適性化英語教學法的有效性對台灣學生學習英語動機，
焦慮、和興趣調查

鄭安琪
稻江科技暨管理學院應用語文學系

摘要
本實驗主要是比較傳統英語教學法和適性化英語教學法的有效性，於大一英文閱讀課
中對學生的學習英語動機、焦慮，和興趣所做的深入探討。適性化教學法源自於美國，其主
要內容是針對發展天才兒童潛能所創造的教學法，之後，就普遍運用於學生程度參差不齊的
班級。此教學法強調老師必須兼顧到每位學生的能力、興趣，以及學習方式的不同來進行教
學，統一化的教學可能會埋沒資質好的孩子，又或者放棄資質差的孩子。

在此教學法中，學生可依據自己的興趣、能力、偏好的學習方式來進行分組學習，老
師必須按照學生不同的程度給予不同的評量方式和作業。有鑑於台灣傳統式的教學常讓學
生害怕學習英文，以及美國學生對此教學法有很大的迴響，因此研究者想運用適性化教學法
來探討學生是否會因為此教學法提升學習英文的興趣，以及減低對於學習英文的焦慮。

此實驗分為實驗組和對照組，實驗組進行適性化教學法，對照組進行傳統式英語教學
法。學生在學期初和學期末各收到一份問卷，問卷內容包括調查學生學習英文時的學習動
機、學習焦慮，和學習興趣。實驗以進行一個學期為主，研究者會比較學期初和學期末兩份
問卷的差異，來探討學生是否提高學習動機、興趣，和降低對學習英文的焦慮。

本實驗顯示，相較於傳統教學法教學的班級，在實驗組的大一新生們的確提高對英文
的學習動機與興趣，但對於焦慮則沒有顯著的差異。可能因為大一新生仍習慣於老師主導
所有課程的方式，因此對於大量分組及上台報告產生些微的不習慣反應。研究結果顯示當教
學的內容、教學的過程，和學生呈現學習的成果，能以學生的興趣、能力，以及學習方式作
為考量時，相較於傳統英語教學法，英文學習將會變的更有趣，並且能創造出較高的學習動
機。

關鍵字：differentiated curriculum and instruction, EFL, language learning, motivation,
anxiety, interest
Effect of Differentiated Curriculum and Instruction on Taiwanese EFL Students’ Motivation, Anxiety and Interest
An-Chih Cheng
Department of Applied Languages of TOKO University

Abstract

This study examined the effects of differentiated curriculum and instruction on the teaching of English as a Foreign Language (EFL) to university freshmen in their English reading classes in Taiwan. This quasi-experimental study investigated whether using differentiated curriculum and instruction impacted motivation, anxiety, and interest toward learning English. A pre- and post-questionnaire comparison group design was used to determine if students who were taught using differentiated curriculum and instruction yielded significantly greater gains in their motivation, anxiety, and interest levels than a more traditional teaching method (teacher-directed lecture model).

The study showed that using differentiated curriculum and instruction increased EFL learners’ motivation and interest levels when compared with the students taught using teacher-directed lecture model to learn English. However, the data indicated that using differentiated curriculum and instruction did not produce a significant decrease in anxiety level as compared with students in the teacher-directed lecture model. This current study showed that when the curricular elements of content, process, and product are differentiated students’ interests, readiness, and learning preferences, English learning is more interesting and creates higher motivation than does using traditional Taiwanese teaching methods.

Keywords: differentiated curriculum and instruction, EFL, language learning, motivation, anxiety, interest
Chapter 1 Introduction

The Role of English Learning in Taiwan

In Taiwan, English is treated as a subject necessary for College entrance examinations rather than simply as a means to develop students’ communication skills in real life situations. Several Taiwanese educators and researchers indicated that the syllabus design of English classes is still focused on grammar translation, rote learning, drills, and testing (Chang and Wu, 2003; Cater and Nunan, 2001; Shun, 2000; Yang, 1999). Students often learn how to communicate by using a memorized sequence of sentences about predictable situations (Ku, 1995). Consequently, the teacher-centered English teaching method often forms a group of “passive and unproductive students” who excel at being tested but who are incapable of engaging in genuine communication (Ku, 1995).

The test-oriented and teacher-centered environment is the orientation to examine the core problem that exists in Taiwanese language classrooms, which is that students have high anxiety about learning English and therefore are not motivated to learn (Chang and Wu, 2003). Researchers demonstrated that affective variables, including anxiety, interest, and motivation influence language achievement (MacIntyre and Gardner, 1994).

As Hidi and Harackiewicz (2000) proposed, “the absence of academic motivation and lack of interest is likely to be reflected in students’ neglect of their studies” (p. 151). One solution to this dilemma might be to differentiate instruction, a strategy which has been applied successfully in mixed ability classrooms composed of gifted as well as slow learners in the United States. The intention of differentiated curriculum and instruction is to give students multiple options to assimilate information and make sense of ideas (Tomlinson, 2001). The key to differentiated curriculum and instruction is that all students are regularly offered choices from among a variety of classroom activities. Based on Printrich and Schunk (2002), choices of task is one strategy of motivation representing the set of behavioral indicators. Another choice of tasks is interest. When students have a choice, what they choose to do indicates where their motivation lies (Printrich & Schunk, 2002, p.13). Differentiated curriculum and instruction, where the teachers differentiate the content, process, and product to challenge the students at higher levels while acknowledging students at lower levels, is truly a feasible option and a challenging experiment for Taiwan’s education system.

Statement of the Problem
Beginning College students’ low motivation to learn English has been a continuous dilemma to researchers and language teachers. The following section will examine three main causes of students’ low motivation to learn English in Taiwan.

Students may devalue English-learning because the English instruction is unconnected to their real-life experiences. In a recent study, Peng (2002) investigated English learning motivation among college students in Taiwan and showed that most Taiwanese students studied English simply because it is mandatory. The research also indicated that English instruction in Taiwan is still exam-oriented, aiming at preparing students for the Scholastic Aptitude Tests (SATs) and the Department Required Test (DRT). Exam-oriented English learning often ignores the authentic or practical topics that students need (Chang, 2004).

Traditionally, lecturing, repetition, rote learning, drills, and constant testing are the common instructional methods used when teaching English. Most teachers choose grammar translation as their main instructional method. This often fails to capture students’ attention. Students do not learn how to express their own ideas; instead, they spend most of their time learning elaborate grammar rules and memorizing vocabulary which is taught in the form of isolated word lists (Chang, 2004). The use of frequent testing and examinations in language classes in Taiwan often causes anxiety toward learning English, and scores on the standardized tests are often the main criteria used to assess learning outcomes. The evidence shows that language learning anxiety negatively interferes with language learning (Daly, 1991; MacIntyre and Gardner, 1994; Young, 1990).

Students lack interest in learning English because the fixed instruction does not accommodate their differing levels of proficiency and different learning goals. Shun (2000) and Ku (1995) concluded that “traditional language teaching” fails to achieve students’ different goals of language learning which is to respond appropriately in authentic communicative situations. Most English teachers encounter a complicated problem where mixed ability adult learners bring to class a variety of aptitudes, learning styles, interests, motivation, experiences and readiness.

When confronted with a group of students with mixed abilities, tasks that are either too challenging or too easy may not fit each learner; therefore, most Taiwanese teachers tend to choose to teach around an average level in order to meet a majority of their students’ needs. This unchallenging instruction may decrease some learners’ interest levels, enjoyment, and involvement in an English classroom. At worst, most teachers do not have knowledge about what students’ purposes for
learning English are, even though to assess students’ motivation and goals would only take one class period (Oxford and Shearin, 1994).

A typical English as a foreign language (EFL) classroom may be comprised of three groups of learners: struggling learners, students with average English levels; and advanced learners. In addition, a typical Taiwanese student is more likely to have stronger competence in grammar and writing, but lower capability in speaking and listening.

Purpose of the Study

The purpose of this experimental study was to examine the effects of differentiated curriculum and instruction among EFL university freshmen in their English reading classes in Taiwan by using pre-questionnaires and post-questionnaires control group design. This quantitative study was to investigate whether using differentiated curriculum and instruction impacts motivation, anxiety, and interest toward learning English. Differentiated curriculum and instruction is defined as the strategies the teacher uses to plan and implement varied approaches to content (what students learn), process (how they learn), and product (how they demonstrate what they have learned) to respond to student differences in readiness, interest, and learning need (Tomlinson, 2001, p.10).

Significance of the Study

A study using differentiated curriculum and instruction among EFL adult learners in Taiwan is important for several reasons. There are a limited number of studies that investigate differentiated curriculum and instruction with a focus on adult learners, especially EFL students. This study will benefit English learners who have diverse learning needs such as different learning styles, instructional preferences, or interests. It will also benefit educators who are classroom teachers and who are interested in studying individualized instructional methods. This study will further benefit universities in Taiwan which often encounter a large amount of multilevel students in the same classroom. Moreover, educational institutions and the faculty will recognize whether differentiated curriculum and instruction is feasible in Taiwanese English learning environments, where teacher-centered language instruction is traditionally used.

Research Questions

1. How does differentiated curriculum and instruction affect the motivational levels of university freshmen in Taiwan learning English?
2. How does differentiated curriculum and instruction affect the anxiety levels of university freshmen in Taiwan learning English?
3. How does differentiated curriculum and instruction affect the interest levels of university freshmen in Taiwan learning English?

Chapter 2  Literature Review

Characteristics of a University English Reading Class in Taiwan: Current Issues and Problems

Traditionally, English language instructors in Taiwan are more likely to use grammar-translation and audiolingual approaches as their main instructional methods (Chang and Wu, 2003). English as a subject of study is a requirement for all university freshmen. Students are often provided with the standard textbook chosen by their teachers or schools. Often times, teachers ask students to preview the assigned article and new vocabulary. In a grammar-translation teaching classroom, vocabulary is usually taught in the form of isolated word lists, and elaborate explanations of grammar are always provided (Chang, 2004).

While in the audiolingual class, teachers can select an approach from three methods: first, to ask certain students to read a segment of the article and give feedback as needed; second, to listen to the tape of an article and answer students’ questions; or third, to read the article aloud themselves and then translate it into the students’ mother tongue, sentence by sentence. Pronunciation and communicative competence are given little attention; the main criterion to assess students’ reading proficiency is by test. Students are typically required to memorize a whole article which has no relevance to their real life experiences or language leaning needs.

Fortunately, in a contemporary English as a foreign language (EFL) classroom in Taiwan, as Shun (2000) noted, the design of textbooks and teaching methods are much more interesting, authentic, and sophisticated. A large number of pre/in-service teachers who earned their masters or doctoral degrees abroad have brought alternative views of the teaching and learning of foreign language to Taiwan. Increased numbers of English teachers use cooperative learning and communicative teaching by asking students to share their ideas in small groups.

However, the problem is that most Taiwanese EFL learners who are accustomed to traditional approaches are more likely to prefer classes in which the teacher maintains control. According to Nunan (1996) and Shun (2000), the mode of classroom organization in a traditional
EFL classroom in Taiwan is mainly teacher-fronted and teacher-centered instruction. Students tend to consider group work activity an ideal time to chat about things unrelated to the English topic because the teacher is away from them, rather than to treat group work as valuable learning time in which they can engage in meaningful conversation. Additionally, “silent learners” are fairly common in English class. Interactive discussion between teacher and students is not encouraged in the Taiwanese culture. In this regard, it is important to determine how to encourage students to actively and vocally participate in a Taiwanese classroom.

Definitions

Definition of Traditional Teaching Methods

The traditional teaching method, which is also referred to as teacher-directed lecture approach, is defined as strategies that teacher dominates a whole-class instruction and provides a single standard for grading students’ performances (Tomlinson, 1999). When compared to the differentiated classroom according to Tomlinson (1999), students’ interest is frequently tapped and few learning profile options are taken into account in a more traditional classroom. Moreover, coverage of texts and curriculum guides drive instruction, and mastery of facts and skills out-of-context are the focus of learning. Single option assignments are the norm as well as a single form of assessment is often used. Time is relatively inflexible in a traditional classroom (Tomlinson, 1999).

Definition of Language Motivation: Intrinsic and Extrinsic Motivation

According to Deci’s (1975) definition, intrinsically motivated activities refer to the motivation to engage in an activity for its own sake because it is found to be enjoyable. In contrast, extrinsically motivated behaviors are carried out in anticipation of a desirable outcome from outside and beyond the self, such as a reward, teacher praise, or the avoidance of punishment (Brown, 1994; Pintrich & Schunk, 2002). Gottfried (1990) indicated that intrinsic motivation not only made the text more interesting to language learning, but was also positively related to learning, achievement, and perceptions of competence and responded negatively to anxiety.

Definition of Language Anxiety

Language anxiety can be defined as “the feeling of tension and apprehension specifically associated with second language contexts” (MacIntyre and Gardner, 1994, p. 284). Evidence also showed that anxiety has negative effects on language processing and is likely to interfere either directly or indirectly with language performance (Lee, 1992). Horwitz et al. (1986) were the first who
treated foreign language anxiety as a separate and distinct phenomenon from second language anxiety. After their 1986 survey, they concluded that “anxious students are common in foreign language classrooms” (p. 131). Three reasons for foreign language anxiety are generally divided by Horwitz et al. (1986) as communication apprehension, test anxiety, and fear of negative evaluation.

Definition of Interest

Significant research indicates that interest is an important indicator of success in learning. Theorists have identified two types of interest: individual interest, which reflects a “relatively enduring predisposition to re-engage in particular activities over time” (Harackiewicz et al., 2000 p. 318); and situational interest, a more immediate affective reaction generated by certain conditions in the environment that focus attention (Hidi & Harackiewicz, 2000).

What is Differentiated Curriculum and Instruction?

Differentiated Instruction

In 1986, the beginning of the movement to educate students with diverse learning needs together in the same classroom emerged owing to assistant secretary of the Office of Special Education Madelein Will (Nordlund, 2003). As noted in Chapter one, Tomlinson (2001) defines a differentiated classroom as a place “where the teacher plans and carries out varied approaches to content (what students learn), process (how they learn), and product (how they demonstrate what they have learned) in anticipation of a response to student differences in readiness, interest, and learning needs” (p.10).

There are a wealth of definitions for “differentiated instruction”; for example, “challenging the students at higher levels while supporting students at lower levels (Fleming & Baker, 2002, p.21). King-Shaver and Hunter (2003) proposed that differentiated curriculum and instruction provides flexible time frames for the completion of assignments which allows students to “reach the same goals by different path.” Focused on the individual’s needs, readiness and interests, the purpose of differentiated curriculum and instruction is to engage all students regardless of different levels of ability, effort, and learning style.

Differentiated Curriculum

The development of differentiated curricula in this study is followed by the basic elements of content, process, and product, and answers the questions (1) What content do you want the students to know? (2) What skills or processes should the students master? (3) How should the
students demonstrate understanding of the content and mastery of the skills through the products they create? (Kaplan, 2001).

According to Kaplan (2001), a differentiated curriculum can be reconstructed by modifying the content, process, and product elements of the core curriculum. Based on standards of curriculum and instruction from the California Department of Education and the California Association for the Gifted (1994), advanced or gifted students’ needs, interests, and abilities can be addressed only when modification and differentiation of the curriculum has been implemented.

The content modification should not be disconnected or separated from the basic and core curriculum, and it should be correlated more directly with the needs, interests, and abilities of advanced students. This modification process includes replacing lower order with higher-order thinking skills, such as using varied resources to build a depth and complexity of background information or content. Adjustments in the resources and research skills are substantial proof that the advanced learner is being accelerated and academically enriched (Kaplan, 2001). Product modification signifies an observable indicator of the effort and concern directed toward advanced learners.

A Comparison between Differentiated Instruction and Traditional Instruction

The difference between traditional instructional strategies (teacher-directed lecture model) and differentiated instructional strategies are listed below.

<table>
<thead>
<tr>
<th>Areas</th>
<th>Experimental Group: Differentiated Instructional Strategies</th>
<th>Comparison Group: Traditional Instructional Strategies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unit of Study</td>
<td>Take “Culture Shock” as an Unit Example</td>
<td></td>
</tr>
<tr>
<td>Objectives</td>
<td>Students will practice cultural thinking, depth and complexity, and develop multiple products.</td>
<td>Students will demonstrate basic skills of reading and share learning in an oral modality.</td>
</tr>
<tr>
<td>Content</td>
<td>Students will identify basic features of the articles of vocabulary, purpose, summarize the meaning AND define the theme connecting the articles, patterns and themes within the articles.</td>
<td>Students will identify basic features of the articles (vocabulary, purpose, summarize the meaning)</td>
</tr>
<tr>
<td>Process</td>
<td>Students will compare the articles by judging with criteria. They will state what distinguishes the articles and prove with evidence that these articles are both individualistic and related to each other.</td>
<td>Students will compare the articles (classic and contemporary).</td>
</tr>
<tr>
<td>Product</td>
<td>Students present learning in a project such as an essay or research paper.</td>
<td>Students will share learning by engaging in a panel discussion.</td>
</tr>
</tbody>
</table>
How to Differentiate the Instruction in English Reading Classroom

The table below is specifically focused on the skills related to English reading course:

Differentiated Instruction in English Reading Course

<table>
<thead>
<tr>
<th>Skills</th>
<th>Below Anticipated Learners</th>
<th>Average Learners</th>
<th>Accelerated Learners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reading</td>
<td>Helping students to build a large recognition of vocabulary.</td>
<td>Introducing students to discourse-organizing principles through the use of graphic representations.</td>
<td></td>
</tr>
<tr>
<td>(Brown, 1994; Grabe &amp; Stoller, 2002; Werderich, 2002)</td>
<td>Giving students many opportunities to read</td>
<td>Making extensive reading and broad exposure to L2 texts as a routine practice.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Keeping dialogue journal allowed teacher to personalize reading instruction.</td>
<td>Use skimming and scanning.</td>
<td>Help students become strategic readers by focusing on metacognitive awareness and strategy learning.</td>
</tr>
<tr>
<td></td>
<td>Use graphemic rules and patterns to aid in bottom-up decoding.</td>
<td></td>
<td>Encouraging students to make personal discoveries.</td>
</tr>
<tr>
<td>Writing</td>
<td>Needs teacher modeling of strategy</td>
<td>Needs to build confidence and security.</td>
<td>Use specific praise</td>
</tr>
<tr>
<td>(King &amp; Chapman, 2003, p.67)</td>
<td>Needs to learn the strategies and techniques for invented spelling.</td>
<td>Needs reassurance that incorrect spelling will not be graded.</td>
<td>Encourage spelling of multisyllable words.</td>
</tr>
<tr>
<td></td>
<td>Needs to hear the step-by-step thinking needed to spell words phonetically.</td>
<td>Needs praise for independent attempts to tackle unfamiliar words.</td>
<td>Needs to read his/her own writing.</td>
</tr>
<tr>
<td></td>
<td>Needs more phonics background</td>
<td></td>
<td>Increase students’ sight-reading vocabulary.</td>
</tr>
<tr>
<td></td>
<td>Needs to learn rules and how to apply them</td>
<td></td>
<td>5. Independent study</td>
</tr>
</tbody>
</table>

Chapter 3 Methodology

This was a quasi-experimental study. Only the experimental group received the treatment (i.e., differentiated curriculum and instruction), whereas the comparison group received traditional language teaching instruction (i.e., teacher-directed lecture approach). Pre- and post-questionnaires were used to determine changes in students' motivation, anxiety, and interest levels toward learning English. The outcome may demonstrate the effectiveness of differentiated curriculum and instruction.

Participants

Eighty-nine students enrolled in an English reading course participated in the study: 44 students were in the experimental group and 45 students were in the comparison group. Students took
this English reading class as a required course. Student participants had started learning English as a required subject in junior high school. According to the New Curriculum Standards in Taiwan, the main objectives of English teaching in senior high school include (1) integrating the four skills (listening, speaking, reading, and writing) into daily life; (2) cultivating appropriate study strategies and positive attitudes toward learning; (3) developing interest in learning English; and (4) improving learners’ understanding of foreign cultures and international affairs. Subjects are expected to have these prerequisite English skills before entering university. All of the student participants were informed by the investigator about this study, and respondents were selected only from among those students who agreed to participate in the study. Students did not receive the pre- and post-questionnaires if they chose not to participate in the study.

Sampling Procedure

The study used a convenience sampling procedure. Convenience samples refer to the selection of respondents who are willing and available (Fink and Kosecoff, 1998). The population selected for this study was EFL freshmen in a four-year public/private university setting in Taiwan. The school participants were randomly selected three universities from a total of 74 universities in Taiwan. An e-mail was sent to their principals for requesting permission to conduct the study in their schools.

Two of the three assenting universities were recruited for this study because of their similarities in students’ class size, students’ major, class type, students’ English proficiencies, and school setting (see Table 5) when compared to the excluded university. The teacher who agreed to receive training in differentiated curriculum and instruction was assigned to the experimental group, and students who chose to enroll in her class were assigned to the experimental group. The teacher who agreed to receive training in traditional language instruction was assigned to the comparison group, and the students who chose to enroll in her class were assigned to the comparison group.
Table 5 Information about the two Selected Universities

<table>
<thead>
<tr>
<th></th>
<th>Comparison Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td>School Setting</td>
<td>A 4-year private University</td>
<td>A 4-year private University</td>
</tr>
<tr>
<td>Class Size</td>
<td>45 students</td>
<td>44 students</td>
</tr>
<tr>
<td>Students’ Major</td>
<td>Financial</td>
<td>Business</td>
</tr>
<tr>
<td>Class Type</td>
<td>English reading class</td>
<td>English reading class</td>
</tr>
<tr>
<td>Area</td>
<td>Middle Taiwan</td>
<td>Northern Taiwan</td>
</tr>
<tr>
<td>English Proficiency</td>
<td>Basic to intermediate levels</td>
<td>Intermediate levels</td>
</tr>
<tr>
<td>English Grades of</td>
<td>Average grades: 32/100</td>
<td>Average grades: 44/100</td>
</tr>
<tr>
<td>College Entrance</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Examinations</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note. A total of 108,116 examinees participated in the 2005 College Entrance Examinations in the English subject. Their average English grades in the year of 2005 as released by the College Entrance Examinations Center is 37.03 out of 100; The benchmark for advanced learners is 69; for intermediate learners is 34; and for below anticipated learners, the benchmark grade is 16.

Research Instrument

Language Motivation, Anxiety, and Interest Survey

Motivation Scale. The Motivation Scale was adapted from the Language Learning Motivation Scale by Schmidt et al. (1999). This study used a total of 20 items related to intrinsic and extrinsic motivation. This original motivation scale demonstrated internal reliability, achieving an alpha coefficient of .802 (Schmidt et al. 1999). The section on intrinsic motivation included such items as “I enjoy learning English very much,” whereas the section on extrinsic motivation included items such as “Increasing my English proficiency will have financial benefits for me.”

Language Anxiety Scale. The Language Anxiety Scale was adapted from Foreign Language Classroom Anxiety Scale (FLCAS) by Horwitz et al. (1986). This scale has demonstrated internal reliability, achieving an alpha coefficient of .93 with all items producing significant corrected item-total scale correlations (Horwitz et al., 1986). Test-retest reliability over eight weeks yielded an r = .83. FLCAS was divided into three part of a total of 33 items: 1) communication apprehension; 2) test anxiety; and 3) fear of negative evaluation. Sample items included “I feel uncomfortable if I have to speak in my English class,” and “I feel more tense and nervous in my English class than in my other classes.”

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**Interest Scale.** The Interest Scale was adapted from the Interest Wave (Harackiewicz et al. 2000) which contains two parts: interest toward the English class, and enjoyment of lectures of a total of 13 items. This scale has demonstrated internal reliability, achieving an alpha coefficient of .93 in interest in course, and .72 in enjoyment of lectures (Harackiewicz et al. 2000). Sample items included, “I think what we are learning in this class is interesting” and “This class has been a waste of my time.”

**Research Procedure**

Permission to conduct this study was approved through the Internal Review Board (IRB) of USC. The study was conducted from October, 2005 through January, 2006. Eighty-nine students enrolled in the English reading course from the two different universities which participated in the study. All of the student participants were informed by the investigator about this study, and participants were selected only from among those students who agreed to participate in the study.

**The Selection of Teachers**

The criteria for selecting teachers in general were (1) they agreed to participate in this study, (2) they agreed to receive the instructional training by the investigator, and (3) they agreed to follow lesson plans that the investigator designed to conduct classes.

Teachers who agreed to participate in this study and agreed to receive the instructional training were considered as eligible teacher participants. Only one teacher at each school site was randomly selected and recruited in this study.

**The Selection of Student Participants**

Students who were enrolled in the classes taught by the two selected teachers were considered as eligible student participants. Students did not know that they were in an experimental curriculum when they initially enrolled the class; given this, students had a choice to continue to remain in the class after they were informed about this study. If they chose not to participate in this study, they could choose to be transferred to another English class or to remain in the class, but to be excluded as a participant in the study.

**Experimental Procedures**

1. At the beginning of the semester, both the experimental and comparison groups received the pre-questionnaire. This was a 30-item questionnaire in which students could rate their level of motivation, language anxiety, and interest in their prior English learning experiences.
based on a 6-point Likert Scale ranging from 1 (strongly disagree) to 6 (strongly agree). The survey took approximately 15 to 20 minutes to complete.

2. The experimental group received differentiated curriculum and instruction once (one three-hour session) a week for the duration of one semester (16 weeks) in the English reading class. The treatment was approximately 48 hours in total.

3. The comparison group received teacher-directed lecture approach for a period of one semester (16 weeks).

4. To ensure that the experimental group received the differentiated curriculum and instruction and that the comparison group did not receive the differentiated curriculum and instruction, the investigator monitored both groups by observing the class activities each time the class met. The investigator discussed the lesson plan with the teachers beforehand, and reviewed teachers’ performance according to the observational protocol after the class.

5. A post-questionnaire was provided at the end of the semester. Students in both experimental and comparison groups were asked to complete the same questionnaire which they completed at the beginning of the semester. This also took approximately 15 to 20 minutes to complete. The purpose of completing the same 30 questions was to understand whether students’ motivation, language anxiety, and interest had changed after experiencing the instruction over the course of one semester.

6. The results of the pre-questionnaire and post-questionnaire were collected and analyzed to determine if there were any difference between comparison and experimental groups.

7. Neither instructor was allowed to see the results of the pre-questionnaire and the post-questionnaire. The subjects were also informed that their answers were kept in the strictest confidentiality and would not affect their grades.

**Instructional Planning Procedures: Experimental Group**

1. The investigator provided the teacher in the experimental group with an intensive one-on-one training course for a total of 12 hours over three days regarding differentiated curriculum and instruction.

2. At the beginning of the experiment, the investigator created a profile for each student in the experimental group by providing other questionnaires to assess their language backgrounds, learning styles, and instructional preferences.
3. A placement test which contained 50 multiple choice items based on the “TOEFL Reading Comprehension Test” was held in the beginning of the semester with the intention of categorizing students into three different English proficient levels: accelerated learners, average learners, and below anticipated level learners. Their TOEFL scores (Score A) were the main indicator dividing students into three different groups. Their English grades from the College Entrance Examinations (Score B) were also a reference used to determine their levels.

4. The investigator used differentiated curriculum and instruction to design the English reading course based on the results from the student profiles for the experimental group.

*Instructional Planning Procedures: Comparison Group*

1. The investigator provided the teacher in the comparison group with an intensive one-on-one training course for a total of 8 hours over a two day period.

2. The investigator used traditional language teaching methods to design the English reading course for the comparison group.

3. The teacher used teacher-directed lecture approach to teach the comparison group regardless of students’ English proficiency levels, interests, learning styles, and instructional preferences.

4. The investigator monitored the comparison group by observing class activities to ensure the comparison group did not receive the differentiated curriculum and instruction.

*The Return Rate of the Questionnaires from Subjects*

Eighty-nine questionnaires were distributed in October 2005 and January 2006. The data were analyzed to determine whether there were any missing values after the questionnaires were collected. The analysis revealed that four students had failed to answer several questions and four students were absent when distributing the post-questionnaire. These students were subsequently dropped from the study, leaving a group of 81 students.

*Return Rate of Pre-Questionnaires, October 2005*

<table>
<thead>
<tr>
<th>Group</th>
<th>Questionnaires Distributed</th>
<th>Completed Questionnaires Returned</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>N</td>
<td>N</td>
</tr>
<tr>
<td>Comparison Group</td>
<td>45</td>
<td>42</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>44</td>
<td>43</td>
</tr>
</tbody>
</table>
Return Rate of Post-Questionnaires, January 2006

<table>
<thead>
<tr>
<th>Group</th>
<th>Questionnaires Distributed N</th>
<th>Completed Questionnaires Returned N</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comparison Group</td>
<td>45</td>
<td>40</td>
<td>89%</td>
</tr>
<tr>
<td>Experimental Group</td>
<td>44</td>
<td>41</td>
<td>93%</td>
</tr>
</tbody>
</table>

*Validity and Reliability*

With respect to the subjects, the control variables were students’ English learning background (freshman class; graduated from senior high school), purpose (English reading class), and social-economic status (SES). The pre-questionnaire and the post-questionnaire had the same content to ensure consistency.

Different universities were selected in this study to prevent the exchange of instructional information between the experimental group and the comparison group. The lesson plans were first reviewed by experts in the field of differentiated curriculum and instruction, which ensured that the activities were designed to represent the concept of differentiated curriculum and instruction. The investigator monitored both groups by observing class activities each time the class met to ensure that students from the experimental group received differentiated curriculum and instruction and that students from the comparison group did not receive differentiated curriculum and instruction.

*Data Analysis*

Data were coded and analyzed by using SPSS program13.00. The Pearson correlation coefficients were examined to determine if there was a relationship among EFL students’ motivation, anxiety, and interest. Because three variables were correlated, MANOVA was used to examine whether the differentiated curriculum and instruction used with the experimental group influenced students’ motivation, anxiety, and interest when compared to the traditional language methods used with the comparison group. The MANOVA was used to determine if there was a significant difference between pre- and post-questionnaires of both the comparison group and the experimental group. One way repeated measures were used to investigate if there was a significant difference between the experimental group and the comparison group.
Chapter 4 Results

1. How does differentiated curriculum and instruction affect the motivational levels of university freshmen in Taiwan learning English?

In terms of students’ motivation levels, there was a significant difference in students’ pre-questionnaire and post-questionnaire in the experimental group [F (1, 80) =12.78, p=.001], but not the comparison group [F (1, 78) =.156, p=.694]. The experimental group demonstrated significantly higher motivation levels (from M=39.12 to M=45.48) than the comparison group (from M=41.52 to M= 42.07). Overall, there was a significant difference between the experimental group (differentiated curriculum and instruction) and comparison group (traditional teaching methods) (F=10.77, p=.002).

The Mean Score from the Motivation Scale

<table>
<thead>
<tr>
<th>Questionnaires Items</th>
<th>Comparison Group</th>
<th>Experimental Group</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pre-Qs</td>
<td>Post-Qs</td>
</tr>
<tr>
<td>1. I enjoy learning English very much.</td>
<td>4.10</td>
<td>4.00</td>
</tr>
<tr>
<td>4. Learning English is a hobby for me.</td>
<td>3.90</td>
<td>3.83</td>
</tr>
<tr>
<td>7. I can honestly say that I really put my best effort into trying to learn English.</td>
<td>3.88</td>
<td>3.95</td>
</tr>
<tr>
<td>10. If the fees for this class were increased, I would still enroll because studying English is important to me.</td>
<td>3.60</td>
<td>3.65</td>
</tr>
<tr>
<td>13. I want to learn English because it is useful when traveling in many countries.</td>
<td>4.13</td>
<td>4.18</td>
</tr>
<tr>
<td>16. I will try to have full attendance in this class.</td>
<td>4.50</td>
<td>4.65</td>
</tr>
<tr>
<td>19. The main reason I need to learn English is to pass examination.</td>
<td>3.70</td>
<td>3.78</td>
</tr>
<tr>
<td>22. If I learn English better, I will be able to do a better job.</td>
<td>4.80</td>
<td>4.83</td>
</tr>
<tr>
<td>25. Increasing my English proficiency will have financial benefits for me.</td>
<td>4.65</td>
<td>4.90</td>
</tr>
<tr>
<td>28. If I can speak English, I will have a marvelous life.</td>
<td>4.28</td>
<td>4.33</td>
</tr>
</tbody>
</table>

Note: N=81.

2. How does differentiated curriculum and instruction affect the anxiety levels of university freshmen in Taiwan learning English?
With reference to students’ anxiety levels, there was no significant difference in students’ pre-questionnaire and post-questionnaire in the comparison group \([F (1, 78) =.008, p=.931]\), and there was no significant difference in the experimental group as well \([F (1, 80) =3.29, p=.073]\). The experimental group’s anxiety levels decreased (from \(M=38.43\) to \(M=36.39\)) relative to the comparison group (from \(M=39.17\) to \(M=39.05\)). Overall, there was no significant difference between the experimental group (differentiated curriculum and instruction) and the comparison group (traditional teaching methods) \((F=1.87, p=.175)\).

The Mean Score of Anxiety Scale

<table>
<thead>
<tr>
<th>Questionnaires Items</th>
<th>Mean Score</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Comparison Group</td>
</tr>
<tr>
<td></td>
<td>Pre-Qs</td>
</tr>
<tr>
<td>2. I feel more tense and nervous in my English class than in my other classes.</td>
<td>4.48</td>
</tr>
<tr>
<td>5. When I’m on my way to language class, I feel very sure and relaxed.</td>
<td>2.95</td>
</tr>
<tr>
<td>8. I feel overwhelmed by the number of rules I have to learn to speak a foreign language.</td>
<td>4.08</td>
</tr>
<tr>
<td>11. I get nervous when English teacher asks questions for which I haven’t prepared in advance.</td>
<td>4.78</td>
</tr>
<tr>
<td>14. During English class, I find myself thinking about things that have nothing to do with the course.</td>
<td>3.53</td>
</tr>
<tr>
<td>17. I don’t worry about making mistakes in English class.</td>
<td>5.08</td>
</tr>
<tr>
<td>20. I feel uncomfortable if I have to speak in my English class.</td>
<td>4.45</td>
</tr>
<tr>
<td>23. I am afraid other students will laugh at me when I speak English.</td>
<td>3.50</td>
</tr>
<tr>
<td>26. I worry about the consequences of failing my foreign language classes.</td>
<td>3.25</td>
</tr>
<tr>
<td>29. Language class moves so quickly I worry about getting left behind.</td>
<td>3.10</td>
</tr>
</tbody>
</table>

3. How does differentiated curriculum and instruction affect the interest levels of university freshmen in Taiwan learning English?

With regard to students’ interest levels, there was a significant difference in students’ pre-questionnaire and post-questionnaire in the experimental group \([F (1, 80) =23.32, p=.000]\), but not
the comparison group \[ F (1, 78) = .649, p = .423 \]. The experimental group demonstrated significantly higher interest levels (from \( M = 34.87 \) to \( M = 39.43 \)) relative to the comparison group (from \( M = 35.05 \) to \( M = 35.95 \)). Overall, there was a significant difference between the experimental group (differentiated curriculum and instruction) and the comparison group (traditional teaching methods) \( (F = 13.56, p = .000) \).

The Mean Score of Interest Scale

<table>
<thead>
<tr>
<th>Questionnaires Items</th>
<th>Mean Score</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Pre-</td>
<td>Post-</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Qs</td>
<td>Qs</td>
</tr>
<tr>
<td>3. I think the field of English is very interesting.</td>
<td></td>
<td>4.00</td>
<td>3.98</td>
</tr>
<tr>
<td>6. I am enjoying this English class very much.</td>
<td></td>
<td>3.80</td>
<td>3.63</td>
</tr>
<tr>
<td>9. I think what we are learning in this class is interesting.</td>
<td></td>
<td>3.98</td>
<td>4.00</td>
</tr>
<tr>
<td>12. This class has been a waste of my time.</td>
<td></td>
<td>2.40</td>
<td>2.63</td>
</tr>
<tr>
<td>15. I’m glad I took this class.</td>
<td></td>
<td>3.85</td>
<td>3.85</td>
</tr>
<tr>
<td>18. I would like to take more English classes after this one.</td>
<td></td>
<td>3.65</td>
<td>3.73</td>
</tr>
<tr>
<td>21. I don’t like the lectures very much.</td>
<td></td>
<td>3.03</td>
<td>3.40</td>
</tr>
<tr>
<td>24. I like my professor</td>
<td></td>
<td>3.60</td>
<td>3.38</td>
</tr>
<tr>
<td>27. I enjoy the lectures because they really make me think.</td>
<td></td>
<td>3.80</td>
<td>3.85</td>
</tr>
<tr>
<td>30. I think what we are learning in this class is boring.</td>
<td></td>
<td>2.95</td>
<td>3.53</td>
</tr>
</tbody>
</table>

Note: \( N = 81 \).

The findings from Chapter 4 supported the effect of using differentiated curriculum and instruction with respect to learning English which did explain higher motivation and higher interest than using traditional language teaching methods with respect to learning English. However, using differentiated curriculum and instruction did not produce a significant decrease in anxiety levels. The findings and discussion of results are presented in Chapter 5.

Chapter 5 Implications

*The Greatest Challenge to Implementing Differentiated Curriculum and Instruction in Taiwan*
Taiwanese Language Learners. There is a distinct difference between educational philosophies of instruction in the United States and students in Taiwan. Students in Taiwan learn English because it is mandatory, this is rarely a case in the United States of language instruction. Before entering college, they need to compete with their peers in order to be successfully prepared for the College Entrance Examinations. Further, most Taiwanese teachers prefer the class to stay in control; they believe group work may lead to a state of chaos.

One of the possible reasons teachers choose traditional instructional methods over differentiated curriculum and instruction is that direct instruction can be used to cover a great amount of material in the limited amount of time allotted to covering what students need to learn (Tomlinson, 1999). As Schmidt et al. (1999) mentioned, students who only learn English to pass an exam may prefer a traditional, teacher-centered, grammar-focused class and may feel that they are not learning or that their time is being wasted in cooperative oriented classes.

Taiwanese Language Teachers. The greatest challenge for language teachers in Taiwan may be their beliefs about the classroom management. Teachers themselves who are taught by traditional methods are more likely to prefer classes in which they maintain control. The unfamiliar strategies may take longer for Taiwanese teachers to acquire and apply. The role of teacher is changing from that of passing on knowledge to becoming a facilitator of learning in the differentiated curriculum and instructional classroom (Gregory, 2003). Teachers need to allow for a certain measure of chaos in the classroom because students sometimes need to learn cooperatively by negotiating with their peers.

Teachers need to spend extra time planning differentiated lessons. In fact, to design and plan a whole-class activity seems easier to manage than planning for differentiated curriculum and instruction. In order to design appropriate activities for each learner or groups of learners with like needs, interests, and abilities, a differentiated curriculum and instructional teacher needs to assess each student’s learning styles, learning preferences, interests, and readiness levels before preparing each lesson. Additionally, the teacher needs to spend extra time presenting different topics, differentiated group work, differentiated assessments, and grading different assignments from their mixed-ability students. The planning and designing of the lesson is an ongoing process. The teacher needs to continually adjust the curriculum and presentation of information to learners rather than ask students to modify themselves to suit the curriculum.
Suggestions for Language Teachers in Taiwan

The results of this study support using differentiated curriculum and instruction in English teaching, the effects of which stimulated higher motivation and higher interest than when traditional English language teaching methods are used. However, using differentiated curriculum and instruction did not produce a significant decrease in anxiety levels. This finding has substantial implications as language teachers in Taiwan develop differentiated curriculum and instruction and curricula. Using differentiated curriculum and instruction needs to be implemented slowly among these exam-oriented students. They must be trained to think, to ponder, and to reflect on their learning during class time instead of sitting passively, waiting to be given instructions by their teacher.

Also, they should be informed that the only person they need to compete against is themselves, not their peers. Their peers should be relied on when for support, and to provide assistance. Schmidt et al. (1999) showed that the cooperative learning situation emerged as the best learning situation for all students in terms of its effects on motivation. Moreover, students should be assured that it is normal to make mistakes in front of the class or on their assignments. Teachers themselves need to be careful about giving their feedback; error correction should be positive, informative, and appropriate, or it may cause further anxiety about learning English.

Motivation is essential to language learning because it encourages greater effort, greater involvement, and greater success in language learning (Okada et al., 1999). It is important to remember that assessing students’ motivations, interests, and goals should only take one class period. Motivation may be stimulated by weaving culture into language classes, by using games, stimulations, and role-plays which also reduce anxiety (Okada et al., 1999).

Curriculum and instruction must be well matched to the current readiness level of the learner, tap into and develop student interests, and be offered according to a method of learning which is expected to be effective for the individual (Tomlinson, 2002). Kaplan and Cannon (2001) suggested that the teachers’ expectations for students to learn successfully should appropriately correspond with available instruction, learning time, and resources. According to Kaplan and Cannon (2001), the techniques or strategies used to motivate the student include questioning to evoke discovery and/or recall of prior knowledge and performing part of or an entire task to introduce the concept of skill. Another strategy is that teacher can establish background knowledge by reading a
literary. Teacher can also complete a retrieval chart or some form of collecting, then presenting
information to initiate further study of the concepts and skills.

Although there was no significant difference related to anxiety levels between the
experimental group and comparison group, students who were taught using differentiated curriculum
and instruction did evidence reduced anxiety levels compared to students who were taught using
traditional teaching methods. This finding has meaningful implications as educators develop
curriculum courses. Some teaching methods can be adapted to reduce classroom anxiety. This study
showed that fear of being put in the spotlight may be the primary cause of increasing anxiety levels.
The research supported this finding; according to Wörde’s study (2003), students indicated that "not
being put on the spot" in class would help them to be less anxious. To prevent this, research
suggested that having a relaxed classroom environment is conducive to reduce anxiety levels, for
example, the students sit in a semi-circle or oval because “in a circle you're kind of like one in a
crowd” (Wörde, 2003).

Several studies showed that instructors played a significant role in the amount of anxiety
each student experienced in particular classes, in addition, anxiety decreases when instructors "create
a warm social environment" (Price, 1991; Young, 1990). In Wörde’s study (2003), certain students
were found to be uncomfortable in some classroom activities regarded as anxiety-reducing, such as
skits, plays, and games. Instructional material which is more relevant to students’ lives or goals may
be more valuable than games. To be most effective, according to Casado and Dereshiwsky (2004)
and Wörde (2003), the teacher can give a short presentation on anxiety during the first week of class
to let people know that it is a common phenomenon.

Conclusion

The purpose of this study was to examine the effects of differentiated curriculum and
instruction on EFL university freshmen in their English reading classes in Taiwan. This quantitative
study investigated whether using differentiated curriculum and instruction impacts motivation,
anxiety, and interest toward learning English. The study showed that using differentiated curriculum
and instruction did increase EFL learners’ motivational and interest levels when compared to the
students who were taught using traditional teaching methods with respect to learning English. The
results of the data also indicated that the anxiety levels of students in differentiated curriculum and
instruction class did reduce compared to students in the traditional teaching methods class, though not significantly. These findings were consistent with current research.

Evidence indicated that students are more successful in school and more engaged if they are taught in ways that are responsive to their readiness levels (Vygotsky, 1986), their interests (Csikszentmihalyi, 1990), and their learning profiles (Sternberg et al., 1998). According to Tomlinson (2001, 2003), teachers need to address these three characteristics for each student when using differentiated instructional strategies. The study shows that when the content, process, and product are differentiated according to students’ interest, readiness, and student learning preferences, English learning is much more interesting and results in higher motivation than when traditional teaching methods are employed.

Suggestions for Future Research

Since differentiated curriculum and instruction had an effect on Taiwanese EFL adult learners’ motivation and interest levels in an English reading class in this study, future research could test the finding of this study by using larger sample sizes, expanding to a larger population, and random assignment of the subjects. It is suggested that teachers consider using differentiated curriculum and instruction to teach the different courses such as psychology, history, or literature to adult students. With a larger sample size and population, a future study also could investigate whether accelerated learners, average learners, or below anticipated level learners were most impacted by differentiated instructional strategies in terms of students’ motivation, anxiety, and interest levels.

Another area for future study would be to investigate the effect of using differentiated curriculum and instruction on students’ ability to learn. The relationship between differentiated curriculum and instruction and students’ achievement in any subject could be explored in greater depth through assessing students’ performance by their grades. Students in K-12 levels could also be explored if differentiated curriculum and instruction affects their motivation, anxiety, and interest levels. It is also recommended that a qualitative longitudinal study could be conducted in order to investigate students’ perspectives about the differentiated curriculum and instruction through interview and observation.
References


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