because you are in charge of the plan that helps students pass the English exit exam, do you feel pressured by the passing rate?
- T28: Yes. Mmm...Let me think how to express my thoughts...because I'm in charge of this plan, I, of course, hope the passing rate is high. But what I can do...is to see the results...or to see the passing rate from a certain English certificate class and then to make certain adjustments.
- I: Have you ever replaced any English teachers whose passing rate remains low?
- T29: I'd talk to that teacher first because...I think every teacher is doing their best, trying to teach well. But if the passing rate is not what we expected, there should be some other reasons. So I might examine the teachers' teaching materials to see if they are appropriate or to find out students' reactions to this class. I think the results of English learning cannot only depend on teachers. Students might have very low English abilities. Besides, the class is only 48 hours. You cannot say 48-hour teaching will definitely lead to satisfying results as we expected. So I will talk to the teacher first to understand what kind of problems we might have... and then provide necessary help.
- I: Have you replaced any English teachers so far?
- T30: So far.. no. They quit...because they might not have time for us...I think there are not many teachers who can teach such classes.
- I: So you still find it difficult to find teachers?
- T31: Yes. The teachers who teach English certificate courses usually work part-time. They might have other jobs in other institutions. Also because of the distance. This university is kind of far from downtown.
- I: Right.
- T32: Or the teacher might want to take a break. He or she has their own plan.
- I: Do you think the establishment of the graduation benchmark policy is important for the reputation of this university?
- T33: The reputation...Absolutely.
- I: Positive or negative impact?
- T34: Positive.
- I: Finally, do you have any suggestions for the implementation of the graduation benchmark policy?
- T35: Mmm...I think...the ideal situation is like...students with different English proficiency levels have different benchmarks. But in reality, it's quite difficult. First of all, you have to consider the problem of fairness. For example, students with lower English proficiency are provide different forms of assessment, such as giving speeches or presentations, and portfolios, and based on these alternatives, students can pass the benchmark, instead of taking tests. Is it fair? Besides the

problem of fairness, the manpower is also a big issue. There are so many students and the number of the teachers is relatively low.

I: So do you think the implementation of the English exit exam is probably the most appropriate way to test students' English achievement?

T36: Not really...appropriate? I think it's the least controversial among all options. It might be not appropriate for every student, but it brings the least controversies.

I: That's one of the reasons you support the implementation?

T37: Umm...yes.

I: Do you think official certificates of English proficiency are useful for students' future career?

T38: It depends on what kind of careers students pursue. But in general, I think they should be helpful.

Interview Transcript

Teacher B

- I: Do you agree that the technological university to implement the English graduation benchmark policy?
- T1: Yes. I do. But I think, I think...umm, only 3rd and 4th year students are allowed to take the English exit exam.
- I: Why?
- T2: Because...because most English certificates are expired after two years. Also, many 1st and 2nd year students... most of them graduated from senior vocational high schools. If they want to take the TOEIC which involves many business terms, they might...they might find it difficult.
- I: Do you mean that 1st and 2nd year students lack sufficient knowledge of Business English?
- T3: Yes...and...how should I put this? You will also be very surprised about their common knowledge.
- I: What do you mean?
- T4: For example, when I taught the reading section for the TOEIC, because the reading section also involves conversations or dialogues, my students would ask strange questions like, "Why does the reading section have matching questions?"
- I: What?
- T5: They did not ask questions about English itself! I teach test-taking skills. I tell my students to pay attention to keywords, something like that. In order to get high scores on the TOEIC, you have to memorize as much vocabulary as you can, so you can easily search for keywords and get your answers right. But of course, there are still some students who are very hard-working. They are willing to invest much time memorizing vocabulary. They can handle that. But some other students would be struggling with the matching questions, asking questions like, "Why does A have to match B or why does C have to match D?" I don't know how to answer to such questions!
- I: Compared with 1st and 2nd year students, 3rd and 4th year students are better?
- T6: Yes! They don't ask strange questions. I strongly suggest that many short-term courses should be offered, especially to 1st and 2nd year students. The courses can focus on, such as, business English. After two-year training, and then they can take the TOEIC in the 3rd or 4th year.
- I: I know that the university is afraid of too many students will not graduate on time, so 1st

and 2nd year students are also encouraged to take the English exit exam.

T7: Oh... I see. Do you know the CSEPT?

I: Yes, I do.

T8: It is a really easy test. I don't think many students would be held back. They can just choose the CSEPT to satisfy the English graduation requirements. I also don't think the GEPT is better. The quality of the GEPT is poor. As you know, it is a locally-developed English test. [Yes] I did not mean Taiwan's test developers are not professional, but if you carefully examine the GEPT question items, they are really strange. Let me take the high-intermediate level for example. The listening questions are really ????. As for the grammar, the rules are way too detailed and complicated. They are not authentic at all. You will never apply these rules in your real-life situations. To be honest, I even think native speakers of English do not understand or can answer these grammar questions. The reading section is fine. The writing section is also fine. But the speaking section is very easy.

I: I know that the GEPT is used and encouraged as an English exit exam because it also includes speaking and writing. The TOEIC does not test students their listening and reading skills. Although the new TOEIC does cover speaking and writing sections, the students are not required to take speaking and writing sections.

T9: I do not think it is a problem. If students do not get at least 550 on listening and reading, they will not pass speaking and writing. I mean, if you cannot get a satisfactory score on listening and reading, you cannot write well either. Let me tell you something. Many middle schools, even secondary schools have required their pupils to pass the GEPT-Elementary level. Many technological universities have also required their students to pass the GEPT-Elementary level. Do you know how wrong it is? The standard is set too low and...and I don't think the certificate of the GEPT-elementary level can actually help new university graduates gain better employment opportunities. That is why the CSEPT was developed. The CSEPT just confuses the public.

I: So you think...

T10: I am really upset about the whole English education! I think it is good that the university has encouraged students to obtain official English certificates, but you definitely have to provide many supportive measures. You know, the TOEIC does not have complicated grammatical rules. The rules are actually very basic. Why? Because you do not need complicated rules to carry out daily English conversations.

I: That is right.

T11: But the thing is, I really feel sorry for the students.

I: What do you mean?

T12: The education system is always so test-oriented.

I: Do you think that student motivation is affected by the English graduation

benchmark policy?

T13: I think students' motivation is enhanced. That is for sure. The students have to pass the benchmark. It is a rule they have to follow. Of course they will be more motivated. But I think the power of motivation works stronger for teachers.

I: Teachers?

T14: That's right. Teachers have to prepare their students to pass the benchmark. They have to take teaching more seriously. For students, a deadline or other incentives are a must; otherwise, they will never work harder. I know that it is necessary to establish and implement the benchmark, but I also feel sorry for the students. So teachers must give their students as much support as possible. Let me get back to what we had said. As I said earlier, it is better that 1st and 2nd year students do not take the English exit exam until they are in the 3rd or 4th year. Why? Because they should develop their English skills or abilities in their regular English classes. And, they should be never tested with multiple-choice questions!!

I: Do you mean classroom-based assessments should never include multiple-choice questions?

T15: Yes. For example, you need to provide students with more speaking opportunities. I know it could be a great burden for teachers. But students need to speak up and write sentences. For example, when I teach the IELTS, I always ask my students to write sentences as homework because students have to know how to use a new vocabulary word they just learn. It is useless if they know the word, but do not know how to use it. [Right] That is why I said regular English classes are very, very, very important for the students to build up their English skills.

I: I know what you mean. But I had some interviews with the students and several of them claimed that regular English courses were too easy.

T16: But I was wondering what their definition of "being too easy." I doubt that most of them can use English to carry out some easy conversations. They might do well on English tests. They might get good scores on English grammar or vocabulary. But I think their English oral skills are in general not satisfactory.

I: It is possible.

T17: I bet most of them cannot use it in writing or speaking appropriately. So what is the point? It is useless! Let me tell you something. The students do not have appropriate learning strategies. So I have to teach them how to study English more effectively, how to take notes, how to memorize vocabulary in more effective ways. The students need to be taught!

I: Some students I interviewed also claimed that they wanted to learn English well or they wanted to do well on the English exit exam, but they just did not know how.

T18: Exactly!! That is why students have to follow all of my rules, like the way to

take notes. I am aware that my classroom is really teacher-centered. But my students will gradually learn how to take notes more effectively, how to memorize vocabulary more effectively, and how to study English more effectively.

I: Do you think students with higher English abilities have more appropriate language learning strategies?

T19: My students for the TOEIC and the IELTS classes are usually those with better English skills, but I also found that they are also not very good at taking notes or other strategies. My point is the establishment of the benchmark is one thing, but the role of teachers is another. Teachers are a very important role. I was touched by some feedback that I received last time. Some students mentioned something like, “Your enthusiasm and teaching efforts have inspired me to study English harder.”

I: That is nice.

T20: It does not mean that I wanted to get approved, but it is always good to be able to inspire some students.

I: Exactly. Teachers can play a significant role in determining students’ learning attitudes.

T21: But let me tell you, most students will no longer invest effort after they pass the benchmark. So I try to educate them and keep reminding them that learning English requires a much time and long-term effort.

I: I know, but it could be very difficult for these non-English majors to be persistent in learning English.

T22: I just think that English is an important tool today, and they should never stop learning English.

I: Are you worried that your students might not pass the benchmark?

T23: No, not at all. When I started to teach test-preparation courses, I was really excited. There were not so many rules, and the teaching hours were much longer. I am still satisfied with these test-preparation courses. I just wish that I could have more teaching hours. I always have difficulty finishing my classes on time. I am too greedy. I want to teach them English knowledge but at the same time I also want to teach them many test-taking skills. I have to teach many test-taking skills because there is limited time for this course, but it is not consistent with my teaching beliefs. I always write the same suggestions or feedback to the test-preparation courses: give me more teaching hours!

I: I see. Do you think official English certificates are important in job markets?

T24: Yes, they are very important and highly valued, but not the certificates of the CSEPT. A few employers know what the CSEPT is. But you cannot blame them. It is relatively new. But I do not think they need to know the CSEPT. Once they know what it is, they definitely will think it is a useless test. I mean, it is too easy and it cannot

appropriately reflect students' English abilities. The quality of the CSEPT is very poor, much poorer than the GEPT. One of the reasons I like the TOEIC because, for example, in the reading section, it requires students to have abilities to capture key information in a short time, and know university students with official English certificates are more advantageous when they seek for jobs. So teachers still have to help students to pass the exam. Students do need to be pushed to study to obtain at least one English certificate.

I: In your opinion, what do you think of an appropriate standard?

T25: It depends on students' academic backgrounds or employment needs, and their English starting points. Some of them are aware of the importance of English certificates, so they work hard. They also set their own goals, and attempt to get a score as higher as possible.

I: Are these students with better English abilities?

T26: Yes, they have higher English skills.

I: How about the students with very low English skills? Do you think...

T27: I think they can pass the CSEPT for sure, but the key is that regular English classes have to be designed very well, so that these students can build up and improve their English in a more systemic way. In my opinion, I think that only students with very low English skills are allowed to take the CSEPT.

I: OK. Do you have any other comments on the policy?

T28: Teachers or educators should take more responsibilities than students under the policy. I mean, students definitely need a high degree of external supports from their teachers. Students are lazy. They need to be pushed to study harder. More importantly, they need to be guided to become better language learners. One of the main reasons I support the policy because it is useful for students for their job hunting, but again, I want to emphasize that teachers play a very, very, very important role. With teachers' great efforts and well-designed English classes, students' English abilities can be gradually improved.

Interview Transcript

Teacher C

- I: Do you agree that the technological university should implement the English graduation benchmark policy?
- T1: Yes. I do.
- I: Why?
- T2: Because...because English is important to students, regardless of their academic backgrounds.
- I: In which aspects?
- T3: Better employment opportunities. But I also think that compared to students in comprehensive universities, English might be less important for the students in technical institutes.
- I: Do you think the standard, that is, TOEIC 350 or GEPT-Elementary level, is appropriate?
- T4: The standard is kind of low, but I think I understand why the university set such a low standard for the students. {Pause} The students in technical institutes are usually regarded as poorer English learners, I mean, compared to those in comprehensive universities. {Pause} If students want to be their English certificates to be more useful in job markets, they should obtain at least TOEIC 550... or the GEPT-Intermediate level.
- I: The first stage or the second stage of the GEPT?
- T5: The first stage covers reading and... listening. The second stages covers speaking and writing. I think students should pass both stages.
- I: Do you think that the benchmark will enhance students' motivation for learning?
- T6: Students'...I think students are more motivated under the policy, but it does not mean that students are more interested in learning English. I mean, they have to pass the benchmark; they have to meet the benchmark in order to graduate.
- I: Do you mean that students are primarily motivated by the graduation requirements, not the English language itself?
- T7: Yes.
- I: Do you feel this way based on your teaching experiences?
- T8: Yes. Their primarily goal is to pass the benchmark to graduate on time.
- I: Are they not interested in, like, getting a high score?
- T9: Yes. I asked my students about their purpose of taking the test-preparation course. I know that they just wanted to pass the benchmark. But I also let me students know that passing

the benchmark should not be their most important goal. It is much more important that their overall English abilities are also improved during their test preparation.

I: May I ask your students' level?

T10: My student got about 200 on their mock TOEIC test. So, I would say their English abilities... are relatively poor.

I: Have you ever taught students with higher English abilities?

T11: Yes, I have.

I: Do you think the students with different English abilities have different learning attitudes?

T12: Some students are really hard-working.

I: Are those students with better English abilities?

T13: Relatively good, but not very good.

I: Could you briefly describe how you conduct your test-preparation courses?

T14: I use commercial textbooks, but I also provide my students with some supplementary materials. Because the commercial textbook does not cover all important language points.

I: Do you have any suggestions or feedback about the test-preparation courses?

T16: Such courses usually only have 8 weeks and 3 hours for each week, so I only have 24 hours in total for teaching TOEIC Listening. This 24-hour course includes time for pre- and post-tests. I also have to spend much time doing some revision. It is too short. My course is forced to be test-oriented. I do not like it, but I do not have enough time, and, and the students were more concerned about passing the test. As a result, you are forced to spend more time focusing on teaching test-taking skills.

I: I know you also teach regular English classes. Do your teaching methods and techniques in the test-preparation course are different from those in regular English classes?

T15: I usually spend much more time guiding students in regular English classes. It is more interactive. But I cannot employ the same techniques in the test-preparation classes. It takes too much time. In my test-preparation courses, it is more traditional and teacher-centred. I mean, I talk, and students listen. If I had more teaching hours in test-preparation classes, perhaps I could spend more time guiding students to do the tasks, and employ more different teaching techniques to, to, to make the classes less test-oriented and more interactive or more interesting.

I: How many teaching hours do you need?

T15: 36 hours.

I: Do you think that students usually become less and less motivated toward the end of the course?

T17: When I teach TOEIC Listening...Reading{Pause}I think students have different

learning attitudes when they take the Listening course, and when they take the Reading course. The test-taking skills for Listening actually are limited, but the students I teach in this semester have poorer English abilities. Some of them feel it too difficult to catch up in the class, so I have been telling them that they have to exert a great effort and spend much time on getting familiar with these techniques. So I am more concerned that students will be discouraged after the 8-week course.

I: Discouraged?

T18: Yes, they need to see some actual, immediate improvements; otherwise, they will be more and more frustrated.

I: How did you usually help your students to catch up in the class?

T19: I asked my students to listen to the CD and get familiar with different accents as homework, but nobody did that.

I: None?

T20: To be honest, I am not surprised. I also gave my students some websites where they could practice their listening. But I cannot force them to listen to these websites. You cannot monitor them all the time. I think my students are already adults. They are the ones who determine the degree of work efforts.

I: OK. Are you worried that your students might not perform well on the actual test?

T21: {Pause} Of course I am worried. But so far, my students seemed to do so far.
{Laugh} So everything should be fine.

I: That is good. Do you think that the establishment and implement of the policy is good for the university's reputation?

T22: Of course. As for those which had not, I believe that they will also set up the policy sooner or later. It is a trend.

I: Do you have any other comments on the policy?

T23: Umm... {Pause} I cannot think of any now. I think English is really important for students, even those in the technological universities. They might have opportunities to attend some contests in foreign countries. For the students who might not need English in their future career, they still need to study some English articles or journals. That is why I think English is a very important tool. Some people might argue that students can access to second-hand information, but I think second-hand information is different from first-hand information. So I think... I still think that..English...it does not matter which future career students will choose, English is still a very, very important tool.

I: Thank you very much for your time. May I still contact you if I have any further questions.

T24: Sure. Anytime.