

Cooperative Learning, Multiple Intelligences and Proficiency:
Application in College English Language Teaching And Learning

Submitted by Shu-Fen Chen

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Trescowthick School of Education

Faculty of Education

Australian Catholic University

Research Services

Locked Bag 4115,

Fitzroy, Victoria 3065

Australia

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Statement of Sources

This thesis contains no material published elsewhere or extracted in whole or in part from a thesis by which I have qualified for or been awarded another degree or diploma.

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All research procedures reported in the thesis received the approval of the relevant Ethic Committee.

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Date.....

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Abstract

The purpose of this research is to investigate whether the implementation of Cooperative Learning (CL) activities, incorporating the insights given by Howard Gardner' (1993) theory of Multiple Intelligences (MI) and the notion of Whole Language Approach (WLA) in college EFL classrooms will have a positive effect on students' language proficiency and attitude. A quasi-experimental study was developed. The site of this study was in an EFL classroom in a Taiwanese College. The subjects were from the researcher's three English classes at Chung Hwa Institute of Medical Technology during one semester. Many learning activities based on Gardner's theory of Multiple Intelligences were used while a Cooperative Learning approach was practiced.

The data for this study was collected from three sources. One was from the subjects' questionnaires on attitudes and on motivation, regarding Cooperative Learning and Multiple Intelligences. Another was from student interviews. The third was from the students' test scores on their language proficiency tests. The results of the study showed that the experimental group that was taught using the ideas based on CL and MI outperformed the group based on CL, and the control group, on the Simulate English General Proficiency tests for the four language skills. Though there were no significant differences among them within this short-time study, the motivation in learning English was enhanced a great deal for the experimental group that was taught using the CL and MI ideas.

Based upon the insight gained from this study, CL, MI, WLA and Language Learning Center were thus recommended to be integrated into the Junior College English curriculum. Pedagogical implications for the application of CL and MI in an EFL classroom were developed. Above all, suggestions for teacher development in CL and MI were proposed. Finally, suggestions for future research have been recommended.

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CHAPTER ONE

Introduction

1. Motivation and Background

With the challenge of globalization, technological change and rapid economic development in Taiwan, this society is undergoing radical transformations in its political, economic and educational systems. As the growing global economy has entered the information age, the demand for factory labor has decreased and the demand for technological labor has increased. Another outcome of this globalized impact is that the English language has become a bridge across many borders in international communication including in Taiwan.

All teachers know that language plays a vital role in education. Language is not only the means of communication and expression, but also the medium of thought and a central tool for learning. English is the dominant international language in many fields of development such as trade, research, technology, commerce and tourism. This language is also used with increasing frequency in international communication. Most first-hand, current information for many of these areas is available only in English. Advanced English proficiency not only benefits many people during their studies, but later also helps with promotion and career development. All of these factors make English teaching crucially important.

Because of the spread of information technology, the goals of English education in non-English speaking Asian countries have undergone drastic changes recently. One of these changes was the introduction of English language instruction at the elementary school. The government in Taiwan started implementing English education in elementary schools in September of 2002. They also announced that half of the students in every technical vocational college would be required to pass the General English Proficiency Test for Beginners in 2007. If not, the educational subsidy from the Ministry of Education for the college would be cut. This is a big

challenge for English teachers. The English teachers have to develop approaches or methods suitable for the students who come from different backgrounds and have different proficiencies in English. Some students have already been learning English from the language centers or cram schools since they were in the kindergarten or elementary school, but some students have never learnt language outside of the school system. Students who have different proficiencies will respond differently in class. The critical issues are how teachers can take good care of every student and construct a well-integrated, facilitating and effective environment for the students.

In Taiwan, many new technical vocational colleges have been built. Now almost every high school student can have the chance to enter a university or college. However the greatest impediment for most students is their low proficiency in English. In order to graduate, the students of most colleges or universities must reach an adequate English language level. Hence, unlike the traditional teaching methods which focused on reading and writing of English only, the promotion of communicative skills that include all four language modes (reading, writing, listening and speaking) is becoming an urgent requirement in colleges and universities where students are learning English as a foreign language.

1.1. Problems of English Teaching and Learning in Taiwan

English education is important in Taiwan. However, there exists a number of major problems. The first problem is the overemphasis on grammar, vocabulary, and reading in teaching at the neglect of writing, listening and speaking. In fact, listening, speaking, reading, and writing need equal attention if the new communicative skills now required are to be attained (Savignon, 1983). Many colleges and universities require their students to take the General English Proficiency Test which tests listening, speaking, reading and writing. If the students cannot pass the level required by their school, they cannot graduate.

The *Grammar Translation Method* that most English teachers in Taiwan use in classrooms does not cover all aspects of language equally well. The Grammar Translation Method is a method that greatly emphasizes grammar and translation. Little attention is paid to speaking or listening. Students are requested to memorize

bilingual word lists and analyze and memorize grammar rules in detail (Larsen, 2000). The Grammar Translation Method used in the teaching of EFL reading often takes the following form in the classroom: first, the teacher reads aloud a short passage in English while the students follow in their textbooks. Then the teacher reads the passage sentence by sentence and students read each sentence aloud after the teacher. Finally, this is followed by an oral word by word, sentence-by-sentence translation by students. Therefore, meaning is taken at the word and sentence level, and students pay less attention to the meaning of the text as a whole. Hence meaning is often constructed via the students' first language, not directly from English. However, reading should be an interactive process between the reader and the reading materials (Harmer, 1998). Due to the fact that the focus of the Grammar Translation Method is translating and indeed at times transliteration, EFL students do not learn to read. They equate reading as translation. It is possible that students can become very good at translating into English but they do not become fluent readers in English. It is when students become fluent readers in English that they then can create meaning of the texts as a whole in English. So the Grammar Translation Method makes it very difficult for students to create meaning in English (Richard, 2004).

The second problem in English education in Taiwan is that teaching is too teacher-centered. Richards (1990) has suggested that a teacher's role should include organizing, motivating, counseling, providing accurate language models, developing materials, evaluating and acting as a friend. However, in Taiwan at the college level, where the Grammar Translation Method is still dominant, the teacher's role is mainly to act as an instructor, explainer, and corrector of errors. The student's role is to do what the teacher says. Consequently, students tend to be over-dependent on their teachers in their learning practice and always think of teachers as knowledge givers. Teamwork between students is seldom used as a teaching strategy. In class, it is the teacher that always initiates the discussion, whereas students are passive listeners and receivers. Therefore, interaction is hindered since there is only one-way communication (Tsai, 1998). This approach to teaching restricts the practice of oral language skills.

The third problem is that the classes are very large. It is difficult for a teacher to manage a class of over forty students and design a teaching strategy which will meet

each student's need. The reason for this is simple: the teacher is restricted in time and energy and cannot cope with so many students on an individual basis, even the ones that need extra help. Therefore, a teaching method should be found to enable teachers who have to teach large classes to better meet individual student needs.

One of the critical individual needs of students in learning concerns attitudes. This gives rise to a fourth problem; that is that students have a range of attitudes about learning and motivation to their learning. As English is a required course, whether students are interested in it or not, they need to take English courses. However, students of different English proficiencies are often placed in the same class. Some teaching techniques or materials suitable for some students may not be suitable for other students with different proficiencies. Students of different proficiencies might have different attitudes toward their learning. For example, students of a higher English level may not feel interested in the materials because they think that the learning tasks are too easy or even boring. On the other hand, the low-achieving or less-motivated students that have anxiety in class may regard the learning tasks as too hard and too frustrating. In my experience as an experienced language teacher of over 20 years, a lot of students feel that learning is boring and hence they just give up learning English. Therefore, teachers should seek teaching methods that create an appropriate environment that engenders a positive attitude to their learning.

A fifth problem is the over use of quantitative assessment tools. So-called "standardized" tests are commonly used for assessment in Taiwan's English as a Foreign Language (EFL) education. For most students, what encourages or frustrates them most is their grade. Scores are usually used to register students' weaknesses. In other words, teachers spend much of their time on formal testing and ranking students instead of helping them actually learn. In fact, many teachers suspect students are smarter than the class test results imply. However, the teachers have limited opportunities to thoroughly examine learners' progress and achievement using different perspectives, because of the time they have to spend on producing tests results (Chao, 2002).

One way to address the five problems discussed above may be to cultivate students' potential for interdependent study through group work, and set up a suitable

environment for the students that have different proficiencies and intelligences to learn the four language skills. *Cooperative Learning* groups encourage student-student communication; hence, oral language is encouraged. It could also move the focus of the teaching from the teacher to the student. Group work may enable students to assist each other, so it could be a useful technique for large classes. This approach may be a way forward for Taiwan.

Another possibility is to use some ideas from Multiple *Intelligence* theory that focuses on engaging the students in their learning, and making them responsible for how they demonstrate their knowledge. Teaching through intelligence has been found to increase motivation and achievement in classroom assessment (Greenhawk, 1997). Therefore, a Multiple Intelligences (MI) approach will hopefully encourage students to take control of their learning. Also, MI based assessment theoretically allows students to show their strengths and perform adequately on a range of tasks. Hence a teaching strategy that embraces this notion may also help EFL teaching in Taiwan.

Worthman and Matlin (1995) stated the concept of *Whole Language* was that listening, speaking, reading, and writing were interrelated language processes that were learned in the same way. Lessons should engage students in social interaction and should include all four modes. In contrast to the traditional viewpoint of curriculum, Whole Language (WL) places students and their needs and interests at the center of the curriculum planning which may have an impact on improving attitudes and motivation. Besides, according to the proponents of the WL research, WL involves the process of interacting with authentic materials for communicative purpose so that students can develop their abilities to listen, speak, read and write in a natural way and that students can understand the skills of language (Lems, 1995; Redmond, 1994). Hence, the Whole Language Approach might solve the problem of an overemphasis on grammar, vocabulary, and reading in teaching but the neglect of writing, listening and speaking.

A Language Learning Center is an English as a Foreign Language (EFL) classroom where students can explore in a variety of ways by working cooperatively in small groups or independently. In addition, it provides a rich English environment that includes different work areas encouraging different types of activities and using a

variety of multimedia and information technology. The students can speak, listen, write, and read English by interacting with the materials, tasks, and activities provided by Language Learning Centers. Hence, a Language Learning Center might be a good place to provide a well-integrated, facilitating and effective environment for the students to continue learning their English outside the formal class when the theory of Multiple Intelligences, Cooperative Learning activities and the techniques of Whole Language Approach are adapted or adopted in the classroom.

Hence, some teaching strategy that is guided by Cooperative Learning (CL), Gardner's (1983, 1993, 1995, 1999, 2000) theory of Multiple Intelligences (MI), Whole Language Approach and Language Learning Centers might help alleviate the five problems outlined earlier that have surfaced in EFL teaching in Taiwan.

1.2. Purpose and Significance of the Study

The teaching of English as the foreign language for all students in Taiwan is regarded as crucial in their education. Five problems associated with the common teaching strategies for EFL in Taiwan have been outlined. The purpose of this study then is to investigate the effectiveness of Cooperative Learning and to examine the implementation of Gardner's (1983, 1993, 1995, 1999, 2000) theory of MI in teaching English as a Foreign Language to a group of junior college students in Taiwan. It aims to evaluate whether CL activities enable students to improve their language proficiency as measured by achievement tests. This study will also help teachers of English as a Second and Foreign language (ESL/EFL) to understand the potential effectiveness of CL and acquaint English teachers in Taiwan with techniques for applying CL, MI, and WL to their teaching. Besides, it will provide evaluative data regarding the effects of CL and MI on Taiwan junior college students' language proficiency and attitudes and provide useful information on a comparative study to both researchers in the field and ESL/EFL teachers. The present study attempts to answer the following research questions:

1. In what ways can the language learning environment be constructed in order to improve the English language learning outcomes of junior college English as Foreign Language (EFL) students? In particular:

- 1.1 Can Cooperative Learning enhance students' attitude?
- 1.2. Can Cooperative Learning and MI ideas for teaching enhance the motivation when learning the four language skills?
- 1.3. Does Cooperative Learning have a positive effect on student's language proficiency performance?
- 1.4. Can MI-based activities in class in conjunction with Cooperative Learning ideas, improve the students' four language skills?
- 1.5. Can Cooperative Learning and Gardner's theory of Multiple Intelligences allow learners with different learning styles and learning paces to work together and fulfill different needs in Language Learning Center?
- 1.6. Do the subjects in this study perform better on the passing rate of the four skill tests than the other students in this college?

1.3 Definition of Terms

To avoid misunderstanding and inappropriate interpretation, the terms defined in this section include

1.3.1 Cooperative Learning

Cooperative Learning is defined as a system of learning techniques and concrete teaching, rather than an approach, in which students are active agents in the process of learning through small group structures in order that students can work together to maximize each other's and their own learning (Liang, 2001). The working definition of Cooperative Learning methods here refers to language teaching in this study includes (1) Jigsaw Procedures, (2) Three-Step interview, (3) Inside-Outside Circle, (4) Learning Together. Five characteristics that feature Cooperative Learning in this study include (1) face-to face interaction, (2) positive interdependence, (3) teaching of social skills, (4) individual accountability, (5) Group processing.

1.3.2. Grammar Translation Method

Grammar Translation Method, which belongs to traditional method of teaching, in this study, refers to the method that incorporates vocabulary explanation from bilingual word list, lectures on grammatical rules, and Chinese translation of grammatical terms, sentence structures and reading passages in the teaching English as a foreign language. Students mainly listened passively and quietly to the teachers' lecture, with little or no student-student interaction for practice of the target language.

1.3.3. Whole Language Approach

Whole Language Approach in this study that refers to the adapted WL principles was discussed by Freeman and Freeman (1992):

1. Learning proceeds from whole to part;
2. Lessons are learner-centered;
3. Lessons have meaning and purpose for students;
4. Learning takes place in social interaction;
5. Lessons include all four modes;
6. Learning takes place in the first language to build concepts and facilitate the acquisition of English; and
7. Faith in the learner expands student potential. (pp.7-8)

Whole Language program in this study referring to the instructional package which includes a curriculum negotiated between the students and the teacher, as well as the activities related to the content learning are specially designed to be studied in the classroom.

1.3.4. Multiple Intelligence-based Assessment

Gardner (1993) holds that assessment is an essential component of education that takes seriously multiple intelligences into consideration and the tests should be designed to elicit these differences. The general features of the assessment approach proposed by Gardner (1993) included emphasis on assessment rather than testing, and use intrinsically interesting and motivating materials to benefit students. The Multiple Intelligence-based assessments which are different the General English Proficiency Test were used for the experimental group. In this study Multiple Intelligence-based assessments emphasize assessing what students know and how students perform from different perspectives, and constitutes a new approach to assessment that can provide a complete picture of students' abilities, efforts and progress during the learning process.

1.3.5. Language Proficiency

Language Proficiency includes both the knowledge of the grammar and vocabulary and the communicative language ability. Communicative competence, according to Savignon (1983) applied to both written and spoken language. The Grammar Translation Method that most English Teachers in Taiwan used in classroom emphasizes grammar and translation. Little attention is paid to speaking or listening. However, the English General Proficiency Test (Chang & Tsai, 2003) has been adopted in Taiwan as a standardized test to measure students' four language skills. Because the English proficiency in communicative language ability for the subjects in this study was rated as low, but their proficiency in grammar and vocabulary was rated as low to intermediate, the researcher tried to consolidated several second language learning theories (Cooperative Learning, Multiple intelligences, Whole Language Approach and so on in a single action research plan) to solve this problem.

1.3.6. Action Research

As defined by kermis (1981), action research is an approach that tries out an idea in practice with a view to improving or changing something, trying to have real effect on the situation. The process of action research is a more formal approach to the reflective practice a teacher uses to monitor a program as it is implemented and to adapt it and change it to meet the needs of the students from day to day. This project is not a real action research project, but for the experimental group, the teacher used reflection practice, using the principles of action research to modify the lesson and classroom management as the semester progressed.

1.3.7. The Language Laboratory and the Language Learning Center

The Language Learning Center is different from the language laboratory in this study. In the language lab, the equipment focused on listening and speaking activities, so every student can have his or her individual earphone, desk, or tape recorder. The instructor controls all the equipment such as video. It is compulsory that students will have a two-hour language class in the language lab every week. The time schedule will be arranged by the school administration. This is different from the Language Learning Center that is given over to self-study. Students should go into this self-access center and choose what they want to do based on their own needs and interests. Students can decide if and when they would like to go to this center and once there, they can use different sensory organs to speak, listen, write, and read English by interacting with materials, tasks, and activities provided by the Language Learning Centers.

Summary

This chapter has introduced the context on the basic problems in EFL Teaching in Taiwan. In the next chapter, literature on the different techniques that might be used is reviewed. The third chapter describes the methodology of the research study and the program, which was developed, is described in this chapter. Chapter four presents the analyses of the data. The last chapter describes the conclusion and recommendation.

CHAPTER TWO

Review of Literature

Introduction

This chapter will review the literature that is related to Multiple Intelligence Theory, Cooperative Learning, the Whole Language Approach and Language Learning Centers. As discussed in the introductory chapter, these are proposed as approaches that are worth investigating if the problems of learning English as a Foreign Language in Taiwan are to be overcome. For each of these four aspects, a section will cover the theoretical basis, the features of the approach and its application to an English as a Foreign Language classroom. This literature will provide the framework for the present study.

2.1. Multiple Intelligences

For decades, theories and tests of intelligence have been based on the products of reasoning and problem solving tasks. The processing of the reasoning task and the way cognitive factors interact with skills have not received as much attention. In response to this drawback, Gardner (1983) described seven distinct intelligences, and hence the term multiple intelligences, and has since added an eighth and a ninth. The reconsideration of the word “intelligence” has greatly affected the way the educational community perceived students. These distinct intelligences had been identified to assess the wider range of intelligent behavior. Through the theory of multiple intelligences, we can seek to address students’ diverse intelligences by creating individualized learning environments. The main focus of this theory is on the content and products of learning. An interesting aspect of this theory is that intelligences that are different can still be easily identified through common life experiences (Gardner, 2000). This will become important in developing a teaching approach for this present project.

Education, the key to many individual and group achievements, plays a very crucial role in social and scientific advancements. Plato (cited in Shore, 2001, p.1) in his proverb said, “ Do not then train youth to learning by force and harshness, but direct them to it by what amuses their minds so that you may be better able to discover with accuracy the peculiar bent of the genius of each”. Educators are always concerned about what educational methods can benefit the learners the most. Gardner’s (1993) Multiple Intelligences Theory is potentially one of them. Gardner claimed that educational methods should be created and adjusted to be more flexible for students who have different intellectual capacities, and should be re-designed and rearranged to use the multiple intelligences effectively so that those changes would benefit students, teachers and society.

Multiple Intelligence theory suggests that there is not just one concrete measure of intelligence and by implication a single way of teaching. Hence Gardner suggests that learning and teaching can be understood and practiced through many avenues. In 1983, he started with seven intelligences but his research has now described nine intelligences. These include not only mathematical, linguistic and visual learning but also bodily-kinesthetic, musical, interpersonal, intrapersonal, naturalistic and most recently existential intelligence (Shore, 2001). The ninth intelligence, existentialist intelligence, being more recent, is not mentioned in much of the literature on MI.

As has been noted above, Gardner proposed a much broader view of the definition of intelligence than a number of other theorists with his theory of multiple intelligences. However, school curriculums have traditionally focused on the logical-mathematical and linguistic intelligences. Therefore, schools teach more effectively for the students who have strong language and logical thinking skills. Based on Gardner’s theory, Chapman and Freeman (1996) draw three implications that are useful for this study. Firstly, intelligence can be taught or at least enhanced through teaching. Secondly, intelligences are changing throughout life. Thirdly, the existence of different intelligences that different learners possess results in different learning styles and different needs. Hence Chapman (1993) suggests several implications of Gardner’s theory which are relevant for the middle level educators.

1. Everyone has at least one intelligence of strength

2. Everyone has some weaker intelligences that can cause discomfort
3. Weaknesses can be strengthened—moving from an area of discomfort to comfort
4. One's brain is as unique as a fingerprint.

Although Chapman does not provide any research evidence for these implications, they seem to be very plausible. These ideas suggest that teachers may need to ensure that our classroom, teaching practices and programs, take account of the different multiple intelligences of students and the learning styles associated with each. In this way the particular and the different strengths of students would be accommodated.

2.1.1. The description of the theory of Multiple Intelligences

The ideas above refer to all the different intelligences Gardner has written about, it is useful to give each a fuller description. Such descriptions of the various Multiple Intelligences have been summarized by Gardner (1993) and Chapman (1996). These summaries are given in the next section. Following each description of intelligence, activities based on that intelligence and recommended for use in the classroom are described. However it should also be noted that it is not assumed that each intelligence is only ever active in isolation. Gardner indeed suggests that during a learning episode it will be normal for a number of intelligences to be used together. In fact, he suggests that all intelligences are needed to function productively in society.

2.1.1.1. Verbal/Linguistic Intelligence:

Linguistic intelligence is the ability to use language effectively and to communicate both in speaking and writing. People who have a strong verbal/linguistic intelligence usually have a good vocabulary. They like to read books and always seem to be absorbed in books and so do well in English class (Gardner 1993; Chapman 1996).

People with a preference for or just with a strong linguistic intelligence often choose careers as language teachers, interpreters, editors, linguist, radio or television announcers, reporters, librarians and editors. If students want to develop their linguistic intelligences while focusing on language learning, they can consider doing the following activities:

- Browse the library or bookstores regularly
- Read the books just for the fun of it. Read the newspaper every day, even for just a few minutes, or read joke books and practice telling the jokes to friends
- Keep a diary
- Play word game
- Memorize a favorite song, poem, or story
- Get together with friends and take turns to read the parts of a play

2.1.1.2. Visual/ Spatial Intelligence:

Spatial intelligence is the ability to comprehend mental models, manipulate and model them spatially and draw them in detail. People who prefer to use this kind of intelligence would rather draw a picture than write a paragraph. They enjoy rearranging the furniture in their house. The spatially intelligent people see things that other people probably miss. They notice colors, shapes, and patterns, and how light falls on the objects.

People with a strong spatial intelligence often choose careers as painters, engineers, architects, graphic artists, mechanics, photographers, sculptors, pilots interior decorator and so on.

If students want to develop their spatial intelligences while focusing on language learning, they can consider doing the following activities:

- Work on Jigsaw puzzles involving language.
- Take a filmmaking class
- Cut out favorite pictures from magazines and make a collage
- Pay close attention to the television advertisement, films, and videos they see
- Take a walk outdoors and pay close attention to describe it around them and others
- Create a story by sketching a series of pictures or by using magazine pictures

2.1.1.3. Musical /Rhythmic Intelligence

Musical intelligence is the ability to recognize and use the nonverbal sounds: pitch, rhythms, and total patterns. People who are musically intelligent can usually hear music in their heads and learn songs quickly. They like to play some musical instrument or spend hours listening to music on the radio or CDs. But music belongs to everybody. Even if we sing off-key, we still can develop our musical intelligence.

People with a strong musical intelligence often choose careers as musicians, music therapists, songwriters, music teachers, piano tuners, studio engineers, disc jockeys and so on.

If students want to develop their musical intelligences within language learning, they can consider doing the following activities:

- Go to concerts with friends and family
- Listen to different kinds of music—classical, Jazz, rock, international, country, particularly ones with words involved
- Make a tape or CD of their favorite songs
- Keep a list of all the music they hear during the day
- Sing English songs in the shower
- Join a chorus group or a choir
- Turn some of the learning into a song or rhythmic chant

2.1.1.4. Bodily/Kinesthetic Intelligence

Bodily-Kinesthetic intelligence is the ability to use the body skillfully to express ideas and feelings to solve problems, create products or present emotion. People with a preference for this kind of intelligence generally have skills such as strength, balance endurance, flexibility, and coordination. But if bodily-kinesthetic intelligence is not our specialty, we can still use our body to help our mind. For example, physical exercise like dancing, swimming, walking, jogging, or aerobics can improve our mental health.

People with bodily-kinesthetic intelligence often choose careers as athletes, dancers, actors, models, mimes and so on.

If students want to develop their bodily-kinesthetic intelligences with particular focus on language learning, they can consider doing the following activities.

- Play sports in their neighborhood
- Put on music with songs and make up their own creative dance to reflect words
- Enroll in a dance, drama or pottery class
- Learn cooking, gardening, woodworking, or car mechanics
- Mime or act out a story

2.1.1.5. Logical/Mathematical Intelligence

Logical-mathematical intelligence is the ability to think about things in a logical systematic manner and to use number effectively and reasons well. People who prefer to use their logical-mathematical intelligence usually do well on standardized comprehension / written language tests. They like to solve abstract problems, and often do so by trial and error. These people can see patterns in thought and logic as well as in nature. Many also tend to be familiar with scientific principles and methods.

People with logical-mathematical intelligence often choose careers as scientists, mathematicians, computer analysts, economists, accountants, statisticians, science teachers and so on. If students want to develop their logical-mathematical intelligence, with particular focus on language learning, they can consider doing the following:

- Watch television shows about science
- Read about famous scientists and their discoveries, or detective stories
- Play logical-mathematical games like Clue with friends and family
- Visit the local science museum
- Carry and use technology such as calculators and games
- Sequence events into story line

2.1.1.6. Interpersonal Intelligence

Interpersonal intelligence is the ability to be empathetic, and to understand others, feeling and thinking readily. People with a high preference for interpersonal intelligence always have a talent for understanding other people—their feelings, their thoughts, their motivations, their moods, their needs and their struggles. They also can use these skills to help and comfort people, to manipulate and persuade people.

People with interpersonal intelligence usually choose careers as salespeople, lawyers, politicians, business executives, travel agents, social workers, psychologists, religious leaders and school principals.

If students want to strengthen their interpersonal intelligences with particular focus on language learning, they can consider doing the following activities:

- Join some clubs at school, or in their neighborhood
- Have a party and invite one or two people they do not know very well
- Be a people watcher. Go to a busy place where English is likely to be used and spend time watching people interact with one another
- Make a point of meeting and talking English with one new person every month or so
- Interact with at least one person (out of class) in English each day

2.1.1.7. Intrapersonal intelligence

Intrapersonal intelligence is the ability for self-analysis and reflection, to understand and know about oneself and to be able to quietly contemplate and assess one's accomplishments. People with a preference for intrapersonal intelligences like to ponder questions such as “Who am I?”, “What is the purpose of life?”, “What is the meaning of my dream?” and so on. Their goal is to understand themselves. In order to do this, they take the time to become aware of the many different emotions that live inside of them. Perhaps they feel most peaceful and self-aware when they are walking alone in nature.

People with this kind of intelligence often become therapists, writers, and religious leaders. If students want to develop their interpersonal intelligences with particular focus on language learning, they can consider doing the following activities:

- Think about their goals and their hopes for the future
- Engage in activities that make them feel more confident about themselves
- Attend religious services
- Record their thoughts and feelings in a daily journal
- Keep a special “dream journal ”by their bed. Write down their dreams as soon as they wake up in the morning
- Sit in a comfortable chair for 20 minutes and just daydream about the places they would like to go and people they would like to meet
- List strengths of their language learning and areas in which they need assistance

2.1.1.8. Naturalistic Intelligence

Naturalistic intelligence is the ability to recognize and classify both the animal and plant kingdoms, to make other consequential distinctions in the natural world and to use this ability productively - for example in biological science, farming and in hunting. People who use this intelligence often are always concerned with observing, classifying, and understanding the parts of the physical environment as well as showing understanding of natural phenomena.

People with high naturalistic intelligence often choose careers as farmers, botanists, conservationists, environmentalists and biologists. If students want to develop their naturalistic intelligences with particular focus on language learning, they can consider doing the following:

- Visit the zoos, aquariums or other places where the natural world is studied
- Be involved in a hobby that involves nature, such as bird watching
- Read books or magazines, or watch television shows or movies that features nature

- Collect flowers, bugs, leaves or other natural things to show and describe to others
- Enjoy studying environment, nature, plants and animals
- Talk about favorite pets or preferred natural places to their classmates or friends

2.1.1.9. Existential Intelligence

The use of existential intelligence is very new and has not been integrated into most of the work in MI. In fact, many authors have not used it at all.

According to Gardner (1995), those people who possess existential intelligence are concerned with questions regarding the human conditions such as the meaning of life, death, and love. Hengstenberg (2001) claims that Gardner feels more comfortable with his relatively concrete term, “existential” than with the term “spiritual”. He claims that spiritual intelligence is like religion, transcendent, mysticism, gift, feeling and higher truth.

People with this kind of intelligence often practice meditation; the study of Koans and Zen stories, and learn about the different types of religion such as Buddhism and Shintoism (Chapman 1993; Gardner, 1995).

2.1.2. Intelligence and Learning Styles

The scope of this study will not extend to the overlap between multiple intelligences and learning styles. However, to distinguish the difference between multiple intelligence and learning styles is important, as the focus of this study is on multiple intelligences not preferences in learning styles. The difference between multiple intelligences and learning styles is now discussed.

According to Kolb’s (1984) learning styles inventory, a particular learning style can be applied to various subjects and content. The concept of learning style designates a general approach that an individual can apply equally to different content areas. An intelligence on the other hand, is a capacity, with its component parts, that is geared to a specific aspect of the world, such as spatial patterns or musical sound. Therefore,

intelligences are more content specific, but learning styles work across content barriers (Shore, 2001).

Using Gardner's various Multiple Intelligences, Teadwell (2004) suggested five recognized learning styles that students exhibit:

- a. **Auditory Learners:** These learners learn best through discussion, verbal lectures. Auditory learners interpret the underlying meanings of speech through listening to tone of voice, speed, pitch and other nuances. Written information may have little meaning until it is heard. These learners often benefit from using a tape recorder or reading text aloud.
- b. **Visual Learners:** These learners need to see the teacher's facial expression and body language to fully realize the content of the lessons. They may think in pictures and learn better from visual displays including: diagrams, overhead transparencies, videos, flipcharts, illustrated textbooks and hand-outs. They tend to prefer sitting in front of the classroom to avoid visual obstructions like classmates' heads. During classroom discussion or a lecture, visual learners often like to take detailed notes to absorb the information.
- c. **Tactile/Kinesthetic Learners:** These learners may find it hard to sit still for a long period time, and may become distracted by their need for activity and exploration. Tactile/Kinesthetic people learn best through a hands-on approach, actively exploring the physical world around them.
- d. **Global learners:** These learners are intuitive and spontaneous. Information needs to be presented in an interesting manner by using attractive materials, because they do not like to be bored. Holistic reading methods and cooperative learning strategies work well with these learners. Global learners learn best through recorded books, story writing, computer programs, games and group activities.
- e. **Analytic learners:** These learners focus on details and are logical. They prefer to organize their work and work individually on activity sheets. These learners learn best when lessons are structured and teacher-directed, and information is presented in sequential steps (Haynes, 2004).

It will be noted that although four of these learning styles seem to mirror specific intelligences, and (d) does not. Much more work is needed in this area.

2.1.3. Using Multiple Intelligence in the Classroom

Accepting Gardner's Theory of Multiple Intelligences has several implications for teachers in terms of classroom instruction. Since all intelligences are needed, teachers should think of all intelligences as potentially equally important across the group of students they are teaching. Within a group, some students will have a preference for using some intelligences but other students will wish to use different ones. This is in contrast to traditional education systems, which typically place a strong emphasis on the development and use of verbal and mathematical intelligence. Thus, the theory of Multiple Intelligences implies that educators should recognize and teach to a broader range of talents and skills that depend on a variety of intelligences. So one of a teacher's attributes needs to be to encourage all students to use all intelligences, but also recognize students will have preferences for some of them.

The first step in using the Multiple Intelligence theory in ESL/EFL teaching is that for teachers to start identifying their own intelligence profiles so that they can determine their best or preferred teaching strategies taking into account human differences (Christison, 1998). After all, it is probable that the learning activities that a teacher used will often reflect his or her own intelligence profile. This in turn, presumably will mean that some students will be more attuned than other to this teaching styles and resources used. For example, teachers may avoid drawing pictures on the blackboard or stay away from using highly graphic materials in their presentation, because their spatial intelligence is not particularly well developed in their life. Or it is possible that a teacher gravitates toward Cooperative Learning strategies because he/she is an interpersonal sort of person. On the contrary, students can sometimes come up with strategies and demonstrate expertise in areas where teachers may be deficient. For example, students may provide a musical background for a learning activity or may be able to do some pictures drawing on the board. If the teachers do not feel comfortable with this approach it may be because they have a low preference for the underlying intelligences being used. Hence, a teacher can try to use MI theory to survey his/her teaching style and see how it matches up with the different intelligences (Armstrong, 2000).

Following the teacher identifying their own intelligences preferences and the impact this may have on their teaching, the second implication is to profile the students. Christison (1998) found that the more awareness the learners have of their own intelligence profile, the more they are able to utilize this knowledge in their future learning. Therefore, she proposed that an important stage of teaching with multiple intelligence is to awaken the intelligences of students through exercises and activities that make use of sensory bases (the five senses), intuition, or meta-cognition. Then the teacher can extend the preferences of using more intelligences by encouraging students to practise them. After practising, structured lessons emphasizing different intelligences in the learning process can be employed to teach for/with an intelligence. Finally, the teacher may trigger the transfer of the intelligence to students' daily lives by asking reflective questions which also focus in the intrapersonal intelligence.

In the classroom, Gardner recommended that integrated education would use students' natural talents successfully. Integrated education is the system that used different educational approaches such as games, music, stories and images. If materials are taught and assessed in only one way, we will only reach a certain type of student. Students who are not good at linguistic and logical skills can still learn very well if they are taught with other methods rather than using textbooks. For example, students with spatial intelligence could understand lessons more quickly by looking at visual images rather than reading pages from textbooks. Students with good interpersonal intelligence would learn better in a group discussion instead of reading books alone. Some students might learn new words more easily by listening to songs. The student who is almost falling asleep during the logical presentation may come alive when the bodily-kinesthetic approaches start. Armstrong (2000) and Le (2001) recommends allowing the students to help design and choose the learning strategies that will work best for them.

The above discussion suggests that teaching methods and curriculum should be developed flexibly. Once a method is applied, teachers should observe and try to find out how students react to that method and whether students make good progress. The feedback received from students is a good resource to improve educational methods. So, integrated education could allow teachers to be more creative and flexible in preparing the teaching materials and presenting the lesson in class. Also, the teachers

would learn more about their students and then adjust their teaching methods after a couple of class meetings. Moreover, the teachers could create more interesting classes and feel more comfortable and confident with their teaching. If students learn well at school and gain more knowledge, they would know how to set their career to match their abilities and talents. As a consequence, students would contribute more to the society through their future work. Our society would also benefit more from individuals who had integrated education (Le, 2001).

2.1.4. The Application of MI Theory to English Language Teaching (ELT)

When humanism began to have a decisive impact on education in the 1960s, the conventional, authoritative teacher-centered instruction gave way to the learner-centered mode of instruction. Educators started paying more attention to the impact of affective factors such as feelings, emotions, anxiety, frustration, motivation, and confidence on the process of learning (Lin, 2000). There has also been a maturing of some innovative English Language Teaching approaches, methods, and techniques over the last 20 years. Some of them have been called The Silent way, Community Language Learning, Total Physical Response, Suggestopedia, The Natural Approach, Communicative Approach, Cooperative Learning, and Whole Language Learning (Larsen, 2000; Richard & Rodgers, 2003).

Every ELT (English Language Teaching) method or technique with its specific emphasis has been developed to meet students' different needs or interest. These approaches can be linked to Gardner's (1993) intention of developing or using different kinds of intelligences. The Silent Way, for example, emphasizes the development of students' inner thinking (intrapersonal intelligence). Total Physical Response, however, emphasizes language learning through physical action (bodily/kinesthetic intelligence). Suggestopedia, uses drama and visual aids as keys to unlock a student's learning potential; in this approach, music plays the greatest role in facilitating learning (musical intelligence). Both the Communicative Approach and Cooperative Learning seem to place its greatest emphasis upon the importance of interpersonal relationship (interpersonal intelligence) to language learning. Yet specific activities can involve students in each of the other intelligences as well. Similarly, Whole Language learning has at its core the cultivation of linguistic

intelligence, yet it uses the hand-on activities, music, introspection (through journal keeping) and group work to carry out its fundamental goals. So the Whole Language Learning approach not only emphasizes the wholeness and reality of language (verbal/linguistic intelligence), but also believes the coordination of bodily/kinesthetic, musical, interpersonal, and intrapersonal intelligences are needed to promote language learning.

It is suggested here that MI theory can provide a way for all teachers to reflect upon their best teaching methods, and to figure out the reason why some methods they use work well for some students but not for others. It also may help teachers expand their current teaching repertoire to include a broader range of techniques, materials and methods for reaching an ever wider and more various range of learners, since it may be that some students have not responded well in the past because their preferred intelligences were not being stimulated by the teaching approach used (Armstrong, 2000; Lin, 2000).

2.1.5. Multiple Intelligence-based Assessments

Instruction and assessment are two sides of a coin (Chao, 2000). Reliable assessment instruments are needed when EFL (English as a Foreign Language) teachers hope to pursue the different teaching strategies implied by MI. In Taiwan's EFL education, quantitative markers are the most commonly used assessment instruments. These instruments use items in tests that are of the True or False, fill-in-the blank and multiple-choice types. Although the standardized mode is supposedly objective, it could not provide profound understanding of the learner's knowledge. Teachers also cannot thoroughly examine learner's progress and achievement from a variety of perspectives. Moreover, most school tests that focus on the verbal linguistic and logical-mathematical are very academically oriented. In fact, many teachers suspect students are smarter than such testing results imply. Hence they suspect that students are capable of showing greater language competence than the results of the formal standardized tests demonstrate. Some students are better at understanding in some ways but not in other ways. For some of us, music might be easy but playing football is difficult. For others, it is relatively easy to understand how a flower grows, but it is rather difficult for us to understand and use a musical instrument. Therefore, it is quite

important to let students be assessed through intelligence-fair tools that are compatible with the preferred intelligence of the particular students.

Multiple Intelligence theory may provide a useful guide in this process. Gardener (1993) holds that assessment is an essential component of education that takes seriously multiple intelligences and that tests should be designed to elicit these differences. Thus it's particularly important to use multiple modes of assessment that will allow students to show their strength and perform adequately. This view has gained the support of many testing professionals (Darling-Hammond, Ancess & Falk, 1995). They share the belief that authentic assessment, which emphasizes assessing what students know and how students perform from different perspectives, constitutes a new approach to assessment that can provide a complete picture of students abilities, efforts, and progress during the learning process.

The eight general features of the assessment approach proposed by Gardner (1993) are as follows:

1. emphasis on assessment rather than testing
2. assessment as simple, natural, and occurring in a reliable schedule
3. ecological validity that students can develop their strength
4. use of instruments that are "intelligence-fair"
5. use of multiple measures
6. sensitivity to individual differences, development levels and forms of expertise
7. use of intrinsically interesting and motivating materials and
8. use of assessment to benefit students (pp.174-179)

The features stated above are the foundation of the Multiple Intelligence Model of assessment. There are many possible variations in the execution of MI assessment tasks/projects/activities, and these should be employed according to the practical needs (theme, students, or time). For example, according to the topic and content that have been taught and learned, the teacher may assign a set of eight different assessments to all students (see Appendix A). The results of these enable the teacher

to perceive an individual student's performance by different modes of assessment. The teacher may assign different assessment to different students, with the purpose of inviting students to respond individually only to one of the assigned MI assessments that reflect what she or he learned. The teacher may invite students to choose from several integrated MI-based assessments. Students may develop their own ways of assessment with the teacher's help (Chao, 2000; Gardner, 1996). Besides, the MI assessments involved a variety of dimensions (covering multiple intellectual spectrums and the language knowledge) within the four language skills, so the information about the strengths and weakness of individual learning are demonstrated in a fair and meaningful way that provides teachers with objective results to interpret or draw conclusions for learner achievement. In other words, assessment will be a welcome instrument that allows students to recognize how they are doing and what they have learned, rather than be just a tool to push students to attain higher scores.

2.1.6. Research Support for Multiple Intelligences

Current research in the use of MI theory in diverse second language classrooms indicates that MI theory implementation has been successful in producing resource-rich environment for diverse language learners and has allowed for a greater capacity for learning (Green, 1999). In Green's qualitative study for diverse learners, teachers reported that students were more able to transfer strategies and skills learned in one subject to another and were more curious and engaged in their learning experiences. Besides, their standardized test score rose with the application of MI theory in the classroom. Green's study was valuable in that it lent support to the assertion that the application of MI theory improves achievement and motivation. Strahan (1996) reviewed research that demonstrated the use of multiple intelligences and brained-based teaching, learning strategies improved the performance assessments in language learning for the children. He found out that the behaviors of students who are disengaged in class and like to destroy classroom environments improved. In addition, the ratio of students' completing their homework and assignment increased. These studies found correlations between an improvement in standardized testing and the application of MI theory in the classroom

Furthermore, in Greenhawk's action research (1997) on multiple intelligences, he found that students' performances in every aspect were promoted when the curriculum based on multiple intelligences was implemented and found that the proficiency in both reading comprehension and vocabulary increased.

2.2. Cooperative Learning

The second general theoretical area that was seen to have potential in mitigating the identified problems of EFL teaching in Taiwan was Cooperative Learning (CL). Some of the problems in English teaching in Taiwan stated in the introductory section showed that teaching was teacher-centered and classes were very large. Hence, the teacher is restricted in time and energy to cope with so many students on an individual basis. For language learning contexts, CL is broadly defined as an approach to organize classroom activities so that students are able to learn from and interact with one another as well as from the teacher (Olsen & Kagan, 1992). In addition, CL is a within-class grouping of students, usually of different levels of second language proficiency, who learn to work together on specific projects or tasks in such a way that all students in the group benefit from the interactive experience (Kessler, 1992). Armstrong (2000) states the use of small groups that work toward common instructional goals is the core component of the CL model. Students in the CL groups can tackle a learning assignment in a variety of ways. Because CL groups can be structured to include students who represent the full spectrum of intelligences, they are particularly suitable for MI teaching. In language teaching, lesson plans could be designed according to the theory of Multiple Intelligence, but the CL approach might alleviate the problems of large class sizes and different proficiencies of students in the same class.

2.2.1. Theoretical Foundations of Cooperative Learning

Krashen's (1985) Second Language Acquisition Theory, which has had a broad impact on second language teacher's teaching strategies and methodologies, was very popular during the eighties and nineties. Krashen posed five different hypotheses that attempted to explain how second language is acquired. The three most influential ones are: the acquisition-learning hypothesis which states that adults have two

different ways to develop competence in a language: language acquisition and language learning. Language acquisition is a subconscious process like the way a child learns language. The natural order hypothesis states that the acquisition of grammatical structures proceeds in a predictable order, and the input hypothesis states that a language acquirer who is at “level i ” must receive comprehensible input that is at “level $i+1$ ”. According to Krashen’s (1985) Input Hypothesis, second or foreign language acquisition should be a highly collaborative and interactive process. He also claimed that a small-group approach enabled learners to gain better language competence than a teaching methodology that stressed the memorization of grammar, vocabulary and drill exercises in isolation. Therefore, he asserted that cooperative learning could help to create the healthy learning environment that makes language learning meaningful.

Others have also been supportive of this approach. Murray (1994) stated that the instruction requiring students to work cooperatively was based on three theoretical perspectives. They were the Piagetian theory, social learning theory, and Vygotskian theory.

Piaget viewed learners as active participants in their own learning rather than recipients of information and knowledge. The teacher should provide students with materials and create situations that can allow students to find out. Students’ present cognitive levels, should be assessed and instruction should be individualized as much as possible to take into account their strength and weakness. Piagetian theory suggests that if students should experiment on their own instead of listening to the teacher lecture, learning would be more meaningful. In addition, one aspect of Piagetian theory emphasizes that solving conflict will benefit students (Murray, 1994). The practice of using a dyad works well in promoting cognitive growth. A dyad generally refers to the practice of placing two students within a group who have opposite points of view about how to solve a problem. Conflicts will arise, when there is a disagreement about the answer or solution. Students can clarify what is unclear or vague to themselves through negotiating and discussing the solution with one another until they arrive upon a common answer and hence resolve the conflict. This increases their comprehension and accelerates their intellectual growth as well. However this approach also assumes that there is an agreement between the students

to work together on the problem. This gives rise to a so-called CL group (Olsen & Kagan, 1992; Tsai, 1998).

The social learning theory of Bandura (1971), the second of Murray's theoretical perspectives, emphasized the importance of modeling and observing the attitude, behaviors, and emotional reactions of others. Social learning theory explained human behavior in terms of continuous interaction between behavioral, cognitive, and environmental influences. The component processes underlying observational learning included: first, attention which involved modeled events and observer characteristics, second, retention which involved symbolic coding, symbolic rehearsal, motor rehearsal and cognitive organization, and the last, motor reproduction which involved physical capabilities, accuracy of feedback and self-observation of reproduction (Liang, 2001).

Social learning theory also emphasizes teamwork, which is one of the main characteristics of CL (Murray, 1994). When members of the group pool their efforts to achieve a common goal, the mutual dependency will motivate them to go on for the benefit of the team, and in the process they themselves succeed. In addition, when all the members of the team succeed in learning from an assignment, or when the group's overall achievement is up to a certain standard, it provides students with an incentive to participate in a group effort by giving a joint reward.

According to Murray (1994), Vygotskian theory, the third perspective, is the most theoretical rationale for cooperative learning. Vygotsky (1978) provides educators with key understandings of the relationship between the learning of individual learners and the influence of the social environment. He believes that learning is social and further stresses that people learn best when they learn through social interaction. Vygotsky (1978) claimed that social relationships were obviously related to human mental functions and accomplishments, and proposed his concept of the "zone of proximal development" in order to make sense of the relationship of society and the individual and social and cognitive development.

Vygotsky (1978) defined and pointed out the existence of a zone of proximal development, which meant a distance between what a student could do alone (the

actual development level) and what a student could achieve in collaboration with others (the proximal level). Good learning for Vygotsky is always that which advances development to the next zone. Implicit in the notion of the zone of proximal development is the assumption of how we learn. The main path of learning proceeds from the social to the individual. The individual is always actively involved. Therefore, the proximal level today in collaboration with others will be the actual development level tomorrow (McDonell, 1992). Guided by Vygotsky's (1978) emphasis on adult guidance in students' learning in the "zone of proximal development", teachers are viewed as facilitators who help and support learners' transactions with the world.

In addition, Vygotsky viewed learning as a social activity and a process of making sense. In many ways, Vygotsky's view of language and learning is similar to that of Halliday's (1989). Both view language and learning as a process of making sense and as a social activity. In Vygotskian terms, human learning is always mediated through parents, teachers and peers and these interactions themselves are mediated. Vygotsky also places more emphasis on the nature of the interaction between the child and the teacher. These communicative interactions between adult and child are basic to the extending and expanding of language. Besides, he suggests that the qualities of these interactions in specific problem solving environments are in direct relation to the intellectual skills, which the children will acquire. One element that is essential to these interactions is cooperation. This theory also presents a view of teaching as a process of mediation, which is consistent with the cooperative learning approach (Moll, 1988).

Hence, collaboration among a community of learners was regarded as essential for extending and expanding cognitive growth and language competence. The best occasion on which to foster collaboration so as to facilitate this was in schooling (Connelly & Clandinin, 1990). Besides language competence and cognitive growth, research conducted by Forman and Cazden (1985) showed that when students collaborated to solve problems, growth in individual problem solving was also enhanced (Forman and Cazden 1985 as cited in Tsai, 1998).

These theories of active participants, social learning, and zone of proximal development all suggest the importance of this community of learners and the interaction between them and significant others such as the teacher. CL provides an environment and approach, which foster students' working together and forming a learning community.

2.2.2. Features of Cooperative Learning

In recent years, much has been written regarding the benefits of employing Cooperative Learning as a technique in the classroom. Slavin (1995) suggests that Cooperative Learning promotes academic achievement, social and personal development, and language learning. The cooperative group processes especially can provide opportunities for frequent and extended interaction in the target language among students. Contrary to teacher-centered instruction, Cooperative Learning techniques are student-centered. The literature offers a variety of definitions for Cooperative Learning but some features are common to all of them. For language learning contexts, Cooperative Learning is a within-class grouping of students, where groups learn together interactively while working on common tasks and projects (Kessler, 1992). Cooperative Learning is also broadly defined as an approach to organize classroom activities so that students are able to learn from and interact with one another as well as from the teacher and the world around them. Besides, it is also a group learning activity organized so that learning relies on the socially structured exchange of information between learners in group and where each learner is held accountable for his or her own learning and is motivated to increase the learning of others (Olsen & Kagan, 1992). Consequently, students are provided with the freedom to engage themselves in their groups actively instead of placing students into a teachers' directed classroom. In the CL learning environment, students need to be active participants and through this build a learning community where they support each other's learning.

2.2.3. Elements of Cooperative Learning

Generally, there are five key elements that define cooperative learning that makes this approach successful. They can be briefly identified as (a) face-to-face interaction, (b) positive interdependence, (c) teaching of social skills (d) individual accountability

and, (e) group processing. Each element contributes to effective use of Cooperative Learning in special education and in the mainstream classroom. These elements will now be explained.

(a). Face-to-face interaction. Abundant verbal, face-to-face interaction, where learners can argue, elaborate, explain and link current materials with what they have learned before is the focus of CL in classes that liberate students from dependence on one-sided instruction (McDonnell, 1992). Since positive interaction enhances learning, it is meant to create a process-oriented classroom, where students' interaction is greatly emphasized. In a CL setting, the teacher is prepared to step aside and provide the learner with a more meaningful role. Students in a CL group usually sit in a circle and interact face-to face. This gives students more opportunities to negotiate, communicate, and shape their learning together.

(b). Positive interdependence. Positive interdependence is a sense of caring about each other's learning and working together for a common goal. When one member improves, and other teammates benefit simultaneously, positive interdependence happens. It is a sense of fate and mutual causation. Positive interdependence is cultivated through setting a common goal for the groups, to assign roles to teammates, to give joint rewards and to distribute shared information. The ways in which teachers may structure positive interdependence include the following:

- When students perceive that the goal of the group is to ensure the learning of all group members, positive goal interdependence exists. This may be done by requiring a product from the group or giving each student an individual test and taking a group average for each member's grade.
- When all group members receive a reward based on their overall achievement, positive reward interdependence exists. When every member achieves up to criteria, giving a single grade for the group's efforts, adding bonus points to each members individual score, or when all group members reach criteria, giving non academic rewards such as free-time or food are examples.
- If the goal is to be achieved, positive resource interdependence exists when resources are distributed so that coordination among members is required. Jigsaw materials that each member has part of a set of materials or information

or limiting the resources given to the group (e.g., only one dictionary, book, pencil) is an example. When members are given specific complementary roles to play in the group, positive role interdependence exists.

- If the next group member is to complete his or her responsibilities, positive task interdependence exists when a division of labor is structured so that the action of one member has to be completed in order to the whole group to succeed.

(c). Teaching of social skills. Sufficient social skills involve an explicit teaching of appropriate communication, leadership, trust and conflict resolution skills so that the team can function effectively. Social skills refer to group-related skills and task-related social skills. The former refers to the ways students interact as teammates, such as mediating disagreements, encouraging, and praising. The latter refers to the ways students interact with one another to achieve task objectives, such as asking, paraphrasing, explaining, and summarizing. CL does not assume that students already have the required social skills; therefore, when CL techniques are implemented, collaborative skills are often taught. Imparting good social skills guarantees good interaction and thus helps maintain good working relationships. If students do not have and use the needed collaborative skills, groups cannot function effectively. These collaborative skills must be taught just as precisely and purposefully as academic skills. Most students have never been required to collaborate in learning situation, so they often lack the needed social skills for doing so. Communication, conflict-management, decision-making, trust-building, leadership are all included in the needed social skills.

(d). Individual accountability. Individual accountability occurs when every team member feels in charge of his/her own and his/her teammates' learning and makes an active contribution to the group. Therefore, each student makes some contributions to his /her team. There is no freeloading or being carried for anyone in a team; everyone pulls his weight. Besides, individual accountability is being stressed when the performance of each individual student is stressed so that the group knows who needs more help in completing the assignment and so that each member perceives that he or she must fulfill responsibilities in order for him or her and the group to succeed, individual accountability is being stressed. Randomly selecting one student's product to represent the entire group or giving individual tests on the material that the group is

responsible for learning and then averaging the group members scores are common ways to ensure that individual accountability exists.

(e). Group processing. Group processing leads to a group product or an achieved task. Groups need to describe which member actions are helpful and which are not helpful, and decide which action to go on or change. In addition, specific times are needed for groups to discuss how well they are achieving their goals and keep effective working relationships among members. Such processing enables the learning group to focus on group maintenance, ensures that members receive feedback on their participation, facilitates the learning of collaborative skills, and reminds students to practice collaborative skills continuously. Some of the main factors to successful processing are allowing enough time for it to take place, maintaining student involvement in processing, making feedback specific, reminding students to use their collaborative skills while they process, and ensuring that clear expectations as to the purpose of processing have been communicated (Johnson & Johnson, 1987; Olsen & Kagan, 1992; Tsai, 1998).

Social learning emphasizes teamwork. Vygotsky believes that learning is social and stressed that people learn best when they learn through social interaction. Piaget views learners as active participants in their learning rather than recipients of knowledge. Bandura’s social learning theory also emphasizes the importance of social interaction to learning. These three theoretical perspectives described above are clearly all represented in these five elements of cooperative learning. All five elements required active social participation on the part of the students.

From the five elements mentioned above, CL groups contrast with traditional learning groups in many ways. The difference between cooperative learning groups and traditional learning groups are illustrated in Table 1 (taken from Johnson & Johnson, 1986, p.9).

Table 2.1

Comparison of CL groups and Traditional Learning groups

| Cooperative Learning Groups | Traditional Learning Group |
|--|-----------------------------------|
| Positive interdependence with structured | No positive interdependence |

| | |
|---|--|
| goals. | |
| A clear accountability for their individual's share of the group's work | No accountability for the individual share of the group's work |
| Heterogeneous ability grouping | Homogeneous ability grouping |
| Sharing of leadership roles | Few being appointed or put in charge of the group |
| Sharing of the appointed learning tasks | Each seldom responsible for others' learning |
| Aiming to develop each member's learning to the maximum | Focusing only on accomplishing the assignments |
| Maintaining of good working relationships | Frequent neglect of good working relationship |
| Teaching of collaborate skills | Assuming that students already have the required skills |
| Teachers observation of students teamwork | Little teacher observation |
| Structuring of the procedures and time for the processing | Rare structuring of procedures and time for the processing |

In order to emphasize the necessity for transferring the responsibilities of learning and teaching from teachers to students through the use of CL techniques, some researchers have called for a revision in educators' perceptions of the classroom, from the traditional teacher-directed model to a more student-centered ideal (Kaszyc & Krueger, 1994). Smagorinsky and Fly (1994) conducted a CL study for tenth grade English students. They pointed out that a certain amount of teacher modeling and scaffolding was necessary to mould a productive and effective discussion. Their stress on the importance of defined tasks and goals for the success of CL also concurred with the findings of other investigators, such as Lacey and Walker (1991), Reid et al. (1994) and Tsai (1998).

2.2.4. Cooperative Learning Classroom

Based on the ideas of the last three sections it is clear that Cooperation, rather than competition, is the operative dynamic in CL groups. A great number of tasks can be adopted in teaching English cooperatively. They include group discussion, scenario, role-play, solving mysteries, reading together, researching a subject, peer teaching as preparation for tests, and preparing a study project from different sources of information (Harel, 1992). In a well organized cooperative classroom, students take on a great deal of the responsibility for the classroom activities, freeing the teacher to give individual attentions where needed.

Armstrong (2000) states the use of small groups that work toward common instructional goals is the core component of the cooperative learning model. When such groups have three to eight members, such groups work more effectively. Individual students in the cooperative groups can tackle a learning assignment in a variety of ways. Because cooperative groups can be structured to include students who represent the full spectrum of intelligences, they are particularly suitable for MI teaching. For example, a group who is charged with the task of creating a videotaped presentation might include a socially developed student to help organize the group, a spatially oriented student to do the drawing, a bodily-kinesthetic student to create props or be a leading actor, a linguistically inclined students to do the writing, and so on. So, cooperative groups provide students with a chance to operate as a social unit.

Bassano and Christison (1988 as cited in Nunan, 1992) who see the development of cooperative learning technique in ESL classroom as an important element in successful classroom management, point out that there are at least three areas where cooperative learning can figure. These are (1) classroom environment and social tasks; (2) process tasks such as goal setting and peer tutoring, and (3) progress monitoring and evaluative tasks. They make some practical suggestions to increase the amount of Cooperative Learning in each of these areas. In their views, social tasks and classroom management are perhaps the areas that lend themselves most readily to cooperation. They both suggest that learners can take partial or full responsibility for the following: decorating bulletin board and arrange classroom furniture before class; keeping attendance records; carrying out classroom maintenance, setting up equipment for films; handing out and replacing materials; generating advice on disciplinary matters; making announcement and signaling when breaks are over; welcoming and greeting new students and introducing them to class routines. These activities, while useful in the social setting of the classroom, do not make a direct contribution to the language learning. Students are also able to be involved in curriculum work such as goal setting, the selection of tasks, and materials development which are directly linked to their learning. The last area is monitoring and evaluation in which learners can be encouraged to collaborate through tasks such as progress monitoring charts and self-assessment.

2.2.5. Cooperative Learning Methods

There have been a number of teaching strategies built on the notion of CL. Those that have received the most attention in language learning are shown in Table 2.2

Table 2.2

Researchers and Cooperative Learning methods (Adapted from Liang 2001)

| Researcher-Developer | Date | Method |
|-------------------------------|-------------|---|
| Devries & Edwards | Early 1970s | Teams-Games- Tournaments (TGT) |
| Johnson & Johnson | Mid 1970s | Learning Together (LT)* |
| Sharan & Sharan | Mid 1970s | Group Investigation (GI) |
| Johnson & Johnson | Mid 1970s | Constructive Controversy |
| Slavin & Associates | Late 1970s | Student Teams Achievement Divisions (STAD) |
| Aronson & Associates | Late 1970s | Jigsaw Procedure* |
| Cohen | Early 1980s | Complex Instruction |
| Slavin & Associates | Early 1980s | Team Assisted Instruction |
| Kagan | Mid 1980s | Cooperative Learning Structure |
| Stevens, Slavin, & Associates | Late 1980s | Cooperative Integrated Reading & Composition (CIRC) |
| Kagan | Early 1990 | Three-Step Interview* |
| Kagan | Late 1980s | Inside-Outside Circle* |

2.2.5.1. Implementing Jigsaw in the Language Classroom

Jigsaw is a cooperative learning method, which is designed to assist students to master quite large amounts of content through talking and sharing information. It is ideally suited for the content-based classroom and has been adopted and adapted successfully for many curriculum areas. The relevance of this approach for second language learners is that Jigsaw provides a good learning environment for the acquisition of language through the exploration of relevant content using purposeful talk in the classroom and the development of academic skills through carefully structured reading and writing activities (Coelho, 1992).

In the Jigsaw classroom, students in small groups rely on the others in the group for the information they need so that they can learn a topic or complete a task. Every student studies and rehearses material with a specific purpose in mind: to be able to

teach or tell the others in the group the important details and main points of his or her own piece of information. In order to complete a task or solve a problem, the group then works together to synthesize and evaluate the information. Students develop their cognitive skills of comparison, evaluation, analysis and synthesis of information. These skills for reading and discussing the daily newspaper are as important as they are for the academic success. In addition, retelling or paraphrasing the main points of what has been heard or read is a very effective learning and teaching strategy for the development of reading and listening comprehension.

According to Lacina's research (2001) that worked with students, he found that Jigsaw method of cooperative learning is a good way to involve all students in both speaking and learning in the classroom, because in the Jigsaw activity, a reading lesson is cut up and divided among the group by the teacher. Each person reads their individual part silently and then presents what they read to the group. Next, each cooperative group teaches the whole class about what they learned from their reading session. This activity is really a good way to elicit participation from each class member. Students will feel less inhibited by first presenting in small groups. After much practice, they often feel more comfortable when presenting in front of the whole class.

Because Jigsaw offers a highly interactive learning experience, its strategy supports the communicative approach and the whole language approach in language teaching. Students with different levels of English language proficiency may need different kinds of materials and interactions. Students who are acquiring English may need more context and fewer dependent materials and tasks. An additional benefit of the jigsaw classroom is that it provides a great variety of study materials that are available at different levels of difficulty. The multilevel nature of most ESL classrooms demands a more learner-centered approach. The Jigsaw techniques allowed the teacher to use information sources and some texts at different levels of linguistic or conceptual difficulty in the one class.

The Jigsaw environment is a contrast to the conventional classroom. There the level of reading material is likely to be inappropriate for more than half of the students in the class. In addition, the teacher is the audience for every student. Consequently,

only a very limited amount of time is available for each learner. In the Jigsaw classroom, the student's group is the students' audience, and hence each student's contribution in the first instance is shared with only three to five other people, allowing much more specific feedback (Coelho, 1992).

2.2.5.2. Three-Step interview

The Three-Step Interview, developed by Kagan (1990), is often used as an icebreaker activity for group members. In the Three-Step Interview, students interview each other in pairs first; then switch their roles as interviewers and interviewees. Students then share with the group the information that they had learned from the partner by first introducing his or her partner, and then highlighting the most interesting points of views they have acquired in the interview. Three-Step Interview can be a good technique to help students gain competence in language skills of summarizing, speaking and listening.

2.2.5.3. Inside-Outside Circle

The Inside-Outside Circle (Kagan, 1990), which helped students review information when they have got to know their classmates, is particularly useful for review and mastery of sentence patterns. To form an Inside-Outside Circle, students stand in pairs in two concentric circles, with the outside circle facing in and the inside circle facing out. Students respond to the questions that the teacher asks. They then rotate to a new partner, the inside circle moving one place in a clockwise direction and the outside circle moving in opposite direction. Inside-Outside Circle can be a good strategy for students to meet classmates, check understandings, review, and practice dialogue (Liang, 2001).

2.2.5.4. Learning Together

Learning Together was utilized to give students opportunities to summarize or retell the main ideas of what they read and learned. It was developed by Johnson and Johnson (1987), and focuses on two types of objectives during the lesson. One is the collaborative skills objective and the other is the academic objective. Johnson and Johnson (1988) state that the collaborative skills objective details what collaborative skills will be used and emphasized during the lesson. The academic objective needs to

be specified at the correct level for the students and matched to the right level of instruction according to a conceptual analysis.

A Learning Together teacher always distributes materials in well-planned ways so that a joint effort is required when the students are to finish the assignment. The students are assigned a certain role to ensure interdependence and instilled with a feeling that they are put in a “sink or swim together” learning situation (Thai, 1998).

With regard to the role assignments, group members are assigned by turns to play each of the defined roles identified by Johnson and Johnson (1986b) These can be described as follows:

- The leader is the chairman of the discussion whose job is to make sure that everyone gets a fair turn to express different ideas and gives reasons for those ideas.
- The recorder takes the responsibility of writing down what is covered in the discussion. Then the written report is handed in for scoring purpose.
- The reporter acts as his or her own group’s representative, summarizes the group discussion, and reports the conclusion verbally to the class.
- The checker monitors if everyone has finished his or her worksheet and answered all the questions.
- The timer makes sure that the discussion does not proceed for too long and reminds his or her group of completing the whole discussion within the limit-time.
- The material manager acts as the coordinator of the group.
- The cheerleader compliments members who make difficult, challenging, creative or constructive comments or statements.

2.2.6. The Potential Usefulness of Cooperative Learning

As described in chapter one, there are some major problems in language teaching and learning in Taiwan. For instances, teaching is teacher-centered and the classes are very large. One way to address the problems may be to cultivate students’ potential

for independent study through group work, and set up a suitable environment to allow students that have different proficiencies and intelligences to learn the four language skills. Cooperative Learning groups encourage student-student communication; hence, oral language is encouraged. It could also move the focus of the teaching from the teacher to the student. Group work may enable students to assist each other, so it could also be a useful technique for large classes. In addition, because CL groups can be structured to include students who represent the full spectrum of intelligences, they are particularly suitable for MI teaching (Armstrong, 20000).

2.2.7. Research Findings on Cooperative Learning

Research on cooperative learning has been conducted in many ways and has shown benefits for the learners. For example, in the aspects of cooperative learning, Lacey and Walker (1991) conducted a CL study in the secondary classroom, and concluded that students appeared to participate in the learning process more and generate creative ideas more frequently when they worked together with their peers towards a common goal. Yu (1995) conducted a research study of 48 learning hours in 16 weeks. Cooperative learning techniques were implemented in an EFL classroom. The students in the experimental and control groups were considered to have similar learning motivations and attitude. Though no significant difference was found in academic performance, Yu discovered that cooperative learning showed a positive effect on developing self-esteem, changing behavior and improving personality. Calderon (1997) conducted a two-year cooperative learning program, Bilingual Cooperative Integrated Reading and Composition (BCIRC). The program involved Spanish speakers learning English. After the BCIRC program was carried out, students' achievement was found to have improved with the employment of well-established principles of Cooperative Learning. Tsai (1998) conducted a research study to examine the effects of Cooperative Learning on teaching English as a foreign language to senior high school students. She found out that the students in the experimental group outperformed the students in the control group in their language skills.

A number of studies have been conducted using CL with Chinese students in EFL classroom. Wang (1992) used Cooperative Learning techniques in the grammar

course; Yeh (1996) conducted a large conversation class by adopting Cooperative Learning; Yi (1997) used Cooperating Learning for college students in English writing courses; Lin (1997) conducted a reading class for junior college students by group work project; Chan and Kuo (1995) used Cooperative Learning to English drama performance for junior high school students; Wei (1997b) used Cooperative Learning to increase college students' listening, reading, writing, and speaking four language skills; Yu (1993) advocated to adopt Cooperative Learning in training listening and reading for junior high school English curriculum. All of the application of Cooperative Learning mentioned above improved students' language learning and their attitudes toward learning are positive.

In addition, Slavin (1983a) reviewed fourteen studies examining Cooperative Learning's effects on self-esteem; he pointed out that eleven of them increased self-esteem.

2.3. Language Teaching Approaches

There are some reasons for the ineffective language teaching in Taiwan: the first is that students are not well-motivated to study a foreign language because they do not use it in their daily life, but study it only to pass the exam. The second reason is that the level of English to be tested is too high given the study point of the students. The third reason is that the methods for teaching English, which is structurally different from Chinese, are ineffective (Chen, 1994). Gardner (1999) states that at any one time in learning and teaching experience, only about seventy percent of the students are responding to the teaching methods that are employed in class. Christison (1997)) reports that in English as a Second Language courses, instructors tend to focus upon linguistic and visual clues to teach language, which may not reach students who do not respond to those clues. These two facts lend support to the idea that we need to broaden our educational approach and teaching methods in order to help our students in the successful acquisition of the English language.

Hence, a lot of English educators in Taiwan have discussed what kind of approach or method is suitable for the students who have different proficiencies. Many language teaching learning methodologies, either traditional or innovative, have their own

limitation and values in theory and practice (Cheng, 1998). For traditional methods, the grammar translation method (Larsen-Freeman, 1986) which used grammar study and translation as the main activities in learning and teaching, focuses on reading and writing and seldom satisfies the needs of those ESL/EFL learners who hope to use English for communication. The purpose of this method was to enable students to study literature in depth, and to gain a greater understanding of their native language (Chastain, 1988). It is true that most language learners translate in their head at different stages anyway, and we can learn a lot about a foreign language by comparing parts of it with parts of our own. However, a concentration on grammar-translation often fails to give students opportunities to activate their language knowledge and stops the students from getting this kind of natural language input that will help them acquire language. In other words, the danger with grammar-translation is that it teaches students about the language and does not really help students to learn the language itself (Harmer, 1998). Because of the limitation of standard textbooks, class hours, and the pressure of Joint Entrance Examination, lots of English teachers in Taiwan still adopt grammar translation methods in the classroom. It is also the method by which most of the teachers were themselves taught so they are very familiar with it.

Another traditional language teaching methodology, the Audio-Lingual method (Larsen-Freeman, 2000) which puts emphasis on communicative ability, is still criticized for being tedious and does not provide ample opportunities for students to practice listening and speaking. Audio-Lingual Method is based on behaviorist theories of learning which suggests that much learning is the result of habit formation through conditioning. Therefore, audio-lingual classes concentrate on long repetition-drill stages, in which teachers hope that students would acquire good language habits. Students could also be conditioned into learning the language by rewarding correct production during the repetition phases. But audio-lingualism and behaviorism went out of fashion because commentators argued that language learning was far more subtle than just the formation of habits. Methodologists were also concerned that in audio-lingualism students were not exposed to real or realistic language. However, for the low-level proficiency students, it is interesting that drilling is still popular in a far more limited way during the study phase (Harmer, 1998). The Mimicry memorization method (He, 1994) which trains students'

listening and speaking abilities neglects the students' reading and writing practice. It also does not motivate students in learning language.

However, many innovative teaching methodologies, such as Suggestopedia, Counsel Language Learning, the Silent Way (Gattegno, 1983), and Whole Language Approach (WLA) (Goodman, 1986), emphasize natural language acquisition and meaningful communication in or out of the classroom. Among the innovative teaching methodologies, WLA is the most popular and practical, because it addresses language learning holistically, and draws ideas from psychology, linguistic, sociology, philosophy, and literacy (Azwell, 1989; Cheng, 1998; Newman, 1985; Shaw, 1989; Weaver, 1990).

2.3.1. Concepts of the Whole Language Approach

To begin with a distinction need to be made between the philosophical movement called Whole Language, and the derivative method of teaching entitled Whole Language Approach (WLA). According to the proponents of the WL research, WL involves the process of interacting with authentic materials for communicative purposes in order that students can develop their abilities to listen, speak, read, and write in a natural way and that students can understand the skills of language (Lems, 1995; Remond, 1994). There is considerable variability among the answers about what Whole Language is. The WL philosophy derives from different kinds of research, including cognitive psychology and learning theory, psycholinguistics and social linguistics (Weaver, 1990). Although WL is recognized as a philosophy rather than an approach, the term the Whole Language Approach is used to represent instructional practice that stem from WL philosophy. According to Goodman (1986), "It's a way of bringing together a view of language, a view of learning, and a view of people, in particular two special groups of people: kids and teacher" (p. 5). Some of the precepts of Whole Language (Worthman & Matlin, 1995) are as follows:

1. Listening, speaking, reading and writing are interrelated language processes that are learned in the same ways.
2. Understanding and comprehension are always the goals of language learning.

3. Language learning and thinking occur through social interactions that have personal meaning and purpose for each student.
4. Oral and written language develop from whole to part and include the concepts of sounds, letters sentence patterns and meaning.
5. Language loses meaning when it is taken out of context.
6. Students learn when they are in an atmosphere that allows them to take risks and learn from their mistakes.
7. There is not guaranteed one-to-one correspondence between what an adult teachers and what students learn; students construct their own understanding built on their past experience and knowledge (p.18).

Vygotsky (1978 cited in Lin 1997) provides WL educators with a key understanding of the relationship between the learning of individual learners and influence of the social environment. As noted earlier, he believes that learning is social and further stresses that people learn best when they learn through social interaction. Guided by Vygotsky's (1978) emphasis on adult guidance in students' learning encapsulated with the term "zone of proximal development", WL teachers view themselves as facilitators who support and help learners' transactions with the world. They support learning but they do not control learning. They create various opportunities for learners to explore prior experience or their existing background knowledge to construct an understanding of the world. Simultaneously, they provide students with strong support and facilitate the learner's taking responsibilities for their own learning (Weaver, 1990). In conclusion, based on Vygotsky's (1978) view about social interaction in the learning process, WL stresses the importance of collaboration between students and teachers.

There are also links between the WL philosophy and some of those of the Piagetian School. Piaget (Piaget & Inhelder, 1969 as cited in Lin, 1997) viewed learners as active participants in their own learning rather than recipients of information and knowledge. They acquire knowledge by means of interacting with the environment and then constructing their own vision of the world that may or may not conform to the adults' vision. These various views of the world held by the children are very important, because children bring them to the classroom (Duckworth, 1987). WL teachers facilitate students' learning by building on the strength that the learners have brought with them. Whole Language builds on Piaget's (1969) constructionist theories of learning. Constructionists describe learning as an active process in which children interact with other children or adult in authentic setting.

2.3.2. The Perspective of Curriculum of Whole Language Approach

According to Goodman (1988), the curriculum of Whole Language is designed and evaluated around the concept, "student-centered". Students can make decision on what to learn, when to learn, how to learn and the pace to learn the target language (Head-Taylor, 1989). Hence, one textbook is not used exclusively, but different kinds of printed materials including magazines newspapers good literature, and poems and authentic materials, inclusive of food wrappers candy advertisement, song lyrics, dictionaries, recipes, cereal boxes, road signs and so on are adapted or adopted for students (Chen, 1994; Cheng, 1998; Freeman & Freeman, 1992). In a word, anything that is real, interesting, and natural is potentially good material for a WLA (Chen, 1994). The curriculum is flexible, varying with students' abilities, interests and experiences. The curriculum of WLA is best described as

The curriculum is integrated, holistic, and naturalistic. It integrated traditional disciplines and subject area around life situations and problem solving ... It treats learning in school as the same as it is outside of school: human beings are constantly trying to make sense of their world. Children at very young ages will comment about language or being asked what particular words mean. School can help to sort out what they have learned intuitively about language. (Goodman, Smith, & Meredith, 1987, p.10)

Based on this, Newman (1985, cited in Cheng 1998) states that the curriculum of WLA is an integrated one that focuses on languages as the vehicles for learning different school subjects. The curriculum is holistic because listening, speaking, reading, writing, and thinking about any content all reinforces language learning. It does not break knowledge into small pieces that makes the whole and relationships hard to learn. It is naturalistic because it is accordance with what and how students have learned outside of school and what surrounds them (Azwell, 1989; Cheng, 1998).

The WL curriculum concerns the relationship between learning and language use. Goodman (1989) concluded that as children use language they learn language, learn about the language, and learn through the language. Basically, it is a dual curriculum in which every activity, or task provides opportunities for both cognitive and linguistic development

In contrast to the traditional viewpoint of curriculum, WL places students and their interests and needs at the center on how to plan the curriculum. A curriculum evolves from students' interests. Topics for exploration and learning may come from either the teacher or the students. The curriculum is flexible so that the teacher is empowered to make curricular decisions to meet students' interests and need (Lin, 1997).

The WL philosophy underlines the WL curriculum. It is a holistic curriculum in which real books and authentic literature are used as a vehicle for shaping classroom learning (Goodman, 1992). The students are active participants in the classroom and engage in the problem-solving activities actively, seeking how to solve the problems through oral skills, reading, and writing. In the WL classroom, students experience a curriculum that is not broken into small pieces or subjects but comes naturally from students' interests. Hence topics of study or certain themes became the central feature (Chen, 1991). WL educators organize the curriculum around themes or topics. This thematic approach to curriculum helps to integrate knowledge from many disciplines and allows subject matter from one area to assist in the learning of others. Exploration of themes that are derived from math, social studies, literature or science, provide students many opportunities to extensively use language. Reading, writing, listening,

and speaking, are integrated and are all happening in the context of the exploration. Through that process, they learn much about language and world knowledge. Hence, language and thinking develop at the same time (Lin, 1997).

Freeman and Freeman (1992) also state that class activities provided by the teacher are very important to how well students will learn. If students are involved in authentic activities in their class rather than being involved in grammar drills, they can learn more effectively in schools than outside schools. They suggest that Whole Language activities need to reflect the Whole Language Checklist that they provided (Freeman & Freeman, 1988, p.6):

1. Does the lesson move from the general to the specific? Are details presented within a general conceptual framework?
2. Is there an attempt to draw on students' background knowledge and interests? Are students given choices?
3. Is the content meaningful? Does it serve a purpose for the learners?
4. Do students work cooperatively? Do students interact with one another or do they only react to the teacher?
5. Do students have an opportunity to read and write as well as speak and listen during the class?
6. Is there support for the students' first language and culture?
7. Does the teacher demonstrate a belief that students will succeed?

Some students who come from a well-educated background with a high literacy standard, that is homes that provide a lot of support for literacy, may like the Whole Language classes. Students from such homes may do well in a literacy-rich environment, since they already know how to negotiate in such an environment (Snow, et al.1992). In contrast, the students who come from homes with low literacy standards, that is homes which contain few alphabet letters and few books used for

games, may not know how to make choices in a literacy-rich environment. They also might not have the background in literacy experiences that is needed to take advantage of a Whole Language environment (Stahl, 1999).

There is also some evidence that WLA has its drawbacks. In the Stahl et al. (1996) study, the Whole Language school allows students to choose material that they feel comfortable with, and to emphasize self-esteem rather than achievement. The result is that students read rather easy material and thus limit their own development. In contrast, the traditional school stressed achievement, pushing students to read more and more difficult materials. Therefore, the students in traditional school outperformed those in the whole language school. Thus, the evaluation of the teaching materials for the WL teachers should be taken into consideration. In spite of these problems, a teacher can use the WLA effectively taking the possible difficulties into account.

2.3.3. Research Support for WLA

There is some research that support Whole Language Approach. Adair-Hauck (1996) conducted a three-month research project by using WLA to teach intermediate-level French to twenty L2 learners. He found students' response to WLA to be rather positive and most students claimed that they liked WLA activities and learned better when they enjoyed their class. Tseng (1997) explored a successful Whole Language class in a college. She described her successful experiences in an EFL program at Hua-Lien Teacher College, where Whole Language theory was supported in students' learning process. This study confirmed the belief that Whole Language works in ESL/EFL setting, and the EFL Whole Language curriculum proved to be an effective environment. Cheng (1998) conducted a research project of 64hours within 16weeks to investigate the effects of the adapted WLA to an English class in a junior high school in Taiwan. The subjects included 36 second-grade students. The researcher designed the teaching activities and discussed them with the class teacher to improve the curriculum. She found that the adapted WLA motivated the students to learn English and most of the students expressed that they became interested in learning English at the end of the study.

2.4. Language Learning Centers

In many modern language centers in schools and colleges, a sizeable percentage of time is given over to self-study in a Language Learning Center. There will be a competent teacher on duty to offer advice and help. It is typical that the center will provide a large room equipped with tapes and video recorders (with individual headphones), computers, textbooks, exercises, reference books such as fiction and non-fiction books, magazines, dictionaries, and grammars. The college in which this study was conducted did have such a center for students to use. Hence it is appropriate to briefly look at the background reasons why such centers are available as an important resource.

Good learners, do not just wait to be taught. Such students should go in to a self-access center and choose what they want to do, based on their own needs and interest. Once there, they are able to take charge and responsibility for their own learning by doing homework, studying in their own time, and do whatever they think is best (Harmer, 1998).

Language Learning Centers do not have to be located in stand-alone resources rooms. They can be incorporated into a more generalist language teaching room. A Language Learning Center in an EFL classroom can be defined as an area where students can explore English in a variety of ways by working cooperatively in small groups or independently. That is, learners, alone or with others, can use different sensory organs to speak, listen, write, and read English by interacting with materials, tasks, and activities provided by Language Learning Centers. Language Learning Centers might be called stations, laboratories (labs) or learning areas (Ingrapham, 1997).

The Language Learning Center is different from the language laboratory. In the language lab, the equipment focused on listening and speaking activities, so every student can have his or her individual earphone, desk, or tape recorder. The instructor controls all the equipment such as video. It is compulsory that students will have a two-hour language class in the language lab every week. The time schedule will be arranged by the school administration. This is different from the Language Learning Center that is given over to self-study. Students should go into this self-access center

and choose what they want to do based on their own needs and interests. Students can decide if and when they would like to go to this center and once there, they can use different sensory organs to speak, listen, write, and read English by interacting with materials, tasks, and activities provided by the Language Learning Centers.

The Language Learning Centers provide learners with authentic materials, engage learners in various learning tasks, and create opportunities for using English. There will also be a competent teacher on duty to offer advice and help. The Language Learning center is like a library where students can go any time. Teachers can also register to have a special class for one or two hours.

2.4.1. The Importance of Language Learning Centers in EFL Classroom.

According to the principles of Whole Language, lessons should engage groups in social interaction and should include all four modes. Research on second language acquisition suggests that listening and speaking as well as reading and writing should be integrated into all languages classroom activities because all these processes interact with one another. Language Learning Centers provide learners with a rich English environment. As we know, one of the biggest challenges for teaching and learning English in Taiwan is the lack of a rich language environment because English is not a tool of communication in learners' daily lives in Taiwan. Though students learn English in the classroom, they are not motivated to use the language after class. To create a rich language environment where learners can use the English language is necessary for successful teaching and learning. A rich English environment has the characteristics of authenticity, variety and opportunity. The Language Learning Center that provides learners with authentic materials engages learners in various learning tasks, and creates opportunities for using English, serve the above purposes. The Language Learning Center also enhances cooperative learning. Learning is social. Language is socially constructed (Edelsky et al., 1991). Therefore, language is best learned by negotiating with peers in groups through the process of completing tasks or engaging in activities that promote language interactions. This is particularly true for the students, since they can easily pick up the language from their peers. To create an interactive atmosphere in the classroom is essential. Instead of sitting in rows and working individually in a traditional

classroom setting that emphasizes competition, the Language Learner Center emphasizes the importance of collaboration among peers to enhance group dynamics and the development of interpersonal skills (Lo, 2000).

2.4.2. Integrating MI Theory, CL Groups and WLA in a Language learning Center

In the last two sections it can be seen that the strategies often used in a Language Learning Center overlap with the three bodies of literature already reviewed in this chapter; that is MI, CL and WLA. This section will show the overlap between the implied teaching strategies emanating from MI, CL and WLA, how these strategies can be used easily in a Language Learning Center, and how some specific aspects of each are used.

Accepting Gardner's Theory of Multiple Intelligences has several implications for teachers in terms of classroom instruction. Different educational approaches such as games, music, stories, and drama can be used in Cooperative Learning classroom or the Language Learning Center. If materials are taught and assessed in only one way, we will only reach a certain type of student. For example, students with spatial intelligence could understand lessons more quickly by looking at visual images rather than reading pages from textbooks. Some students might learn new words more easily by listening to songs. Students who are not good at linguistic and logical skills can still learn very well if they are taught with other methods rather than using textbooks. Students with good interpersonal intelligence would learn better in a group discussion instead of reading books alone. The student who is almost falling asleep during the logical presentation may come alive when the bodily-kinesthetic approaches start (Armstrong, 2000). The Language Learning Center provides students that have different intelligences and proficiencies, different equipment to use and different type of activities with which to engage.

As to Cooperative Learning, CL is a within-class grouping of students, usually of different levels of second language proficiency, who learn to work together on specific projects or tasks in such a way that all students benefit from the interactive experience (Kessler, 1992). Armstrong (2000) also states students in the CL groups can tackle a learning assignment in a variety ways. In language teaching, lesson plans could be designed according to the theory of Multiple Intelligences, but the CL

approach might alleviate the problems of large class sizes and different proficiencies of students in the same class. The existence of different intelligences which different learners possess results in different learning styles and different needs. Then, today's language classroom must meet learners' individual needs so that they can benefit from each other strengths and develop their weak areas. For instance, some learners are good at reading and writing, but others are better listeners or speakers. By adopting cooperative learning, the Language Learning Centers allow learners with different intelligence, learning styles, and learning paces to work together and fulfill different needs.

According to Goodman (1988), the curriculum of whole language is designed and evaluated around the concept, "student-centered". Anything that is real, interesting, and natural is potentially good material for a WLA (Chen, 1994). The curriculum is flexible, varying with students' abilities, interests and experiences. WL involves the process of interacting with authentic materials for communicative purposes in order that students can develop their abilities to listen, speak, read, and write in a natural way and that students can understand the skills of language (Lems, 1995; Remond, 1994). The Language Learning Center is rich in these authentic materials, and provides an environment where students can choose the materials with which they will interact.

From above, the Language Learning Center could be an environment which enables the theory of Multiple Intelligences, Cooperative Learning approach and Whole Language Approach-based curriculum to be put into practice.

2.4.3. What are the steps involved in setting up learning centers?

If we want to set up a Language Learning Center for the EFL classroom, many related factors should be taken into account before incorporating it into the curriculum. The theory of multiple intelligences suggests that the classroom environment may need to be basically restructured to accommodate the need of different kinds of learners (Armstrong, 2000). We may start to ask ourselves the following questions:

Step1: Who are my target students?

1. What level and intelligence are my students?

2. What do my students need in terms of language of language development?
3. How many students do I have?
4. How many students would I like to have in a group?
5. How will I organize the students into groups? Will they be divided into small groups by the same intelligences or different intelligences based on the activities that are required?

Step 2: What are my resources?

Based on the analysis of step 1, teachers need to know

1. What are the learning centers that I want to set up?
2. What do I need to prepare for each other?
3. What are the resources that are available to me?
4. What are the things (e.g. materials, furniture, equipment) I need that are not readily available?
5. What are alternative ways that I can get the things that I need (e.g., ask for money from the school budget, seek funding from the government, ask the students to help, write to parents to ask for support)?

Step 3: How do I incorporate learning centers in the classroom?

1. How much space do I have in the classroom?
2. What is the most appropriate spot for each center (electrical outlets, height, light)?
3. Which two centers should be next to each other (factors of disturbance and loudness)?
4. How to divide the students into different centers according to their proficiency.

Step 4.

What should be prepared for each center? It is designed in Table 2.3.

Table 2.3 Equipment, Furniture and Materials for each center

| Center | Equipment /Furniture | Materials |
|------------------|--|---|
| Computer center | 20 computers, 1 bookshelf | Multimedia CD ROMs |
| Video center | 3VCR, 3TV Set, 1TV cabinet | Video programs |
| Reading center | 3 bookshelves 10 desks One big round table | Different levels of reading materials, such as novels magazines, story or picture-books |
| Listening center | 10walkman(s), 10setsof earphones | Different levels of listening materials |
| Writing center | 1big round table, one blackboard | Posters, Flash cards |

The other factors that need to be taken into consideration when adopting multiple intelligence theory into the language centers are as follows:

- How are spoken words used in the classroom? Are the words used by the teacher too simple or too complex for the students' level of understanding, or is there a good match?
- How is time structured in the classroom?
- Is the room attractive to the eyes or do the colors of the room stimulate students' sense?
- Do students feel stressed in part due to overcrowding and lack of privacy?
- Do students spend most of their time sitting at their desks with little opportunity for movement, or do they have frequent opportunities to get up and move around?
- Does the auditory environment promote learning, or do disturbing noises frequently interfere with learning?
- Do students have opportunities to work independently, and find time or space for privacy during the day, or are they continually interacting?
- Do students have frequent opportunities to interact in positive ways like peer
- Teaching, discussions, group project, cooperative learning, parties, or are students relatively isolated from one another?

In addition to the kinds of general ecological factors described above, Armstrong (2000) states there are more specific applications of MI theory to the classroom environment. These focus on organizing the classroom in such a way that areas of the room are dedicated to specific intelligences. Restructuring the classroom to create "intelligence-friendly" areas or activity centers can greatly expand the parameters for students' exploration in each domain.

Table 2.3 (See p.58) gives an example of five centers created for 50 students. Each center has been developed for a maximum of 10 students. Equipment, furniture and materials are the three major areas one should think of when setting up a learning center. Five centers should be organized in a classroom. What to prepare for one

another and how to organize each center in an EFL classroom should be taken into consideration. Each individual classroom has its own characteristics. It depends on the teacher to make necessary decisions so that learning centers will make sense in the context of teaching and learning. Above all, each center will include students that have different proficiencies. By cooperating, students can learn more from one another.

2.4.4. What does a learning center curriculum look like?

Suppose we have decided on the number of learning centers and what kinds of learning centers will be. We also have a clear idea about what equipment, furniture, and materials for each center. Then we should have a diagram of how to organize each center in the classroom and how to incorporate learning centers into the Whole Language approach based-curriculum at the school. For instance, if the theme of learning is animals, students in the Reading Center may read *The Three Little Pigs*. Student in the Video Center may watch the film *The Lion King*. Students in the Computer Center may play *Jungle Game*. Students in the listening center may listen to *The Three Little Pigs*. Students in the Writing center will write about their own pets. Royka's (2002) states group drama activities can develop better teaching use and also provide the teacher more observation time and less direct teaching time. Language Learning Center is an ideal place for practicing the drama performance because more students have the chances to engage in some form of language use and interaction in different settings that are able to create in one space.

Depending on the different purposes and goals, we may want the learning centers to be an extension of the lesson so that students can review and practice what they have been learning in class. Thus, the themes for the learning centers will be based on the topics we intend to cover for the whole semester. We may want the learning centers to be an addition to the original curriculum, a place where the learners can explore language topics other than those they will learn in a big class. These themes can also be designed based on learners' interest.

2.4.5. What does a learning center lesson plan look like?

In a 50-minute English class in the Language Learning Center, 10 minutes can be devoted to the teacher's lecture about the topic that students are going to learn. For the first 20 minutes, students work in a big group to carry out different tasks. They can also sing songs, and perform activities related to the teacher's lecture. During the next 20 minutes, students will work in a group of seven at different centers. They should complete the task given at each center within a limited time. The teacher is a facilitator whose role during these twenty minutes is to answer students' questions, solve potential equipment problems, observe students' learning and keep the time.

2.4.6. Suggestion for setting up the Language Learning Centers

Creating learning centers is time consuming and requires serious planning; teachers need time and experience to adjust to the new teaching/learning approach. One way to manage the learning centers effectively is to make good use of music. Introduce students to different rhythms of music for different purposes. E.g. music can be used for reminding them to lower their voices, for cleaning the learning centers, and for going back to their seats. In this way, not only will the teacher not have to direct the students all the time, it will also create a rhythm-learning atmosphere in the classroom. In learning centers, the teacher takes on the role as a "Kid-watcher" who both observes students' learning and helps the group focus by asking questions and by suggesting what could be done better next time. Both the teacher and the learners can see how they progress over time in terms of language development. It is also highly recommended that teachers who share a common interest in incorporating Language Learning Centers into the EFL curriculum in a school work together so that ideas can be expanded, resources shared and problems solved (Lo, 2000).

Conclusion

This chapter has looked at the theory of Multiple Intelligences and its practical application in the classroom. Cooperative Learning and its contribution in the classroom have also been discussed. In addition, Whole Language-based curriculum and Language Learning center in the language teaching were also suggested as useful practice. Research studies have shown that Cooperative Learning has improved students' self esteem, and could effectively improve language communication.

Similarly, Multiple Intelligences has made a contribution in every aspects of students' learning. Taken together, the rationale of this study was based on a number of important results and suggestions from the fields of Multiple Intelligences and Cooperative Learning. It is hoped that this study could help to solve some of the problems existing in EFL teaching in Taiwan.

CHAPTER THREE

Methodology

Introduction

As previously discussed, students' learning English as a foreign language, and hence the teaching of English as a foreign language, is important in technical vocational colleges in Taiwan. A number of problems with this English education were raised in Chapter One. Firstly, the traditional Grammar Translation Method focused specifically on the reading and writing but all four language modes are now required. Secondly, the traditional approach has been very teacher centered so students are very teacher dependent and have become passive listeners, restricting the development of their oral skills. Thirdly, large class sizes make it difficult for teachers to meet individual student's needs. Fourthly, attitudes to learn English are often negative and students have low motivation to learn. Lastly, the testing regime tends to dominate teaching time, so the teacher has less time to work with the students. In Chapter Two it was suggested that teaching strategies associated with Cooperative Learning, Multiple Intelligence approaches and Whole Language Approach supported by the use of a Language Learning Center are ways in which at least some of these problems might be reduced.

However some difficulties were also identified. Although Cooperative Learning is a promising strategy and may offer some solutions to the current teaching problem, the class sizes are big and the students of different levels are placed in the same class. Hence this content is not ideal for CL. As well, most of the CL studies at junior college level have not clearly shown how the students were grouped in order to produce favorable results on tests measuring student academic achievement. It was also suggested in Chapter Two that combining ideas from CL, MI, and WLA is a new way forward. Therefore, the focus of this study was to examine whether the theory of Multiple Intelligences provided effective criterion for grouping students in a Cooperative Learning environment and whether the adoption of Cooperative

Learning, the theory of Multiple Intelligences and Whole Language Learning in class can improve students' language skills. The following questions have been used to focus this study:

3.1. Research Questions

1. In what ways can the language learning environment be constructed in order to improve the English language learning outcomes of junior college English as Foreign Language (EFL) students? In particular:

1.1 Can Cooperative Learning enhance students' attitude?

1.2. Can Cooperative Learning and MI ideas for teaching enhance the motivation when learning the four language skills?

1.3. Does Cooperative Learning have a positive effect on student's language proficiency performance?

1.4. Can MI-based activities in class in conjunction with Cooperative Learning ideas, improve the students' four language skills?

1.5. Can Cooperative Learning and Gardner's theory of Multiple Intelligences allow learners with different learning styles and learning paces to work together and fulfill different needs in Language Learning Center?

1.6. Do the subjects in this study perform better on the passing rate of the four skill tests than the other students in this college?

3.2. Research Hypotheses

To gain more insight into the above research questions, a teaching experiment was designed. Essentially three teaching groups were formed: Group A was a control group, Group B was formed using ideas drawn from CL and Group C was formed

drawing on ideas from CL and MI. The formation of these groups will be detailed later in this chapter. The teaching experiment aimed to test three hypotheses:

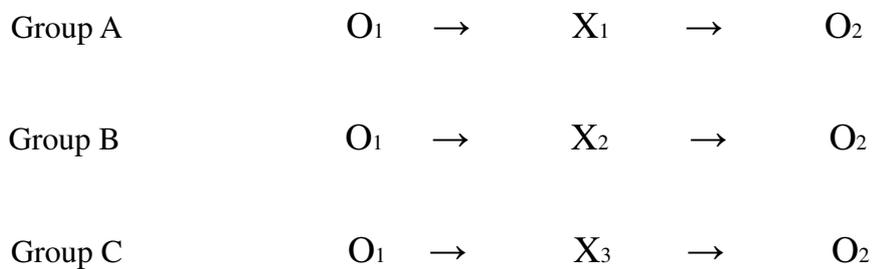
1. The experimental groups B and C will score significant better than the control group A on the English listening, speaking, reading, and writing tests.
2. The experimental groups B and C will score significant better than the control group on the mid-term and final- term achievement examinations.
3. In the experimental groups, when forming the groups, the class with groups based on different intelligences (Group C) outperform the class with the small teaching groups (B) only.

The subjects in this study are from Chung Hwa College of Medical Technology where the researcher has worked. There are various programs and departments in this college. For example, there are five-year-program for the students who graduated from junior middle school; two-year program and four-year program for the students who graduated from senior high school. There are more than ten departments in this college including Nursing, Child Care, Hospital Management, Food Nutrition and so on. In total, there are about ten thousand students in this college. The subjects the researcher chose were from five-year program junior college, Food Nutrition department. Though there are more than ten departments in this college, the students from different departments have different language proficiencies, even within the same department. The students in Food Nutrition, five-year program junior college were rated as low to intermediate in language proficiencies. In addition, the subjects' proficiencies in grammar, vocabulary is rated as low, not to mention about communicative language ability because English is their foreign language, not second language. This study for the experimental group focuses more on improving their communicative language ability because the researcher adopted Cooperative Learning and Whole Language Approach based on their multiple intelligences. However, the study for control group used Grammar Translation Approach, which focuses more on grammar and vocabulary.

3.3 Research Method

3.3.1 Research Design

In order to answer the research questions, the first component is to see whether the approach used can make a difference. Research question 1.3, 1.4 and 1.6 are specifically concerned with the students' language performance and the contribution the different teaching approaches can make. This leads itself to initially a quantitative methodology with research hypotheses using a quasi-experimental approach. This approach and the research hypotheses only really answer question 1.3, 1.4 and 1.6. The approach was shown in the diagram below:



As seen above, O_1 is pretest data, O_2 is posttest data, and X_1 , X_2 , and X_3 are three different programs. The study is quasi experimental because it was not possible to randomly assign students to groups. As much as possible in the circumstances other variables were controlled. All three groups were taught by one teacher and care was taken to assume the students received the same teaching materials, homework and assignments during this experiment. A pretest and posttest were used to monitor students' progress with each of the four language skills. There were differences, though, in the way each group was instructed. The first group, the control group, was instructed using the traditional Grammar Translation Method. In contrast, both the experimental groups used a Whole Language Approach and the same CL techniques for much of their program. The remaining research questions 1.1, 1.2, and 1.5 are qualitative in nature as it seeks to look at the impact of the programs on the students' attitudes and motivation and investigate how the programs using CI and MI theories can impact on students. As well as this, the researcher tried to adopt the processes of action research to develop the implementation process of Gardner's theory of Multiple Intelligence when forming the third class into small groups. Different

teaching techniques and methods were adopted based on their different intelligences. While this project is not an action research project, the process of action research is a more formal approach to the reflective practice a teacher uses to monitor a program as it is implemented and to adapt it and change it to meet the needs of the students from day to day, but the researcher adopted some of the procedures to monitor the class. Tables 3.1 showed the different approaches used with each group.

This study was scheduled to last for sixty-four hours over sixteen weeks (see Table 3.2). The post-tests were administered and their outcomes were compared with those of the pretests. The quantitative analysis that was performed on this data used the statistical program, SPSS for Windows thus dealing with the first component of the study to determine differences between the groups and the effectiveness of the program. The second component of the study was to answer the questions above which dealt with in what way the program contributed to the students' learning. For this reason, other questionnaires were used in both pretest and posttest phases and other qualitative data were collected.

In addition, all students also accessed the Language Lab, though the activities in the lab altered to fit with the approach of the group so the CL groups did group task in the lab rather than just individual tasks.

Table 3.1. Experimental design

| | Treatment | Grouping | Assessment |
|-----------------------------------|--|---|---|
| Group A Control group | Grammar Translation Method Audio-Lingual Method | None | mid-term and final term exam the general English proficiency test |
| Group B Experimental Group (a) | Cooperative Learning Whole Language Approach and other various teaching methods | Grouping by the Teacher's decision and the classroom activities that are needed | mid-term and final term exam the general English proficiency test |
| GroupC Experimental Group (b) | Cooperative Learning Whole Language Approach and other various teaching methods | Grouping by multiple intelligence | mid-term and final term exam the general English proficiency test range of assessment |

Table 3.2 The curriculum schedule for experiment group

| Week, date | Experiment groups | Control group A |
|-----------------------|--|--|
| 1 st 2/23 | Listening and reading pretest Writing pretest Two questionnaire pretests Multiple Intelligence survey | Listening and reading pretest Writing pretest Two questionnaire pretests |
| 2 nd 3/1 | Oral pretest Language center | Oral pretest Language center |
| 3 rd 3/8 | Lesson plan one | Lesson plan one |
| 4 th 3/15 | Lesson plan one | Lesson plan one |
| 5 th 3/22 | Lesson plan two | Lesson plan two |
| 6 th 3/29 | Lesson plan two | Lesson plan two |
| 7 th 4/5 | Lesson plan three | Lesson plan three |
| 8 th 4/12 | Lesson plan three | Lesson plan three |
| 9 th 4/19 | Mid-term examination | Mid-term examination |
| 10 th 4/26 | Lesson plan four | Lesson plan four |
| 11 th 5/3 | Lesson plan four | Lesson plan four |
| 12 th 5/10 | Lesson plan five | Lesson plan five |
| 13 th 5/17 | Lesson plan five | Lesson plan five |
| 14 th 5/24 | Lesson plan six | Lesson plan six |
| 15 th 5/31 | Lesson plan six | Lesson plan six |
| 16 th 6/7 | Listening and reading posttest Writing posttest Two questionnaires | Listening and reading posttest Writing posttest Two questionnaires |
| 17 th 6/14 | Oral posttest | Oral posttest |
| 18 th 6/21 | Final-term examination | Final-term examination |
| 19 th 6/28 | End of the Semester | End of the Semester |

PS: the schedule is four hours per week and eight hours in total for one lesson plan

3.3.2. Subjects

The subjects for this study were 120 Grade three junior college students. They were the researcher's three classes of English as Foreign Language students. This was a quasi-experimental study, so the researcher randomly chose one class to be the

control group, and the other two classes were then designated the experimental groups. The details of the experimental groups are found in section 3.4.

All the subjects included in this study had studied English for more than three years in junior high school. English was taught for an average of four to six hours per week. In junior college during Grade one and Grade two, English was also taught. The English proficiency and academic performance for the 120 students was rated as low to intermediate level.

To avoid the possibility that the subjects would make extra efforts to help the researcher achieve the apparent aims of the study, approval was sought from the subjects, but they were not told the focus of the specific groups they were in for the research. This was to minimize the impact of the so called Hawthorne effect, which occurs when subjects are pleased at being included in a study, and unconsciously deceive themselves and the researcher to ensure its success (Brown, 1990).

3.3.3. Description of students

The researcher has taught English in Chung Hwa College of Medical Technology for more than twenty years. Over the last few years the researcher found that the students' motivation in learning and language proficiency had decreased significantly. The researcher felt very frustrated and could not put up with the students' learning attitude in class. Why did the students become worse in every aspect? Almost every high school student now has the chance to enter the university or college in Taiwan. This is very different to when the researcher took the "Entrance Examination to College or University". During that time, 1979 (about twenty five years ago), only ten percent of students could pass through the narrow gate to study in the college or university. There are twenty million people in Taiwan now, but there are more than one hundred and fifty colleges or universities. Due to competition, many schools need to survive; that is why most students can go to college, even though their learning attitudes or proficiency in various subjects may be low compared to 20 years ago.

When students go to junior high school, after Grade two, they are divided into two groups by standard tests. The students in the first group outperform those in the second group in many courses. Because students come from different backgrounds,

their learning attitudes are also different. For example, if you give fish to the first group students to eat, it is possible that they will ask you to teach them how to go fishing. Their learning attitude is active. For the second group students, maybe you need to cook a lot of different recipes of different fish for them to tempt them to eat. After they find that the fish is delicious, then they will agree to eat the fish. The learning attitude for the second group students is mainly passive. A Chinese proverb states, “Give a man a fish and you feed him for a day. Teach a man how to fish and you feed him for a lifetime”. As a teacher, we should do our best to help the second group of students change their attitude from passive to active learners. The students in this study belonged to the second group.

The students in this study were junior college students whose major was Food Nutrition. They had learned English for more than five years (three years in junior high school; and two years in junior college). The students’ language proficiency was much worse than some years ago when we compared the scores of the “Entrance Examination” for these years. For example, they took the Simulated English General Proficiency Test (the pretest) for the beginner’s level. In total, there are 120 subjects in this study, but no one passed the exam. This exam is for students who have just graduated from junior high school and have learned English for three years. There is a general expectation that all students should be able to pass the exam, because they had already learned English for more than five years. But in fact, they did not pass and their learning attitudes were getting worse.

For the past few years, in class, the researcher found that almost one third of the students were absent-minded; one third of the students did their own business (some fell asleep, some played with the cell phone, or read the novels they are interested in), and only one third of the students really wanted to listen to the teacher’s lecture. It goes without saying that their English proficiency was low. But the problem is that some students were willing to learn and behave well in class. Is it possible to have all students enthusiastic about their learning when they have very different proficiencies and learning attitudes, but are in the same class? It was this question that motivated the researcher to develop this study.

3.3.4. The Teacher

The researcher has a Bachelor's degree in language, and has taught English for more than 20 years in Chung Hwa College of Medical Technology. She has had extensive experience in teaching different levels of students from young students to adults.

Although it may have been better to have an alternative teacher completing the teaching in this study, such an appointment was impossible. There were distinct advantages for the researcher to also be the teacher. As noted above, the researcher was an experienced teacher of these students. As well it was important that the teacher understood the different approaches, and was able to adapt the approaches in Group C in particular. The researcher had already learned the teaching techniques of Cooperative Learning, Communicative Approach, Whole Language Approach and the other innovative language teaching and learning approaches when studying in the United States while completing her master degree in TESOL (Teaching English as a Second Language). Teacher readiness in any of these teaching techniques would be a vital ingredient in this study (Chu 1996).

The researcher, who had been long interested in Gardner's theory of Multiple Intelligences and Cooperative Learning, had already completed a pilot study in Chung Hwa College of Medical Technology. She found that the low-achieving or low-motivated students made progress in class when some of the implied teaching strategies were used. This gave the researcher confidence to embark on this study.

3.3.5. Instruments

As the English General Proficiency Test (Chang & Tsai, 2003) has been adopted in Taiwan as a standardized test to measure students' four language skills, it was decided to use this test to measure the four modes of language for these students. It will be remembered that Table 3.2 details when the pretest and posttest in the study were to be administered.

3.3.5.1. The Listening Comprehension Test

“The Simulated English General Proficiency Test for Listening” (Chang & Tsai, 2003) was used to measure listening ability. This test, which was used for pretest and posttest, has three parts. In part one, students listened to the tape and then chose one suitable answer that was related to the picture provided by the question. In part two, students listened to every question from the tape and then chose the best answer from the questions. In part three, students listened to each dialogue and then chose the suitable answer that was related to the dialogue. In total, there were thirty questions in this test that was tested for the beginner level. Students need to complete the test within 30 minutes.

3.3.5.2. The Speaking Test

A story telling test comprising 42 questions selected from the “Practice of The English General Proficiency Oral Test” (Chang & Tsai, 2003: Appendix L), and a series of pictures closely resembling a common event of daily life, were used to measure the subject’s speaking ability. Both of these tests that measure their communicative language ability were used for both pretests and posttest. The International Language Proficiency Rating from Australian Catholic University, Mercy Campus, Elicos Center was also used for rating (see Appendix F).

3.3.5.3. The Reading Test

This is a reading comprehension test and was used for both pretest and posttest. It tests both vocabulary, grammar and language structure, using cloze activities and some short paragraph reading comprehension items. There were 30 questions in this reading test that included three parts. Students needed to complete this test within 35 minutes. The test used in this study was The Simulated English General Reading Proficiency Test for Beginners (Chang & Tsai, 2003: see Appendix O).

3.3.5.4. The Writing Test

This writing test was used for both pretest and posttest. It is a standardized test that provides students with a series of pictures and they are to write a short composition within limited time based on the pictures. Students also needed to complete 15

questions that included sentence rewriting, sentence combining, and sentence rearrangement. The criteria the standardized test used for rating included content, organization, vocabulary, grammar and mechanics. Students needed to complete this test within 40 minutes. This test measures not only their vocabularies and grammar, but also their communicative language ability. The test (See Appendix P) used in this study was from The Simulated English General Writing Proficiency Test for Beginners (Chang & Tsai, 2003: See Appendix P).

3.3.5.5. The Mid-term and Final-term Examination

These were the normal tests that all students had to take with the school for their school report. These results would give another important measure of all students' general language proficiency (see Appendix Q).

3.3.6. Other data collected techniques

Although the hypotheses of section 3.3 can be addressed using the results of the above batch of tests, for insight into the research questions of section 3.2 additional data was needed. The following instruments provided that data.

3.3.6.1. The Questionnaire

Questions for all students encompassed a number of ideas about their attitudes toward teaching materials, curriculum, the self-study in the Language Learning Center, types of classroom activities and motivation to learn English. For the two groups (B and C) using the Cooperative Learning approach and the group using Multiple Intelligence theory (C) added questions looked at how they saw the place of contribution of CL and MI to their English Learning.

There were two questionnaires adopted in this study. One questionnaire was used to measure the experimental subjects' feedback about CL activities in their relation to their English learning and esteem. Students were asked to reflect as to whether the CL activities and the theory of Multiple Intelligences in language learning benefited their four language skills and vocabulary, and whether CL activities enhanced their self-esteem. A Likert-type trialled questionnaire was designed and used (See Appendix H, I, J). It was administrated at the end of the class. The other trialled questionnaire (See appendix G) was to investigate the motivation toward Learning English as a foreign language. It was administrated twice in this study. One was in the

beginning of this study as a pre-observation, and the other was at the end of this study as a post-observation. These questionnaires were tried out previously with a few students from a different group to ensure that the questions were clear and unambiguous.

3.3.6.2 The Classroom Observations

Classroom observation served as a useful tool for looking into the situations in class as the study was conducted. Generally, the observations were made in each class, the teacher keeping a diary record. The observation would be focused on the following aspects—the students' interest in learning English, their response to the teaching activities and materials used in class, the classroom interaction and their apparent performance in the four language arts. The purpose of observations in this study was to gain an understanding of how the notion of MI was applied, the time students spent on various activities, and description of these activities. Field notes were taken to record incidents related to the questions during observation.

3.3.6.3 The Multiple Intelligences Inventory for EFL Young Adults.

The Multiple Intelligences Inventory for EFL Young Adults (see Appendix E) was administered to the experimental group C. From this inventory, the students in the experimental group C were given some feedback as to their preferred intelligences. In addition, it gave the teacher a profile of students' preferred intelligences. It was on this basis that the teacher designed the classroom activities for group C.

3.3.6.4. Interviews

Qualitative data was collected from interviews. Students' interviews were used for Group C. This allowed the researcher to speak directly to the students and have them explain their answers on the questionnaire and their reflection on the MI and CL. The typical comments adapted from the students' interviews of Group C were translated into English.

3.4. Teaching Strategies: Teaching approaches for the different groups

In this chapter the three groups used in this experimental study were described. One is the control Group A for which traditional teaching methods such as Grammar Translation Method and Audio-Lingual Method were used. The other two groups

were experimental groups for which teaching strategies based on the notion of Cooperative Learning Method and the Whole Language were used. The critical issue that distinguished the two experimental groups was the ways small groups were formed. Notion derived from Gardner's (1983) theory of Multiple Intelligences were used in Group C, but not Group B.

This chapter details the approaches used in the management and teaching of the groups but in particular that of teaching Group C. It will also explain the reason why the researcher adopted an overt reliance on action research for teaching Group C. Part of this was to experiment with the notion of Fong(1999) who claimed that the standard of English education could be raised by teachers using action research in their teaching.

After briefly describing the teaching approaches used with Group A and the lesson plans used with Group B and C, the notion of an Action Research approach to teaching which was used for Group C with further details of the ways in which MI impinged on the teaching procedures used will be discussed.

3.4.1. Control Group

The teaching procedures in the control group belonged to traditional teaching that includes the Grammar Translation Method and some of the Audio-Lingual Method described in Chapter One and Two. The instructional design in the control group was not described in detail like the experimental group. The traditional method used in the control group incorporated the following features:

- a. Vocabulary explanation from bilingual word list. A typical way to start a new lesson is by introducing the vocabulary first. Teachers wrote the words on the blackboard and asked students to repeat after her. Then teachers explain the word usage by means of definition, translation and description. Students spent most of the class time listening to the teacher's analysis of the grammatical functions, collocation, and sometimes practice making sentences.
- b. Dialogue. Teachers explained the meaning of the content in the dialogue and then required students to repeat after her for several times as the Audio-lingual method suggested. After that, teachers would appoint two or more students

randomly to role-play the dialogue in front of the classroom while the other students watched and listened to their performance.

- c. Reading Passage. The teacher read aloud a short passage in English while the students followed along in their textbooks. The teacher then read the passage sentence by sentence, and the students read each sentence aloud after the teacher. This was followed by an oral word-by-word, sentence-by sentence translation by students. Meaning was taken at the sentence level and also constructed via the students' first language, not directly from English. The students' mother tongue of Chinese was used as the medium of instruction (Richard, 2004).
- d. Sentence structure. Sentence structures in each lesson were usually broken into discrete elements of grammatical function, such as verb-to-be, adjectives, nouns, gerund, infinitive, pronoun, and so on. Then the relationship between the grammatical elements was analyzed (Liang, 2001).
- e. Exercises or workbooks. After finishing all the procedures stated above, students would complete the exercises and workbook. Teachers then discussed and checked the answers.

In sum, the traditional teaching methods used for the control group was that students mainly listened passively and quietly to the teachers' lecture, with little or no student-student interaction for practice of the target language.

3.4.2. Experimental groups

There were two experimental groups, Group B and Group C. The students were grouped according to the different techniques of cooperative learning and classroom activities. In Group B, students were grouped sometimes by the classroom activities, and sometimes by the teacher's decision. For example, during lesson plan one, in Group C, the students were grouped according to their preferred intelligences. Sometimes, the students of the same preferred intelligences were in the same group, or sometimes the group was composed by the students with different intelligences.

An action research approach was employed when teaching Group C. The researcher improves her teaching by reflecting carefully on her teaching and the feed back

gained from her students. One cycle, normally one lesson in length, usually led to another in which the researcher incorporated some improvements suggested by the initial cycle. The cycle was repeated until the researcher was satisfied with the situations.

The lesson plans were designed for both group B and Group C, but the only difference between these two groups was that Group B was grouped by the teacher's decision and the classroom activities that are needed. However, Group C was grouped by multiple intelligences. Both the two groups adopted the same classroom activities.

3.4.3.Action Research

In Group C the teacher used reflection practice, using the principles of action research, to modify the lesson and classroom management as the semester progressed. Action research is a cycle process to move towards an outcome usually to solve a problem combined with evaluation and reflection leading to new action aiming to bring about improvement and self-understanding. The key focus is on understanding our educational practices. As defined by Kemmis (1981), action research is an approach that tries out an idea in practice with a view to improving or changing something, trying to have real effect on the situation. The focus in action research is on a specific problem in a defined context.

McNiff, Lomax and Whitehead (2003) state that action research is different from other kinds of research in the following ways:

- It is practitioner based because practitioners who regard themselves as researchers conduct it.
- It focuses on learning. Action research is about individuals' learning, in company with other people. Action research differs from social scientific research that aims to describe and understand an external situation. Action research is a process that helps the practitioner to develop a deeper understanding about what he or she is doing as an insider researcher.

- It embodies good professional practice, but goes beyond this. Action research is more than problem solving, and involves identifying the reasons for the action that are related to the researcher's values.
- It can lead to personal and social improvement. Action research is a form of personal enquiry, but because it involves individuals working together to achieve commonly agreed goals, it is always done collaboratively.
- It is responsive to social situations. When people want to investigate what is happening in their particular situation, action research is an appropriate methodology which will aim to improve it. As well as observing and describing what is happening, they also take action.
- It demands high order questioning. The researchers begin this process by questioning the assumptions that underlie their situation and practice.
- The focus is on change, and the self is the locus of change. Traditional kinds of research usually stop at the level of describing a situation. They sometimes continue to suggest ways in which the situation might be changed. But action researchers take action and start by asking, "What can I do", "How do I do it?".
- Practitioners accept responsibility for their own actions. In traditional types of research, researchers usually carry out what is required by someone else, such as policy makers. They may decide about research procedures but they do not make decision about the aim of the research. But action researchers make their own decisions about what is more important and what they are obligated to do.
- It emphasizes the values base of practice. Action research begins with practitioners who become aware of what is important to them- their values –and how they might act in the direction of those values. This is different the neutral stance that is claimed for some other types research. (McNiff, Lomax & Whitehead, 2003)

When outlining the process of action research, Hustler (1986) states that in making changes and innovations in our teaching, very rarely does everything go perfectly. As usual, we find out ways of improving our teaching in the light of our experience, and feedback from the students. One cycle is planned to lead to another in which we incorporate improvements suggested by the initial cycle. This repeated cycle is

continued until the researcher is satisfied with the situation. Within this process of action research, several stages can be identified. These are now described as related to this study.

Stage1. Initial reflection

Action research arises from a problem, dilemma, or ambiguity in the situation in which practitioners find themselves. It may be a general concern, a perceived need, or a course-related problem. The initial reflection in this study highlighted the problems of the researcher teacher teaching English as a foreign language in her school. For example; the class size was too large; students of different proficiency were in the same class; the motivation for learning was low; and students' four languages' skills were poor.

Stage2. Planning

At this stage, research questions and methodology were decided. Based on the techniques of Cooperative Learning and the theory of Multiple Intelligences, lesson plans for the whole semester and the materials for the pretest and posttest were prepared.

Stage3. Acting

The researcher implemented the plan that had developed in class. First, the students were grouped according to the different techniques of Cooperative Learning and classroom activities. Throughout the course a range of activities were undertaken to promote increased motivation. Sometimes, the students of the same intelligences would be in the same group, or sometimes the group would be composed by the students with different intelligences.

Stage4. Observation

Simultaneous with action is the collection of data. Observation is important for subsequent reflection and action. The researcher observed the procedures used in the class, took notes, or used video or camera to spot incidents related the questions during the observation. Feedbacks in the form of a number of rating forms were

collected after each activity in class to gauge the immediate reaction to each new activity that was presented. Above all, during the break or after class, the researcher would interview some of the students.

Stage5. Reflecting

The researcher continued to reflect upon what was happening with the project, throughout the time it ran, developing revised action plans based on what she was learning from the process of planning, acting, and observing. While generally the lesson were planned for the whole semester, the data collected during each class about how the students were responding in terms of their language use and motivation and how the grouping based on the MI were operating informed the teacher's reflection and enabled the teacher to respond to needs by changing groups or making changes in their lessons. In this way the teacher was operating as a reflective practitioner which is closely related to action research.

3.4.4. Lesson Plan

It has already been noted that the three groups covered the same basic materials during the teaching experiment. The key difference was the teaching strategies that were employed with the groups. An outline of how the control group A was taught has been given in section 3.4.1. More detail will now be given concerning the teaching of Group B and Group C. Essentially the same lesson plans and classroom activities were designed for both Group B and Group C. The critical difference between these two groups was that the students in Group B were grouped by proximity or by numbering. However, the students in Group C were grouped by using notions of multiple intelligences. This lesson plan was used by Group C.

When designing the lesson plans, the teacher tried to consolidate the several second language learning theories (Whole Language, Cooperative Learning, Multiple Intelligence theory, and so on in this lesson plan). For example: Freeman and Freeman (1992) state that class activities provided by the teacher are very important to how well students will learn. If students are involved in authentic activities in their class rather than being involved in grammar drills, they can learn more effectively in schools than outside schools. They suggest that Whole Language activities need to

reflect the Whole Language Checklist that they provided (Freeman & Freeman, 1988, p.6):

1. Does lesson move from the general to the specific? Are details presented within a general conceptual framework?
2. Is there an attempt to draw on students' background knowledge and interests? Are students given choices?
3. Is the content meaningful? Does it serve a purpose for the learners?
4. Do students work cooperatively? Do students interact with one another or do they only react to the teacher?
5. Do students have an opportunity to read and write as well as speak and listen during the class?
6. Is there support for the students' first language and culture?
7. Does the teacher demonstrate a belief that students will succeed?

Armstrong (2000) states the use of small groups that work toward common instructional goals is the core component of the CL model. Students in the CL groups can tackle a learning assignment in a variety ways. Because CL groups can be structured to include students who represent the full spectrum of intelligences, they are particularly suitable for MI teaching. In language teaching, lesson plans could be designed according to the theory of Multiple Intelligence, but the CL approach might alleviate the problems of large class sizes and different proficiencies of students in the same class.

In class, a great number of tasks can be adopted in teaching English cooperatively. They include group discussion, scenario, role-play, solving mysteries, reading together, researching a subject, peer teaching as preparation for tests, and preparing a study project from different sources of information (Harel, 1992). In a well-organized

cooperative classroom, students take on a great deal of the responsibility for the classroom activities, freeing the teacher to give individual attentions where needed.

In the classroom, Gardner recommended that integrated education would use students' natural talents successfully. Integrated education is the system that used different educational approaches such as games, music, stories and images. If materials are taught and assessed in only one way, we will only reach a certain type of student. Students who are not good at linguistic and logical skills can still learn very well if they are taught with other methods rather than using textbooks.

Armstrong (2000) and Le (2001) recommends allowing the students to help design and choose the learning strategies that will work best for them. The above discussion suggests that teaching methods and curriculum should be developed flexibly. Once a method is applied, teachers should observe and try to find out how students react to that method and whether students make good progress. The feedback received from students is a good resource to improve educational methods. In addition, Gardner (1993) states it is quite important to let students be assessed through intelligence-fair tools that are compatible with the preferred intelligence of the particular students. Multiple Intelligence theory may provide a useful guide in this process. Gardener (1993) holds that assessment is an essential component of education that takes seriously multiple intelligences and that tests should be designed to elicit these differences. Thus it's particularly important to use multiple modes of assessment that will allow students to show their strength and perform adequately.

There were four periods covered in each of the six lesson plans (see Table 3.2). The time allowance for each period lasted for two hours. In period one and period three, students were taught in their own classroom. In period two and four, students were taught in the Language Lab or the Language Learning Center. Throughout the lesson plans, the references to students with specific intelligences refer to the MI group and in the other group a student was given the role making sure roles rotated. During the first week instead of the language lab all students were introduced to the Language Learning Center so that they would be able to use it in their own time.

3.4.4.1. Lesson plan one

Period I: Students review pronunciation.

Level: Low intermediate to intermediate

Objective:

1. Students can distinguish and pronounce the consonant, the vowel, diphthong, and memorize the rules of natural pronunciation of every word.
2. Students can pronounce every word of the texts or teaching materials provided by the researcher and read aloud the passage appointed by the researcher smoothly
3. Students will be able to successfully recite the chant in rhythm, by using the vocabulary what they have already learned.

Resources and materials:

1. The charts and illustration of the pronunciation provided by the researcher and the flash cards designed by each group (Students that have the spatial or visual intelligence in each group do this job).
2. The tape recorder. Each group has its own tape.
3. Pens /pencils. Notebooks, handouts and microphone. Some pieces of colored chalk such as white, red and yellow.

Activities / procedures:

1. Warm-up: The researcher instructs and demonstrates some gestures or movement that students listen to and follow (Total Physical Response).
2. Divide the students into groups based on different intelligences.
3. The group leader or the member that has the bodily-kinesthetic intelligence will do this demonstration, and then each member of his group will rotate this activity.
4. After the warm-up activity, students will listen to the researcher's instruction first; then learn and review all the pronunciations.
5. Each group member practices what he or she learned from the researcher.
6. From each group, a student that has the verbal-linguistic intelligence will come to the teacher for instruction.
7. After the researcher checks everyone's pronunciation in this new group, they go back to their own group to help their own group members.
8. The researcher comes and goes to each group and records some students'

pronunciations and broadcast to the class.

9. The researcher and the students both evaluate the tape and give feed back.

Evaluation / assessment:

The leader in each group assigns a member to perform in the group; then the researcher gives credit for performance. Students will have a quiz; the researcher can then check their comprehension and progress.

Period Two: Students (Ss) will learn how to introduce themselves and greet someone formally and informally.

Level: Low intermediate to intermediate.

Place: In the Language Lab.

Objective: Students can express how to introduce themselves and greet someone formally and informally.

Resources and materials: handout adapted from *Move Ahead: A listening and speaking course* (Sampson, 1997). Tapes.

Activities/procedure:

1. Ss record the teaching materials by themselves first (they can go home to practice listening ability).
2. Ss listen to the tape twice. The researcher (T) checks Ss' comprehension and directs Ss' attention to the reduced sounds and shows them the stress and intonation patterns.
3. T goes over the introduction and greeting expressions. Familiarize Ss with the expressions by reading to them aloud. Remind Ss about the use of appropriate terms in Conversational English.
4. T demonstrates first and put the clues on the blackboard as follows:
 - a. Ss introduce themselves formally and informally.
 - b. Ss respond to the introduction formally and informally.
5. Divide the students into four groups that have different intelligences.
6. To form an Inside–outside circle, Ss stood in pairs in two concentric circles, with the outside circle facing in and the inside circle facing out. Students will respond

- to the clues written on the blackboard and then rotate to new partners.
7. Each group chooses the member who will play the different roles such as the leader (interpersonal intelligence or verbal-linguistic intelligence), the recorder (intrapersonal intelligence), the timer (logical-mathematical intelligence), the reporter (verbal-linguistic or bodily kinesthetic intelligence), the material Manager (visual/spatial or musical/rhythematic intelligence), the cheerleader (interpersonal intelligence or naturalistic intelligence) and the checker (intrapersonal intelligence).
 8. Ss from each group practice the dialogue they wrote from their own group and would be ready to perform for the whole class.

Evaluation and Assessment:

T calls upon four pairs of Ss from each group to perform the dialogue for the whole class. After Ss' performances, T gives feedback and grades to each group.

Period three: Ss will learn the basic language structure

Level: Intermediate

Place: Ss' own classroom

Objective: Ss can distinguish the sentence patterns and write down a short paragraph

Materials and resources: T' handout and Ss' text books and worksheets

Activities /procedures:

1. Warm-up: Ss play a listening game designed by Ts to review the sounds and pronunciations that T has taught from period one.
2. Ss reviews the four basic sentence structures as follows:
 - a: Simple sentence. S (subject), V (verb). O (object). C (complement).
 - i (indirect). d (direct)
 1. S + V
 2. S + V + O
 3. S + V + C
 4. S + V + O(i) +O(d)
 5. S + V + O + C

- b. Compound sentence: Two or more simple sentences are combined by the coordinate conjunctions such as and, but, or, nor, for, so, yet.
 - c. Complex sentence: Two or more simple sentences are combined by the subordinate conjunctions such as that, which, when, though and so on. Help Ss distinguish the main clause and the subordinate clauses like noun clauses, adjective clauses and adverbial clauses.
 - d. Compound and complex sentence: Two or more sentences are combined by both coordinate and subordinate conjunctions.
3. T demonstrates one paragraph from the reading text and then divides the students into groups. Ss complete the rest of the reading text. After group Discussion, each group leader answers the teacher's questions.
 4. Each group writes a short paragraph on the topic: A daily life including all sentence patterns by groups discussion

Evaluation/assessment:

Each group writes down their own paragraph on the blackboard and T gives feedback and grades to each group.

Period four: Ss will learn the four language skills by songs and through storytelling.

Level: Low intermediate to intermediate

Place: The language lab

Objective: Ss can learn the four basic language skills (reading, listening, speaking and writing.) by using the songs that cover an impressive story that Ss feel moved by.

Materials and resources: tapes, some pieces of paper, songs.

Activities/procedures:

1. Warm-up activities: each group chooses one member that has the musical intelligence or who likes to sing songs to perform in the classroom, and students provide feedback.
2. The songs that T provides will be played several times so that Ss will be familiar with them.
3. A copy of a cloze blank-filling exercise based on the lyrics will be distributed to each group. (See Appendix K).

4. All the Ss. are required to listen to the songs carefully so that they are able to fill in exactly the same words as those of the lyrics.
5. Divide the class into groups and give each group a blank piece of paper.
6. Ask Ss to make a cross on it and divide the paper into four equal parts. Tell Ss to number the parts from one to four.
7. Explain that each student in the group will use one part of the paper.
8. Play the tape with the songs several times and ask Ss to draw something on it according to what he /she feels or something related to the content and lyrics.
9. After Ss finish drawing, they are required to make up a story following the sequence of their drawings. Explain that each student is going to tell his/her part of the story to his group, after group discussion; each group leader will present their whole story to the class orally.
10. T describes the real story of the songs and chooses one group whose plot is similar to their story on the blackboard.

Evaluation and Assessment:

T and Ss check the mechanical skills together so that Ss can review what they have just learned for period three. T provides feedback. Ss sing the songs together for a happy ending.

3.4.4.2. Lesson Plan Two:

Period one: Ss will learn the reading skills from the reading text.

Level: Intermediate

Place: Ss' own classroom

Objective: To help Ss find out how the texts are organized and know the relationship between the different parts of a text. Ss can read and know how to read by the techniques learned from Ts and peers.

Materials and resources: Pictures and students textbooks, Junior College English (Shieh, 1997). The topic of this text material is “ The Twenty-First Century” The reading techniques covered in this period will be Jigsaw reading; then Ss will also learn how to predict, skim, scan and infer.

Activities and procedures:

1. Warm-up activities. Ss will brainstorm all the vocabulary they know about this topic. T writes them down on the blackboard. Then Ss predict what the twenty-first century will be.
2. T teaches Ss the usage of the new vocabulary word and then checks the students' pronunciation of all the vocabulary items in this lesson.
3. Ss will be divided into groups and each group only needs to read one passage from the text. In each group, every member needs to read the passage carefully, sum up the whole story and try to guess where their section is situated in the whole text.
4. Ss will be recombined into a new group. Now each member comes from a different group and so they all learn different passage from their own group.
5. In the new group, group members will have to question each other constantly, check with their passage for significant details and reconstitute the whole story, from beginning to end.
6. Follow-up activities. Each group answers T's questions after group discussion.

The examples of the questions:

- a. What should we do to slow down the speed of depletion of energy resources?
 - b. How can we decrease air pollution, soil pollution, and water pollution?
7. Homework: each group searches for the pictures about the topic. (Ss that have the Spatial/Visual intelligence or Naturalist intelligence can do this job.)

Evaluation and assessment:

T designates any Ss from each group to translate the passage from the text to the class.

T gives feedback and retranslates all the texts in detail again in the class.

Period three: Ss will continue the reading materials that have not been completed from period one, and will learn new vocabulary about the topic from the pictures provided by each group.

Level: Intermediate

Place: Ss' own classroom:

Materials and resources:

The reading textbook, various pictures from the reading textbooks based on this lesson will be provided by Ss from each group.

Objectives: Ss can organize the whole passage, understand grammar rules from this lesson and know how to complete the worksheet and exercises from this lesson.

Activities and procedures:

1. Warm-up activity: Ss listen to what T instructs and follow the movement or gesture (like raise your right or left hand, sit down, stand up, close your eyes, take out your pens and so on) required by T. (Using Total Physical Respond technique to wake up students who feel sleepy in class).
2. Check the Ss' pronunciation of all the vocabulary in this lesson.
3. Have a vocabulary quiz for this lesson
4. Have all the students read through the whole article in chorus.
5. Explain the lesson again and point out grammatical points.
6. Get Ss to work on their workbooks in teams. T checks their answers in teams and then discusses with the whole class.
7. Each group provides the pictures that include the new vocabulary about the topic in this lesson and presents to the whole class. T writes all the new vocabulary on the blackboard and Ss share all the pictures in turns.

Evaluations and assessment:

Divide Ss into groups. Each group competes with each other by brainstorming the new vocabulary from the pictures and this lesson. T gives feedback or prizes for the top group.

Period two: Ss will learn how to describe directions and locations.

Level: Low intermediate to intermediate

Place: The language lab.

Objective: Ss can read the map and know how to describe the directions and locations orally.

Materials and resources: tapes, maps, different colors of chalk, handouts and Ss'

textbook, (Move Ahead: a listening and speaking course), puzzle games worksheet.

Activities and procedures:

1. Warm-up activity: Ss review the song they learned last week. All the Ss sing the songs together. Each group chooses a member to restate the story from the songs they chose.
2. Ss record the material that is going to be taught in this period and listen to the tape twice.
3. T explains useful expressions for giving directions, such as go up, go down, turn left or right, walk two blocks and so on.
4. Ss do the exercises by reading the directions and mark each place on the map. Ss compare their answers with their classmates, and T gives feedback.
5. Have Ss work in pairs, and prepare a dialogue based on the exercises they just have done. An alternative approach to this exercise is to turn it into information –gap activity. Ss take turns, give directions and follow them.
6. T gets one or two pairs to present their dialogues to the whole class.

Evaluations and assessment:

Ss will have a quiz. T draws a map that includes several spots on the blackboard, and Ss listen to T's directions and write down the names of the locations.

Period four: continue period two and finish this session.

Place: in language lab

Activities and procedures:

- 1 Ss listen to the tape for this lesson twice and complete all the exercises in this lesson.
2. T goes around to the whole class to check their comprehension and discusses the answers with the whole class.
3. Divide Ss into groups based on different intelligences.
4. After group discussion and group practice, each group draws a map (the students that have the spatial /visual intelligence do this job) on the blackboard in turns and shows classmates how to go to the train station from the campus or how to reach the places such as shopping centers, the museum, the park or their house.

5. T gives feedback to each group.

6. If T still has time left for this class, each group can do the puzzle games. T gives prizes for the group that completes the answer sheet first. Then T discusses and checks all the answers for the whole class.

3.4.4.3. Lesson Plan Three

Period one and three: In this lesson, Ss will learn about the topic “The Olympic Games.”

Level: Intermediate

Place: Students’ classroom

Materials and resources: Ss’ textbook adapted from Junior College English (Shieh, 1997). Pictures related to the Olympic Games and a tape recorder.

Objective: Ss will know more about the words, the flags, and the various sports that are related to the Olympics Games.

Activities and procedures:

Period one:

1. Warm-up activity: Ss brainstorm the vocabulary about the Olympic Games, such as the names of the sports, countries, and medals. T writes all of them on the blackboard.
2. T demonstrates the usage of the vocabulary and checks the Ss’ pronunciations of all the new words in the glossary.
3. Divide the Ss into groups and ask Ss to work together in their teams talking over the contextual meanings of their own passages and generate a retelling by Jigsaw reading.
4. T asks the class to read the whole article in chorus.
5. Ss calls upon a member from each group randomly to summarize and interpret any passage selected from T to the whole class, so T can test and check the Ss to see how well they have learned from their groups this lesson.
6. T briefly points out each team’s general strengths and weaknesses.
7. T explains the lesson and points out the grammatical points.

8. Group discussion: Each group discusses the questions as follows:
- a. What sports do Taiwanese athletes excel in? Has Taiwan ever won any medals in the Olympic Games?
 - b. Do you think international sports can promote peace? Why?
 - c. Do you believe competitive sports are good? Give your reason for Yes or No.

Homework: Each group will search and prepare any pictures that are related to the Olympic Games.

Period Three: Continue period one

Place: Language Lab.

Resources and materials: Tapes, handouts adapted from Hartley, & Viney, (1995)
New American Streamline: An intensive American English series for intermediate students

Activities and procedures:

1. Warm-up activity: Students brainstorm the vocabulary from the Olympic games again; then Ss will have a vocabulary quiz.
2. Ss take out their handouts and tapes to record an extract entitled from Hartley, & Viney (1995) *Olympic Update* and then listen to the tape twice.
3. Each group shows the pictures related to the Olympic Games; each group shares with all the pictures, and compares which group did the best job.
4. Divide the Ss into pairs. Ss will play the interview game by using the cooperative learning technique, Three-Step interview. In Three-Step interview, Ss interview each in pairs first; then switch their roles as interviewers and interviewees. The interview questions are as follows:
 - a. What is your favorite sport?
 - b. How long have you played this sport?
 - c. Where did you learn the sport and who is your coach?
 - d. What sports in the Olympic Games do you like to watch on the TV?
5. T calls upon some Ss to introduce his or her partner, highlighting the most interesting points to the whole class.

Evaluations and assessment:

Ss will listen to the tape again and complete the exercise included in the article. T checks the answer.

Period two: Ss will use the equipment they need in turns

Objective: Ss can use the equipment in this Language Center to review and prepare what they are going to do for the listening quiz and the oral test for period four.

Place: Language Learning Center.

The Language Learning Center is like a library that opens to Ss during office hours. Ss can borrow any learning materials from it. Each time Ss visit or borrow any materials from it; the people who are in charge of this center will mark a stamp on Ss' passport (a small brochure which registers the times and date that Ss visit this center). At the end of this semester, T will check each S's passport to see the record of the Ss.

Resources and materials:

Ss can bring his or her tapes, CD, VCD, DVD, interactive CNN CD, textbooks, English novels and so on to the Language Center. The Language Center also provides various materials to each Computer Center, Video Center, Reading Center, Listening Center, and Writing Center.

Activities and procedures:

1. Ss come to the Language Center. Each student can choose any center he /she would like to go to. In the beginning of this semester, in week two, Ss have already learned how to use the equipment in this Language Center from T.
2. Depending on the different purposes and goals, Ss can review and practice what they have been learning in class. T's role is a facilitator whose role during this stage is to go around each center, answer Ss' questions, solve potential equipment problems, and observe Ss' learning.
3. T can use the Writing Center for the Ss that need extra help and give many Ss help on an individual basis.

Period Four: Ss will have a mid term listening test and an oral test

Place: The Language Lab.

Activities and procedures:

1. It will take about 15 minutes for Ss to have a quiz for listening. Ss will listen to the tapes three times and finish the cloze-blank filling exercises.
2. As with the oral test, Ss will have a talent and skill performance test individually or by groups based on their intelligences and talents.
3. After performance in front of the classroom, each S needs to answer two or three questions orally. The question and answer from the handout provided by T will be given to Ss in week one in the beginning of this semester. Ss are supposed to recite at least three questions per week. See appendix M.

Evaluation and assessment: T observes Ss' performances, give each one feedback and recognize his or her strongest and weakest points.

3.4.4.4. Lesson Plan Four

Period one and three: T will discuss the answer for the mid-term examination and then teach Ss how to write an English letter.

Place: Ss' own classroom

Level: Intermediate.

Objective: Ss can review writing skills and practice writing a formal English letter.

Materials and resources: overhead projector, an example of a letter, pens and pieces of paper, envelopes, stamps, and a tape recorder.

Activities and procedures:

1. T discusses the mid-term examination first, and then Ss check the scores of his of her examination sheet. If there is nothing wrong, Ss return the examination sheet for T to record.
2. T shows an example of a letter including the name, greeting, the addressee, addresser, and the address and so on from the overhead projector.
3. T gives a topic for this letter: "a letter to your English teacher".
4. Ss review the writing technique.
 - 4.1 Review the four basic sentences: simple sentence, compound sentence, complex sentence, and compound and complex sentence
 - 4.2 Divide the students into groups, Ss brainstorm the vocabulary and write the

words down on the blackboard. Ss discuss and delete the words that are not related to this topic.

4.3 Each S makes up some simple sentences from the words; then each group discusses how to form a paragraph by adding coordinate or subordinate conjunctions.

4.4 T goes around each group to see if any group needs help.

5. T provides her English address to Ss. Each group completes the letter by group discussion.

6. The leader of each group goes to the post office and mails the letter to T.

Period Three: Continue period one.

Activities and procedures:

1. Warm-up activity: Divide Ss into groups. Ss play word games. (T announces a word; Ss from each group must use the final letter of the word and create a new word. The same procedure for all new words that Ss create. Each group competes with each other. T calculates which group gets the most words and wins the prize.
2. T checks the letter from each group, and shows up the content of each letter on the overhead projector individually.
3. T and Ss check the mechanical skills, grammar points, organization, and discuss the content together.

Evaluation and assessment.

T gives feedback for each group. Each group leader restates the content of his or her letter orally. T records it right away.

Period two: Ss will see a movie

Level: Low intermediate

Place: In the Language Lab

Objective: Ss can train their listening ability when watching the movies.

Resources and materials: a VCD, DVD that is suitable for students to watch and Ss

are also interested in the plot of the movie, pieces of paper for each Ss.

Activities and procedures:

1. The mid-term examination is over. Ss need to relax, so T provides a movie that they like to watch, but there are no captions on the screen.
2. Divide the students into groups. When Ss watch the movie, they need to write down the words or phrases they are familiar with on paper.
3. When the movie is over, Ss discuss in groups and T collects all the paper to check which group did a good job.

Period four: Continue period two:

Activities and procedures:

1. T writes down the words and phrases collected from each group on the blackboard.
2. Ss watch the movie again, but this time, T will shut down the screen at several stages, and Ss will state what is going on for the next stage.
3. Divide the Ss into groups. Each group discusses the following question:
 - a. Who is your favorite actor in this movie? Why do you like her or him best?
 - b. Which part of the acting do you like most and feel more impressive?
 - c. What English did you learn from this movie?

Evaluation and assessment: Each group leader summarizes the story of the movie in turns. T gives feedback.

3.4.4.5. Lesson Plan Five

Period one and three: in this lesson, Ss will know more about the animals, plants and natural resources.

Level: Intermediate

Place: Ss' own classroom

Objective: Ss can acquire more knowledge and learn more words about the natural resources.

Materials and resources: The article “Dogs: Our Faithful Companions” was adapted from the Ss’ textbook, Shieh (1997) *Junior College English*. Various kinds of pictures related to natural resources provided by each group

Activities and procedures:

1. Ss in each group display the pictures related to natural resources, like flowers, plants, animals, soils, stars and its satellites, planets.
2. Each group shares the pictures in turns.
3. Ss brainstorm the words related to the natural resources. T writes them down on the blackboard.
4. T demonstrates the usage of the vocabulary in this article and checks Ss’ pronunciation of the new words in the glossary.
5. Ss complete this article by using the technique of Jigsaw reading.
6. Each group discusses the questions as follows:
 - a. Describe your favorite pet. (Ss need to show the picture of the pet)
 - c. What kinds of dog do you like best: German shepherd? Seeing eye dog? Or others?
 - d. Do you think dogs are our faithful friends? Why?

Evaluation and assessment: Each group presents some ideas about the questions above.

T gives comments.

Period Three: Continue the activities from period one.

Activities and Procedures:

1. Ss brainstorm the new vocabulary they learned from this article.
2. Ss will have a vocabulary quiz.
3. Each group explains and reads his or her own passages aloud in turns,
4. T points out grammatical points.
5. Have Ss read through the whole article aloud in chorus. T explains the lesson again.
6. Ss in each group discuss about their favorite natural resources. Each member in each group will present his or her ideas to their group.

Evaluation and assessment. T calls upon some Ss from each group to present his or her ideas about the favorite natural resources. Then T gives feedback and comment.

Period Two: Ss will learn the language of telephone conversation

Level: Low intermediate to intermediate

Place: In the Language Lab

Objective: Ss can use and know the function of the telephone language.

Materials and resources: Tapes. Handouts (the expression words of the phone call). An article "Two phone calls" adapted from Hartely, & Viney, (1995) *American Streamline: An intensive American English series for intermediate students*.

Activities and procedures:

1. Ss record the tape (Ss can practice the listening skills at home or in the language center).
2. Ss listen to the tape twice. Then, Ss answer the questions as follows:
 - a. Who is calling?
 - b. Who's answering the phone?
 - c. Did they have a date? When?
 - d. Is his number in the phonebook?
 - e. Is she going to the theater with Randy?
3. Ss listen to the next phone call. Who is the manager talking to? Ss listen again and check if True or False. Ss. will have ten questions to check if True or False.
4. Ss take out the handouts provided by T. T demonstrates the expression words of the phone call.
5. Divide Ss into pairs. Each pair makes up a dialogue by using the phone call language

Evaluation and assessment: T chooses one group from each pair who will need to perform their dialogue in front of the classroom. T gives feedback and comment.

Period Four: Ss will learn listening and oral skills by using the series of pictures.

Place: In the Language Lab.

Level: Low intermediate to intermediate

Objectives: Ss can train their imagination and learn the language skills.

Resources and materials: Tapes, four series of pictures that make up a story.

Activities and procedures:

1. Warm-up activity. T chooses Ss who performed best in the mid-term oral exam. They perform in the front of the class again.
2. Divide Ss into group. T gives each group the series of four pictures. Each group makes up a story by using their imagination.
3. After group discussion, each group presents their story.
4. T plays the tape twice. Ss record the dialogue. Ss choose which group did the best job judged by whether or not the story that they wrote is similar to the real story from the tape.
5. Each group reorganizes their story with group discussion

Evaluation and assessment: Ss in each group retell the story. T gives feedback and comments.

3.4.4.6. Lesson Plan Six:

Period one and Period three: Ss will learn more words about food and learn how to make a recipe.

Place: Ss' own classroom.

Level: Intermediate.

Objectives: Ss can distinguish the noun that is countable or uncountable, can divide the food into different groups like vegetables, fruits, meat, fish and seafood, diary products, the staple food, desserts.

Materials and resources: Different kinds of pictures related to food, one article "Potatoes and Chocolate" adapted from Hartely, & Viney, (1995) *American*

Streamline: An intensive American English series for intermediate students. A recipe.

Activities and procedures:

1. Ss brainstorm the food vocabulary and T writes them down on the blackboard. T points out one word and Ss answer if the food is countable or uncountable. Which group does the food belong to?
2. T demonstrates the usage of the vocabulary in this article and checks the Ss' pronunciation of the new words in the glossary.
3. By Jigsaw reading, T asks Ss to work together in their teams talking over the contextual meaning of his or her passage and randomly chooses some Ss to generate a retelling.
4. By group discussion, each group discusses the questions as follows:
 - a. Do you like potatoes?
 - b. Do you know what "sweet potatoes" are? Give your opinion about them.
 - c. Chocolate is a kind of candy. Do you or your friends like it? What is your favorite flavor?
 - d. What is your favorite food?
5. After group discussion, T randomly chooses Ss from each group to answer the questions above.
6. T explains the meaning of the content again, and points out important grammatical points. Ss read through the whole article aloud in chorus.
7. Each group prepares a recipe, by using the example from the handout.

Example: "Pork with Noodles"

- a. boil/noodles/ three minute
- b. fry/ pork/ginger/garlic/five to seven minutes
- c. add/bean spouts/green beans
- d. cook/mixture/three to four minutes
- e. add/noodles/fry/ two minutes
- f. stir in/ soy sauce/ sesame seeds
- g. cook/one minute/serve.

Ss describe a process by using, first, then, next, after that, finally, and so on to complete the recipe.

Homework: Each group will write a recipe and prepare all the ingredients and food

for next period.

Period Three: Each group will cook one dish based on the recipe they wrote.

Level: Ss' major is "Food Nutrition". They learn how to cook from the other courses. They are all good cooks. So, in this class, they are all at high level, so T doesn't need to worry about their cooking.

Place: T needs to borrow the "Experiment Kitchen" from the department of Food Nutrition.

Objective: This is the final reading class. Ss will celebrate and share the delicious dishes. They will have a happy reunion.

Materials and resources: Ss' recipes, all the ingredients and food each group needs.

Activities.

1. Each group takes out all the food, ingredients on the table and introduces what the English name of the food is.
2. Each group starts cooking.
3. After each group finishes cooking, each group will present one dish to the front table and each leader describes the process of the food preparation they made according to the recipe
4. Ss can go around to taste the food from each group

Evaluation and assessment: Ss invite their teachers who teach the other courses to share their food and give comments.

Period Two: Ss will use the equipment they need in turns in the Language Center.

Objective: Ss can use the equipment in this Language Center to review and prepare what they are going to do for the final-term oral test in period four.

Activities and procedures:

1. From the record of Ss' passport. T will announce three Ss who visited the Language Center more often than the other Ss, and Ts will give prizes to them.

2. Ss can prepare the stage properties, music, and use any equipment they need for the drama they are going to perform for the final-term oral exam in this center.
3. T will go around each center to check the Ss who need extra help.

Period Four: Ss will have the final-term oral exam.

Place: In the Language Lab.

Objective: Ss will learn oral skills through drama.

Activities and Procedures:

1. In the beginning of this semester, T already announced that each group needed to perform the drama. The stories they can adapt their play from “The Snow White”, “Cinderella”. “Three Little Pigs”, or Ss can create the interesting stories of their own.
2. Ss have practiced their roles in the play for a long time. During the break in each period, T asked and reminded Ss of the play to check if any group needed help.
3. This is the final class and also the time for Ss to perform.
4. Each Ss needs to answer T’s questions adapted from Appendix M orally after finishing their performance.

Evaluation and assessment: T gives each group grades, feedback, and comment.

Summary

In this chapter an outline of the emphases given in the teaching of Group B and C, the experimental groups, has been outlined using in some places examples from the sessions taught. The next chapter discusses the results obtained during the period of the study.

Chapter Four

Results and Discussion

Introduction

The purpose of this study was to investigate the effectiveness of Cooperative Learning and to examine the implementation of Gardner's theory of MI in the formation and operation of the Cooperative Learning groups in teaching English as a foreign language to a group of junior college students in Taiwan. The crucial test was whether the EFL learners' motivation and attitudes toward learning English as a foreign language and students' language proficiency improved as measured by achievements tests. This study also explored the development of teaching units using the Whole Language Approach based curriculum, and the incorporation of a Language Learning Center in the teaching.

This study for the experimental group C that based on Gardner's Multiple Intelligence theory was framed using the notion of action based Research. This approach enabled me as the researcher to reflect on my own teaching and through the trial of different approaches provided me with excellent professional development. One possible difficulty with a researcher being actually involved as the teacher in a research project is that their involvement might lead to a loss of objectivity. It is difficult to separate this personal involvement from the results. For this reason in this study, a great deal of data was collected to try to ensure that findings were authentic and real for this group of students. However, as a researcher, I must acknowledge that although I have tried to step back and look at the data objectively, I am enthusiastic about my teaching, and hence my personal views may affect my presentation of the results.

This chapter discusses the results of the analyses conducted to investigate the research questions of this study. Quantative analysis suggests improved learning and attitude changes. The analyses were supported by an analysis of a set of qualitative data. The qualitative data was obtained from interviews and class observation notes. These illustrate the impact of the different approaches in the class particularly on students' motivation. In addition, the qualitative data gathered supported and enriched

the researcher's understanding of the processes of students' learning in the classroom. This was particularly important in considering the activities used in the class and the impact of grouping students in different ways on the functioning of the class as a whole. This data was also important in understanding the students' attitudes and motivation that seemed to be more positive in learning English.

The research questions

It is helpful to repeat the research questions here that the data analysis sought to illuminate:

1. In what ways can the language learning environment be constructed in order to improve the English language learning outcomes of junior college English as Foreign Language (EFL) students? In particular:
 - 1.1 Can Cooperative Learning enhance students' attitude?
 - 1.2 Can Cooperative Learning and MI ideas for teaching enhance the motivation when learning the four language skills?
 - 1.3 Does Cooperative Learning have a positive effect on student's language proficiency performance?
 - 1.4 Can MI-based activities in class in conjunction with Cooperative Learning ideas, improve the students' four language skills?
 - 1.5 Can Cooperative Learning and Gardner's theory of Multiple Intelligences allow learners with different learning styles and learning paces to work together and fulfill different needs in Language Learning Center?
 - 1.6 Do the subjects in this study perform better on the passing rate of the four skill tests than the other students in this college?

Research hypotheses

It is also helpful to repeat the specific hypotheses that are to be tested:

1. The experimental groups B and C will score significantly higher than the control group A on the English listening, speaking, reading, and writing tests.
2. The experimental groups B and C will score significantly higher than the control group on the Mid-term and Final-term achievement examinations.
4. In the experimental groups, when forming the groups, the class with groups based on different intelligences (Group C) outperforms the class with the small teaching groups (B) only.

4.1. The Description of Teaching Procedures in Experimental Groups and the result.

After administering the pretest (See Appendix O), the researcher used an opened-ended questionnaire (Appendix M) to explore the reasons why her subjects' language proficiency and motivation in learning language were getting worse. The researcher found that 68 students had learned English when they were in elementary school while 72 students had not. This seemed to be part of the explanation as to why these students performed at a lower level than expected in junior high school. However most of the students attended the English courses in cram school when they were in junior high school. The following examples to show why students were, or were not, interested in studying or even gave up learning English. The bracketed comments were commented by the researcher.

Ss. (Student) 1: When I was in junior high school, during grade two, I was in group A. The English test was more difficult, so most of my classmates outperformed me. I did not get good grades, so I lost my confidence in studying. But when I was in grade three, I was placed in the group with lower proficiency. The English test was easier, so I got good grades. From that time, I had more confidence in studying. [For most students, what encouraged or frustrated them most were the grades.]

Ss.2: When I was in junior high school, during the first semester of grade one, I didn't study hard so I got bad grades. In the second semester, I tried to study very hard and got good grades, but my English teacher teased me and wondered if I was cheating on the exam. I was very frustrated and not interested in learning any more [Sometimes, teachers make a joke, but students misunderstand, so teachers' attitudes to students must be monitored carefully. Some students appreciated a joke; some cannot. It is because everyone has his or her own personality.]

Ss.3: I didn't study hard and almost gave up learning when I was in junior high school, so I got bad grades in English. When I entered junior college, I found English is important for my future, so I tried to study hard. During those two years, I had the same English teacher who knew my progress. Every semester, I made a little progress from scores 20, 25, 40, to 55. I still failed the English courses and needed to take make-up courses in the summer vacation. My English teacher never encouraged me, so I hate English now. [Maybe, teachers should try to give this kind of students another type of assessment for encouragement instead of tests.]

Ss.4: When I was in junior high school, my English teacher only took care of the students who got good grades in tests and chose the teaching materials that were suitable for them. Teachers discriminated against and neglected the students who could not catch up with the other students in class. Sometimes I was punished because of bad grades in tests. I was anxious in class. So I hated English and gave up learning it.

Ss.5. I did not like English, because the class was boring. I did not know what my teacher taught. The teaching materials were too hard for me to understand so I felt sleepy in class.

From examples like these the message was that more students give up learning English partly because of the earlier teachers' careless teaching attitudes. Such students' attitudes need to be considered when planning future teaching.

Students were asked the question in the questionnaire: "What is your ideal English teacher?" (See Appendix M) Some of the answers are worth consideration.

- An ideal teacher must have patience and confidence for students
- An ideal teacher shows no discrimination
- An ideal teacher's attitude in class is friendly, humorous, and enthusiastic
- An ideal teacher should love and enjoy his or her job and then can make lessons interesting so students won't fall asleep in class
- An ideal teacher is somebody who has affinity with the students that they are teaching
- An ideal teacher should be able to correct students' errors without offending them
- An ideal teacher should have a broad of knowledge, not only knowledge about his or her subject
- An ideal teacher is someone who knows our names
- An ideal teacher is someone who helps rather than shouts
- An ideal teacher is an entertainer in a positive sense, not a negative sense
- An ideal teacher should know how to measure what is appropriate for a particular student in a particular situation
- An ideal teacher who should know classroom management should try and draw out the quiet one and control the more talkative one
- An ideal teacher needs to have dress sense- not always the same old boring suits and ties
- An ideal teacher should teach us what we can understand and can make students catch up with what he or she teaches
- An ideal teacher will not give students too much pressure, because students who have no anxiety in class will feel more comfortable and would like to learn.

It would be difficult to become an ideal teacher as described by the students' answers. Clearly only when students respect their teacher is the classroom atmosphere easy to control.

A further question on the questionnaire(See Appendix M) was: “What kinds of activities do you feel are more interesting and what do you hope to learn in English class?” Some of the students’ answers were:

- In listening, students like to listen and learn English songs that have their favorite lyrics. They liked to watch TV (HBO, lots of short plays or movies are included), see the movies and listen to the stories, texts or dialogues that are more interesting and practical in daily life.
- In speaking, students like story telling, playing group games, role plays, drama which is more interactive.
- In reading and writing, students like puzzles, the contest for looking up vocabulary from the dictionary. Reading materials are adapted not only from text books, but also from different kinds of authentic printed materials like advertisements, magazines, food wrappers, road signs and so on. In grammar, some students want to learn the grammar rules well but some students feel grammar is too hard and even boring so they hate to learn grammar.

From the answers above, clearly students preferred innovative teaching methods rather than traditional ones.

The final question was, “Does your family provide a good environment for learning English?” The response showed that most of the students came from homes with a literacy-poor environment. This means that most students are not provided with enough English intensive or extensive reading materials or tapes to practice listening in their homes. Most students only have English dictionaries at home.

By reflecting on this initial analysis of answers on the questionnaire, the teacher was better placed to further develop the teaching sequences for this study.

4.1.1. Language Learning Center

During week two, after students finished the pretests of the four language modes, the researcher spent two hours showing the students how to use the equipment in the Language Learning Center. In Group C, the MI group, the researcher divided the students into groups based on their intelligence according to the Multiple

Intelligences Survey (See Appendix E). Each group consisted of about eight students with different intelligences, but some intelligences overlapped. The students were aware of the results of the survey and hence knew each other's preferred intelligences. Each group had a name such as Milk Papaya, Handsome boy and Beautiful girl, Sunflower and Koala. Each group chose a member to play the different roles such as the leader (interpersonal intelligence or verbal-linguistic intelligence), the recorder (intrapersonal intelligence), the timer (logical-mathematical intelligence), the reporter (verbal-linguistic or bodily kinesthetic intelligence), the material manager (visual/spatial or musical/rhythmic intelligence), the cheerleader (interpersonal intelligence or naturalistic intelligence) and the checker (intrapersonal intelligence). Each member in each group had to carry out his or her own duty to complete any tasks or activities. For instance, the researcher taught the class how to use the video centers by asking each group to choose one student who had visual/spatial or musical/rhythmic intelligence. These students became familiar with the procedures needed for the video center and they went back to teach their original group. This technique was used for teaching the whole class the use of other areas in the Language Learning Center such as the computer, reading, writing and listening areas.

After the students were familiar with all the equipment, each group chose a drama that they were going to perform at the end of the semester. Each group could choose different tasks that utilized the various equipments in the Language Learning Center. For example, if one group chose "The Snow White", a student could go to the video center to watch the play, go to the reading center to search for the play and read it, go to the computer center to search for any information about the play on internet, go to the writing center to create a new play, or go to the listening center to choose any music which would be suitable for their play. The researcher's role was as a facilitator. She circulated around each area in order to answer students' questions, help solve potential equipment problems, and observe students' learning. For a teacher in another situation to manage a class that has over forty students and design a teaching strategy that will meet each student's need would be difficult. However, in this way, individual needs could be better met.

In this study, some student mentioned that they seldom had the chance to speak English and felt nervous when they needed to do so. However they felt much more comfortable in speaking English with their peers during the drama performance; they could talk it out without hesitation. In addition, when preparing the performance of the drama, everyone was assigned a role. They felt that a sense of duty had been instilled on them. Most students did a good job for the dramatization. Although some students were a little nervous and some forgot some lines, they all had a new experience of learning the target language by using it in the drama activities.

4.1.2. In Reading and Writing Classes

From the pretest, the scores of most of the students' reading and writing tests were far below the General English Proficiency Test for beginners. In addition, the indication from the students' writing, it was that most of the students did not have any idea about the English language sentence structures. This is because in traditional teaching, the sentence structure in each lesson is usually broken into discrete elements of grammatical function, such as noun, adjective, adverb, verb gerund, infinitive, pronoun and so on. Students do not have the concept of the whole sentence structure. This not only affects the students' reading comprehension, but also hinders students' writing progress.

Language should be taught from whole to part (Freeman & Freeman, 1992). Learning languages is just like building a house. When we are going to build a house; firstly, the foundation of a building should be stable and firm so that we do not worry about the typhoon or earthquakes. Secondly, we build the house, then finally we decorate the house beautifully with furniture, colorful painting, and so on. The process is the same as we learn writing. The foundation is being able to picture the whole sentence. If students learn the usage of the noun, adjectives, verbs and so on first, they cannot fully understand the basic language structures. It is like putting the cart before the horse and students will achieve little result despite Herculean efforts. Therefore, the researcher decided to design a lesson (Lesson plan one, period three) to have the students understand the concept of the whole language structure.

In this lesson, the researcher introduced four basic sentences first, and then used the techniques of sentence combining. Sentence combining is the combining of base

sentence (simple sentence) into one longer compound or complex sentence. It is a good technique to help improve students' understanding of sentence structure, length of sentence and sentence variety. For ESL students, sentencings combining is certainly a very good way of introducing new language structures without going into complicated explanations and employed specialized terminology (Raimes, 1983). After the teacher's presentation, in the MI group students were divided into groups with different intelligences. Each group wrote a short paragraph involving all sentence patterns by firstly having group discussion. Through writing together, one student might begin a sentence, another contributed a word or phrase, and the others might evaluate the ideas or finished the paragraph. In practice, group members could contribute in different ways. Some students were skilled at generating ideas or good at organizing; some are able to come up with the right word or even more competent in mechanics. During the planning, composing, revising and evaluating stages, students were not only acting as models for others but also could discover their own strengths and weakness. Hence, through writing together, students learned to write in a social context (Tsai, 1998).

When the group work was done, some problems emerged, For example, if low-achieving students had little to contribute, occasionally the high achieving students belittled them. Such a fear that other students might think little of their own opinions, some of the students were reluctant to express their personal ideas with their peers and even said that they liked the more traditional, teacher-directed class format.

To reduce or avoid the occurrence of any problems, such as the above, which may happen in a cooperative learning class, there are some guidelines recommended by Johnson and Johnson (1998) that the researcher employed to maximize the establishment of an efficient CL class. It should be remembered that CL groups were used in both Groups B and C. These are as follows:

- Setting up specific instructional objectives
- Assigning students into groups
- Ranging group size from two to six
- Rearranging the classroom for group work

- Specifying the academic task
- Instructional materials to foster interdependence
- Cutting in to teach cooperative skills
- Role assignment to ensure interdependence
- Structuring individual accountability
- Structuring positive goal interdependence
- Structuring cooperation in groups
- Specifying criteria to succeed
- Explaining behaviors that are desired
- Supplying task assistance
- Observing students' behaviors
- Closing the lesson
- Evaluating the group behavior
- Assessing the quality and quantity of students' learning

When designing the classroom activities, the researcher took some of these guidelines as above into practice. However, it was sometimes necessary to take more time to employ some of them in class. For example, rearranging the classroom for group work that was difficult to prevent the noise would take more time in classroom and also affected the time schedule of the lesson plans. Hence, when group work was used, groups were kept stable or rearranged the group only when it was necessary.

In the traditional reading class, Group A, some of the students were absent-minded in class and some of the low achieving students could not catch up with their peers and instructor. One way to deal with this in Group B and C were the use a particular activity that exemplified CL notion. One of these was the Jigsaw method (See Page 37). In the Jigsaw activity, a reading lesson is cut up and divided among the group by the teacher. Each person reads their individual part silently and then presents what they read to the group. Next, each cooperative group teaches the whole class about what they learned from their reading session. This activity is really a good way to

elicit participation from each class member. Students will feel less inhibited by first presenting in small groups. After much practice, they often feel more comfortable when presenting in front of the whole class. In the Jigsaw classroom, the student's group is the students' audience, and hence each student's contribution in the first instance is shared with only three to five other people, allowing much more specific feedback. In this way the researcher sought to deal with the issue of student boredom and that of lower achievers.

The Whole Language Approach is an approach to teach language that places special emphasis on the totality of the word, the paragraph, and the book to obtain meaning. It is an approach that can be used to teach, among other things, reading, writing and spelling. Those who use the Whole Language Approach are more concerned with the end result and are not concerned initially with misspelling and incorrect grammar. In reading instruction, Whole Language is based on the premise that students should use context clues to derive the meaning of unfamiliar words. One common technique has students read along silently as the teacher reads a text aloud to the class, and this repetition drives understanding (Newman, 1985).

Puzzles, and any kind of problems that have a specific solution presented in linguistic form are also good reading materials. The language skill is reading for specific information, and using the information for a specific purpose such as solving the problem. We do not use language in a vacuum but use it for a purpose. Most young people enjoy solving puzzles so that the task they are set is motivating and, instead of reading for the sake of reading, they read for a purpose that is nothing directly to do with language teaching. Instead of learning to use the language, they use the language in order to learn it.

In teaching Group B and C, puzzles were presented in English. From a language point of view, the main purpose of the activity is that the students can understand, to the point that they can use their language. However, if students do use their Chinese while solving the problem, the main emphasis is on the students understanding the written material presented to them, and hence the teacher should not insist on only using English.

Puzzles used in this way in teaching emphasize the use of language for a purpose, and encourage more co-operative attitudes in the classroom. In this way language acquisition is promoted (Norman, Levihn, Hedenquist, 1986 & Klippel, 1987).

Sustained silent reading is another important reading activity in a Whole Language curriculum. Sustained silent reading is a brief time set aside each day when everyone reads by himself or herself. Students select their own material. They are encouraged to spend silent reading time enjoying books on their own. Sustained silent reading can be adopted in the Language Learning Center, the reading center for extensive reading. This is quite a different emphasis in using silent reading than the way it is used in traditional teaching strategies.

4.1.3 Extensive Reading

Extensive reading is another way of teaching reading and is used in addition to the strategies. Richards and Schmidt (2002) state that extensive reading means to read in quantity for the purpose of gaining a general understanding of what is read. Thus, although there are variations in the ways an extensive reading program is administrated, extensive reading programs require students to read a relatively large number of texts. This is quite different to what is called intensive reading, which involves a slower reading of a relatively small amount of reading materials with translation exercises in a foreign language situation. In extensive reading programs, students read simpler materials than in intensive reading programs, and students are not required to demonstrate understanding to a degree as detailed as they would in intensive reading programs. Instead, students are expected to read a large number of texts while enjoying reading. Thus, an extensive reading program, as Richards and Schmidt (2002) state intends to develop good reading habits, to build up knowledge of vocabulary and structure, and to encourage a liking for reading. Extensive reading programs can also be adopted in the Language Learning Center, the reading center.

4.1.4. In Listening and Speaking classes

Most of the listening and speaking classes were taught in the language lab, because the language lab provided all the equipment and spacious surroundings that all teaching and learning activities needed.

Most people learn a foreign language better with others than on their own. Learning a language requires more than the understanding of words and grammatical rules (linguistic competence). It requires the ability to put this knowledge into practice (communicative competence). Language practice should therefore provide opportunities for students to co-operate, communicate and interact with one another in a variety of ways. The activities must be meaningful and realistic to the students. (Norman, Levihn, Hedenquist, 1986; Klippel, 1987).

Listening comprehension can be made more active and effective by having something specific to listen for using a Whole language approach. Even a difficult or authentic piece of recorded material such as a genuine conversation or a news summary can be attempted at lower levels if the questions asked in the tasks are adapted to the students' ability levels (Norman, Levihn, Hedenquist, 1986; Klippel, 1987).

Newman (1985) claims that Whole Language activities are those that support students in their use of all aspects of language; students learn about reading and writing while listening; they learn about writing from reading and gain insights about reading from writing. A whole language curriculum uses predictable materials such as songs, nursery rhymes, poems, as well as classical and contemporary children's stories. Three activities such as Three-Step interview, Inside-Outside circle and Learning Together have already been described that were used with Groups B and C in using the approach (See Page 39).

Whatever method and activities are chosen, the teacher was very careful about students' mistakes. The frequent correction of students' errors was avoided. However this was at times difficult because it is easy to assume that traditional role of the teacher as "the authority" and constantly correct mistakes. Being interrupted and corrected can make the students insecure and hesitant in their speech when they should be practicing communication. For example, concentrating on individual errors in front of the whole class, or interrupting a student during fluency practice can create inhibitions in individual students and set standard of perfection that are impossible or difficult to live up to. Evidence also shows that constant correcting does not always lead to improvement. On the other hand, the teacher should have knowledge,

experience, and skills on how and when the correcting is done, because students do need professional guidance (Norman, Levihn, Hedenquist, 1986; Klippel, 1987).

4.1.5. Feedback

Littlewood (1981) stated that an important factor in determining the learners' relative focus on meanings and linguistic forms was the nature of the feedback they received. This is another crucial aspect of the teaching strategies used in this project. Feedback carries information about how successful the learner has been. The concept of success is determined by the focus or purpose of an activity. The nature of the feedback also tells the learners what criteria for success are operative during a particular activity. If the purpose is to comprehend meaning, success will be measured according to communicative criteria. It means how effective communication takes place. On the other hand, if the purpose is to produce some pre-determined linguistic structures, success will be measured according to structural criteria. It means how fluently or accurately the structures are produced.

It was therefore important for the teacher to monitor the kind of feedback that her learners received so that it supported them in their learning. So in pre-communicative activities, She attempted to provide feedback relating to linguistic form, but did not provide communicative feedback. However during communicative activities, she provided communicative feedback but did not provide structural feedback (Littlewood, 1981).

4.2. Student Interviews

Qualitative data were also collected from the interviews. This allowed the researcher to speak directly to the students and have them explain their answers on the questionnaires. The interviews explored the reasons behind the significant gain in the motivational questionnaire survey and the results of the questionnaire. There were about 38 students from group C involved in this interview. Most of the students who were interviewed expressed a liking for active participation, change, variety, self-correction or self-reflection which are all integrated into lessons through the use of a variety of activities that incorporated the intelligences in a cooperative classroom.

The typical comments adapted from the student interviews of Group C (See Appendix N) were translated into English and are summarized as follows:

Some students mentioned that CL and MI could lower their anxiety and restore their confidence and self-esteem. Typical comments were:

- I was a shy person, so I hated to make a comment in the class, but I liked to work in groups and felt more comfortable to participate and comment in the group.
- In the group work, when sharing learning tasks, everyone was assigned a role, I felt that I had less pressure and would like to do my best to complete the assignment and duty.
- I liked to learn how I learn. It made to learn more fun. I used to think I could not learn to read and speak in class, but I feel much better now.
- I was happy with the work we do in this class because we had choices. We did not always need to do the same assignment as a different student. I liked the way of choosing assignments by my interests when I learned cooperative learning in groups. I could get help from my classmates.
- After many group presentations in front of the classroom, I felt more comfortable when presenting my ideas in class.
- I felt very happy in class, because I could contribute something that I was good at to my group. I could tell that everyone was important in his group.
- I was not a good student in school and never got good grade for any subjects. I felt bored listening to the teacher constantly talking and talking. I could not figure out what my teacher was talking about. In addition, I was always blamed for making noise in class. But I liked the song making and the pictures my classmates made for the vocabularies. I felt it could attract my attention in class. The most important thing is that I felt more confident to study in class. Though I did not get good grades in tests, I did a good job by performing the drama. In addition, I searched lots of pictures from the magazines, storybook, and internet that were useful in class, so my teacher gave me the chance to make up the exam by my homework and assignment.

- My English teacher was very kind. Though I failed in the mid-term examination, she gave me another chance for assessment. I could choose my own way to present my talent. I sang two English songs and searched a lot of pictures that had English vocabularies on them to present in class. My English teacher said that I did a good job. Hence, I had more confidence in studying English.

These last two, while mentioning increased confidence also made it clear that utilizing different measures of assessment makes a difference in confidence.

Some students mentioned that CL and MI could provide them with an active environment to learn the four language skills. Typical comments reflecting the active nature of the class were:

- Cooperative learning activities provided us a learning environment where we felt we were a necessary part in the group. In addition, it was not only the teacher that always gave the lecture and initiated the talk; therefore few students felt sleepy in class.
- By cooperative learning, my classmates that were too shy to ask help from teachers were more willing to turn to their teammates for assistance. The teammates that had better English proficiency would like to give timely help.
- The Jigsaw method of cooperative learning in reading could provide us the opportunities to work together and share opinions, feelings, knowledge and understanding. We enjoyed these interaction and felt learning became fun.
- I learned some reading and writing strategies from group work in class. For example, I learned the basic sentences that are helpful for my writing. In addition, I want to work on how to guess the meaning of the word from the sentence. This can also help me in my extensive reading.
- For my duty in my own group, I needed to check each classmate's worksheet. I liked to move around. It was not necessary for me to sit quietly in my own seat all the time. I felt that our English classes were not static but dynamic.
- Our English teacher is energetic and always makes the class fun.

- I seldom dozed off since our teacher asked us to study in groups, and it was easier for me to keep awake with various activities going on in class.
- Our class was like a family, because we can talk about everything and did not feel shy. In addition, we felt comfortable in the class. We were involved in tasks where our knowledge could grow.
- Graphs, colors, posters and visual aids were viewed as additional help in the classroom and campus. This semester, we decorated our “Food Nutrition Department building” by English posters or maps. Not only the stairs of the building, the lift, the restroom, the bulletin board, but also the Language Learning Center, and the Language Lab, we can see the English vocabularies, idioms everywhere in the campus. We seem to learn the English by visual help. We should say thanks to the people who provided this learning environment.
- I like to collect the maps and pictures by means of various techniques like internet for my assignment which was required by groups work. I am also motivated to learn through visual the teacher and classmates brought to the class because I can see better what I read. I feel that I can understand the vocabularies or the reading with the chart or pictures provided in class. Besides, I like to draw pictures for the English words. It can help me memorize the new words. It seemed that my classmates like my drawings too.
- We played games, sang songs and changed studying a lot. We practiced reading and writing by various kinds of activities and did different homework. All of them made me feel comfortable and interested.
- I liked the English songs which I learned this semester. I was so moved when I knew the plot of the stories of the songs “Tie a yellow ribbon around the old oak tree” and “Dear John”. The melodies of these two songs were also very nice. Listening to the English songs became my hobby. I found it could also increase my listening skills.
- I seldom had the chance to speak English and felt nervous when I needed to speak English, but in the drama performance, I could talk it out without hesitation. I found it was a good way to train my oral skills. In addition, when preparing the performance of the drama, everyone was assigned a role; we felt that a sense of duty had been instilled in us.

Often the time in the Language Learning Center was used as an extension of the lesson, so that students could review and practice what they have been learning in class. It was also a place where the learners could explore language topics other than those they learnt in the normal classroom. Some students mentioned that the Language Learning Center could provide students with a good environment to solve the problem that class size was too big and then individual needs could be better met.

- I liked to study English and did my homework in the Language Learning Center. Not only did it provide a good learning environment for us, but also if we had problems in learning, we could consult the teacher who was on duty there. All the teachers there were very kind to give us timely help.
- I am more willing to go to the Language Learning Center to borrow novels or magazines to read. Above all, the teacher on duty there could teach and help me right away when I had difficulties in learning.
- I felt my English class was not boring this semester and it seemed that I learned something from the Language Learning Center. I felt very comfortable in the Language Learning Center because I could play computer games, listen to music, watch TV, and read the novels and magazines that I liked. But the problem was that I needed to register before I visited the Language Learning Center. I hoped that school would build more Language Learning Centers so that I could go anytime when I did not have class in school.

Some students noted the need for a balance between group work and individual work.

- Sometimes it is good to have us work by ourselves for a while before having a partner, because some classmates are not serious in class.
- I like working in groups a lot, but I need to be quiet sometimes, so I can listen to myself.
- Some of my classmates in my group were too dependent. They sometimes relied on the members of their group with high English proficiencies too much. Hence, they did fewer assignments than the students with high English proficiency. It's unfair.

The comments that summarized above were listed in table 4.1 and discussed as follows:

Table 4.1 The interviews that were summarized

| Approach that used in class | Comments that were generalized | Numbers of students volunteering comments |
|---|--|---|
| MI | Students maybe not good at everything but could show ability in at least one area | 5 |
| | Varied assessments allowing different ways of showing ability. | 2 |
| CL | The approach encouraged participation | 2 |
| MI / CL | Teacher is more energetic | 1 |
| | Students were more confident | 4 |
| | Students felt more comfortable and had less pressure | 6 |
| | Classes were not static but dynamic and interactive | 2 |
| | The low achiever students' self-esteem were enhanced | 3 |
| MI / WL | The curriculum designed was interesting and practical | 3 |
| CL / Language Learning Center | Students felt more supported in their learning (help from classmates or teachers) | 5 |
| | Students felt individual need could be met | 4 |
| CL / MI / WL / Language Learning Center | The approaches that were adopted provided a good environment to learn the four language skills | 4 |
| | Students could have more choices to learn | 5 |
| | Students claimed liking / happiness / enjoyment | 7 |

It can be seen from these selected comments from students that they felt that they were growing in confidence and motivation. It should be stressed that the interview was very open and these comments were volunteered. This means that many more may have answered in this way if asked a specific question. They also on the whole appreciated the more dynamic atmosphere of the Group C lessons. The use of the

Language Learning Center seems to have been important. However, the students also recognized that there needed to be a balance of teaching strategies with individual work still having an important role. These comments are in line with the questionnaire results supporting these findings.

During the experiment, the researcher received almost more than two hundred pages of pictures collected from the subjects. According to students' diverse interests, the subjects searched for different pictures that had English caption on it and displayed in class. The pictures from the Internet, magazines, storybooks included flowers, animals, flags, foods, vehicles and so. One student from Group C whose intelligence was naturalistic liked to collect pictures from the natural environments and was willing to memorize the words. It seemed that students liked to recite the vocabulary that they were interested and familiar with. It was the same for the other students that had different intelligences. In group work, each member was assigned a different assignment, each student liked to choose whatever they like according to their interests and shared in their group or their class. Students could benefit from one another. Besides, the researcher could also receive a lot of teaching materials prepared by the students. From the result of the questionnaire and interviews when forming groups, students of different intelligences and language proficiencies helped one another and reach different teaching goals.

4.3. The Results of the Questionnaires about Learning Attitudes

The purpose of having the three groups of students answer the three forms of essentially the same questionnaire (EFL Questionnaire for the Multiple Intelligence group, the Cooperative Learning group and Control group, see Appendix H, Appendix I and Appendix J) was to elicit the experimental students' reflection on the effectiveness of the different styles of teaching. There were twenty questions in this questionnaire. Three categories were used to classify students' response to each statement; D stands for strongly disagree and disagree. N stands for neutral or undecided and A stands for agree to strongly agree (See Table 4.2 to 4.6). The students' responses are also classified depending on whether they belonged to Group A, B or C. Blank cells indicate that this item was not completed. The items have been tabulated in groups to make the analysis clearer. Cells that are left blank indicate that

this item was not in the questionnaire that this group completed. The attitude questionnaire was administrated at the end of this study.

From the results in Table 4.2, most students believe that Cooperative Learning and Multiple Intelligence based activities could improve their four language skills; above all, the Cooperative Learning and Multiple Intelligence group (Group C) had more positive attitudes than the Cooperative Learning group (B).

Table 4.2 The results of the Questionnaire about language performances

| | Group A | | | Group B | | | Group C | | |
|---|---------|---|---|---------|----|----|---------|----|----|
| | D | N | A | D | N | A | D | N | A |
| Q6. I feel cooperative learning in group work can increase my basic English speaking proficiency. | | | | 4 | 18 | 18 | 2 | 8 | 30 |
| Q7. I feel cooperative learning in group work can increase my basic English writing proficiency. | | | | 9 | 18 | 13 | 0 | 8 | 32 |
| Q8. I feel cooperative learning in group work can increase my basic English reading proficiency. | | | | 8 | 12 | 20 | 1 | 6 | 33 |
| Q9. I feel cooperative learning in group work can increase my basic English listening proficiency. | | | | 7 | 10 | 23 | 2 | 10 | 28 |
| Q10. I feel cooperative learning in group work can increase my basic English pronunciation proficiency. | | | | 11 | 8 | 21 | 1 | 8 | 31 |
| Q19. I feel that Multiple Intelligence based activities can improve my four language skills. | | | | | | | 0 | 8 | 32 |

From the results in Table 4.3, more students in Group C than Group B felt that group work could lower their anxiety and fear and increase their motivation, interest, and participation in learning English. Studying English because of interest was also stronger in Group A and C than in Group B. One subject in Group C mentioned, “By

cooperative learning, my classmates that were too shy to ask help from teachers were more willing to turn to their teammates for assistance. Also the teammates that had better English ability would like to give timely help”.

Table.4.3 The results of the Questionnaire about attitudes and motivation in learning

| | Group A | | | Group B | | | Group C | | |
|--|---------|---|----|---------|----|----|---------|---|----|
| | D | N | A | D | N | A | D | N | A |
| Q3. I like small group work in the classroom. It can lower my anxiety and fear about learning English. | | | | 5 | 11 | 24 | 2 | 9 | 29 |
| Q4. I feel small group work in the classroom can increase my motivation, interest and participation in learning English. | | | | 9 | 16 | 15 | 0 | 7 | 33 |
| Q12. I feel the multiple-intelligence based assessment can give me more confidence and lower my anxiety in learning English. | | | | | | | 0 | 6 | 34 |
| Q20. I study English because I am interested in it, not for the sake of passing the test or examinations. | 1 | 8 | 31 | 5 | 8 | 27 | 0 | 7 | 33 |

From the results in Table 4.4, most students in Group A and C showed positive attitudes in the WLA based curriculum but interestingly this was not so for Group B. In addition, the researcher found from discussion with students that those students who could understand the needs, feelings, or wishes of others enjoyed being leaders in groups. These students liked to work in groups and help others. Above all, they liked to come up with unique or imaginative ways to settle arguments or solve problems between people.

Table 4.4 The results of the Questionnaire about teaching materials and activities

| | Group A | | | Group B | | | Group C | | |
|---|---------|----|----|---------|----|----|---------|----|----|
| | D | N | A | D | N | A | D | N | A |
| Q1. The textbooks or teaching materials are more practical and useful in this semester. | 3 | 11 | 26 | 7 | 24 | 9 | 1 | 13 | 26 |
| Q2. I feel that English curriculum in this semester in more interesting. | 0 | 12 | 28 | 5 | 23 | 12 | 1 | 6 | 33 |
| Q5. I prefer cooperative learning in group work rather than traditional teaching methods. | | | | 7 | 9 | 24 | 2 | 5 | 33 |
| Q15. The class activities like story-telling, drama, role play, songs learning, group jigsaws, picture creating and so on can motivate my interest in learning English. | 1 | 10 | 29 | 5 | 20 | 15 | 1 | 5 | 34 |

As to Gardner's Multiple Intelligence theory and Cooperative Learning adopted in Group C, traditional teachers are not comfortable having students move around the room often and feels that it cannot lead to an academic environment. But for the students that have bodily/ kinesthetic Intelligence and used to have difficulties in concentrating on the teacher's lecture, Cooperative Learning helped them concentrate and allowed them to move around the classroom during the various activities in class. In addition, they were not required to sit still and listened to the teacher's lecture for almost 50 minutes in class when Cooperative Learning activities were in progress. The students who possess a highly developed bodily-kinesthetic intelligence also like to work with their hands to build models and use their bodies a lot. When they are speaking, they are good at things like acting, physical exercises and dancing. In addition, they learn better by doing things themselves than by having them explained.

The students who have a strong liking for music would like to spend a lot of time listening to music and have music on while they listen or study. While they work, they often have favorite tunes in their minds, drum their fingers while they work. In addition, many students stated that they often listened to music and the songs they

listened to could help them with their memory skills and skills in listening, speaking, and pronunciation.

From the results, we found out most of the students in each group responded with a positive attitude to the teaching materials and curriculum designed during the experimental span, and Group C reacted more positively than the other two groups.

As to group work, the students in Group C responded with a more positive attitude than those of Group B. They preferred Cooperative Learning in group work rather than the traditional teaching methods that they had experienced in the past.

A Language Learning Center in an EFL classroom can be defined as an area where students can explore English in a variety of ways by working cooperatively in small groups or independently. That is, learners, alone or with others, can use different sensory organs to speak, listen, write, and read English by interacting with materials, tasks, and activities provided by Language Learning Centers (Ingraham, 1997).

All the subjects of the three groups had equal chances to attend the Language Learning Center. From the results of Table 4.5, almost all of the students had positive attitude for the Language Learning Center.

Table 4.5 The results of the Questionnaire about Language Learning Center

| | Group A | | | Group B | | | Group C | | |
|---|---------|----|----|---------|----|----|---------|----|----|
| | A | B | C | A | B | C | A | B | C |
| Q13. I like to go to the self-study Language Center where I can choose my own way of learning English. | 0 | 13 | 27 | 6 | 13 | 21 | 0 | 10 | 30 |
| Q14. I feel I can learn more from the self-study Language Learning Center which is set up according to students' diverse learning styles and multiple intelligence. | 0 | 13 | 27 | 2 | 20 | 18 | 0 | 12 | 28 |

From the results in table 4.6, the group C students were clearly more positive about MI used in their group.

Table 4.6 The results of the Questionnaire about MI used for group C

| | Group A | | | Group B | | | Group C | | |
|--|---------|---|---|---------|----|----|---------|----|----|
| | D | N | A | D | N | A | D | N | A |
| Q11.I feel cooperative learning in group work can improve interpersonal relationships among classmates | | | | 5 | 12 | 23 | 0 | 9 | 31 |
| Q16.After filling the blanks in the Multiple Intelligence Inventory for EFL young adults. I agree it can match my learning and intelligence style. | | | | | | | 0 | 9 | 31 |
| Q17.When in group work, I like to work with my classmates that have the same type of intelligence | | | | | | | 3 | 16 | 21 |
| Q18 When in group work, I like to work with my classmates that have the different type of intelligence | | | | | | | 1 | 10 | 29 |

4.4 Results of Motivational Questionnaires

In order to investigate further the efforts of Cooperative Learning and the implementation of Gardner's MI theory and the Whole Language Approach on EFL learner's motivation toward learning, a Likert-type questionnaire to evaluate the important factors in language learning was designed. Students were asked to choose one of five alternatives that were labeled never, seldom, sometimes, often and always. The motivational questionnaires were administered twice in this study (see Appendix G). One was in the beginning of this study as the pre-observation, and the other was at the end of this study as the post-observation. Tabulating the percentage responses to each item report these results. The graphs of these are shown in Appendix Q. It was hoped that a majority of students would choose often or always for positively worded items.

Item 1. I like English class, because it is interesting.

For all groups there was a definite move towards the liking of English (see Table 4.7). This was more pronounced for Group C.

Table 4.7. Group responses to item 1 of the motivational questionnaire.

| | GroupA pre | GroupA post | GroupB pre | GroupB post | GroupC pre | GroupC post |
|-----------|---------------|----------------|---------------|----------------|---------------|----------------|
| never | 7.5 | 5.3 | 17.5 | 0.0 | 5.0 | 0.0 |
| seldom | 27.5 | 28.9 | 27.5 | 17.5 | 22.5 | 0.0 |
| sometimes | 40.0 | 28.9 | 45.0 | 47.5 | 55.0 | 12.5 |
| often | 10.0 | 31.6 | 7.5 | 25.0 | 15.0 | 67.5 |
| always | 15.0 | 5.3 | 2.5 | 10.0 | 2.5 | 20.0 |

Item 2, I feel very happy when we are in English class.

Research indicates that learning under stress is often ineffective and can even be of negative value (Klippel, 1987). From the data in Table 4. 8, a relaxed atmosphere can counteract feelings of tension and anxiety on part of the learners and CL and MI could be employed to promote this atmosphere, it is clear that group C students reported

increased happiness associated with the English class. It is also notable that all students found the semester work of interest.

Table 4.8 Group responses to item 2 of the motivational questionnaire.

| | GroupA pre | GroupA post | GroupB pre | GroupB post | GroupC pre | GroupC post |
|-----------|---------------|----------------|---------------|----------------|---------------|----------------|
| never | 12.5 | 10.0 | 7.5 | 2.5 | 5.0 | 0.0 |
| seldom | 15.0 | 10.0 | 25.0 | 7.5 | 17.5 | 0.0 |
| sometimes | 47.5 | 50.0 | 45.0 | 42.5 | 47.5 | 7.5 |
| often | 12.5 | 25.0 | 15.0 | 27.5 | 25.0 | 20.0 |
| always | 12.5 | 5.0 | 7.5 | 20.0 | 5.0 | 72.5 |

Item 3, I think my English can improve if I can study hard.

When responding to item 3 (see Table 4.9), Group C students particularly seemed to appreciate the need for hard work as a way to improve learning by the end of the semester. There was a slight improvement in GroupB and C. The results of students in Group A do not believe this is always the case.

Table 4.9 Group responses to item3 of the motivational questionnaire.

| | GroupA pre | GroupA post | GroupB pre | GroupB post | GroupC pre | GroupC post |
|-----------|---------------|----------------|---------------|----------------|---------------|----------------|
| never | 5.0 | 5.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| seldom | 15.0 | 17.5 | 15.0 | 2.5 | 20.0 | 0.0 |
| sometimes | 37.5 | 30.0 | 45.0 | 42.5 | 27.5 | 17.5 |
| often | 20.0 | 37.5 | 25.0 | 32.5 | 35.0 | 35.0 |
| always | 22.5 | 10.0 | 15.0 | 22.5 | 17.5 | 47.5 |

Item 4.I feel that the English class is boring.

In the traditional teaching classroom in Taiwan, whole-class instruction is still predominant. Teaching is teacher-centered. The teacher always initiates the talk and gives the lecture. The student's role is to do what the teacher says. The teacher mediates students' interactions or communication. Hence, interaction is hindered,

since there is only one-way communication. But CL cultivated more teacher-student and student-student interaction. In addition, teamwork enabled students to enjoy classroom teaching and learning activities, so the students in Group B and C had more positive attitudes in class. These are probably the reasons why students in Group B and particularly Group C certainly rejected the notion of item 4. (See Table 4.10)

Table 4.10 Group responses to item 4 of the motivational questionnaire.

| | GroupA pre | GroupA post | GroupB pre | GroupB post | GroupC pre | GroupC post |
|-----------|---------------|----------------|---------------|----------------|---------------|----------------|
| never | 7.5 | 15.0 | 0.0 | 20.0 | 7.5 | 70.0 |
| seldom | 30.0 | 32.5 | 27.5 | 32.5 | 52.5 | 20.0 |
| sometimes | 32.5 | 42.5 | 52.5 | 35.0 | 32.5 | 7.5 |
| often | 17.5 | 0.0 | 7.5 | 10.0 | 5.0 | 0.0 |
| always | 12.5 | 10.0 | 12.5 | 2.5 | 2.5 | 2.5 |

Item 5. I feel English is important for finding a good job.

Ames and Ames (1989) stated that motivation which was defined as the impetus to sustain and create intentions and goal-seeking acts was important because it determined the extent of the learner's active involvement and attitude toward learning.

Thus, according to Gardner and Lambert (1972) a learner will learn a language well depending upon whether he is instrumentally or interactively motivated to do so. The motivation is instrumental if the learner is oriented toward instrumental goals: to get a better job, to read materials in the language or the desire to study in the country where the target language is spoken. On the other hand, the learners who are interactively motivated want to be identified as a member of the target language community, get to know the target language culture better and even become part of it.

An inspection of Table 4.11 shows that most students always realized the truth of this statement. As the semester progressed far more of Group B and C, but even more group C, moved to such an agreement. It is probable that with this growth of

understanding, the motivation of all groups, but particularly that of group C increased.

Table 4.11 Group responses to item 5 of the motivational questionnaire.

| | GroupA pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|---------------|---------------|--------------|---------------|--------------|---------------|
| never | 0.0 | 0.0 | 2.5 | 0.0 | 2.5 | 0.0 |
| seldom | 5.0 | 2.5 | 5.0 | 2.5 | 5.0 | 2.5 |
| sometimes | 17.5 | 7.5 | 10.0 | 20.0 | 15.0 | 12.5 |
| often | 27.5 | 32.5 | 27.5 | 15.0 | 32.5 | 15.0 |
| always | 50.0 | 57.5 | 55.0 | 62.5 | 45.0 | 70.0 |

Item 6. I am attentive to what my teacher says in English class.

The traditional teaching methods used for the control group was that students listened passively and quietly to the teachers' lecture with little or no student-student interaction when practicing the target language. Hence, some students were inattentive in class. In the traditional teaching approach, students' attention to the teacher's talk is a critical component. It is interesting to note though that "always" was not a strong response in either Group B or C. This could be because of their interactions with others making the teacher no longer the central component. In contrast, in Group C where teaching strategies that adopted CL and MI notions, students' attention was far higher (See Table 4.12). It acknowledges the importance of all interaction and not just the teacher speaking to students. This is a fascinating result for Group C as well as Group B. This is probably because students are overall more interested in the work when in Group C. Perhaps they are also more interested in listening to the fewer inputs by the teacher.

Table 4.12 Group responses to item 6 of the motivational questionnaire.

| | GroupA pre | GroupA post | GroupB pret | Group post | Group pre | Group post |
|-----------|---------------|----------------|----------------|---------------|--------------|---------------|
| never | 2.5 | 5.0 | 2.5 | 7.5 | 5.0 | 7.5 |
| seldom | 20.0 | 10.0 | 32.5 | 17.5 | 35.0 | 10.0 |
| sometimes | 45.0 | 50.0 | 45.0 | 45.0 | 45.0 | 30.0 |
| often | 25.0 | 27.5 | 20.0 | 27.5 | 15.0 | 45.0 |
| always | 7.5 | 7.5 | 0.0 | 2.5 | 0.0 | 7.5 |

Item 7. I feel it is not difficult to learn English well.

Clearly the responses recorded in table 4.13 suggest that students in Group C at the end of the semester consider that the difficulties of learning English was far lower than the other two groups. In particular there were many more students who had a negative response at the beginning of the semester who moved to a positive attitude compared to the other groups.

Table 4.13 Group responses to item 7 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 12.5 | 5.0 | 10.0 | 5.0 | 5.0 | 0.0 |
| seldom | 27.5 | 25.0 | 20.0 | 15.0 | 37.5 | 5.0 |
| sometimes | 40.0 | 27.5 | 32.5 | 35.0 | 30.0 | 12.5 |
| often | 7.5 | 32.5 | 27.5 | 27.5 | 22.5 | 55.0 |
| always | 12.5 | 10.0 | 10.0 | 17.5 | 5.0 | 27.5 |

Item 8. I like to speak English in class.

Table 4.14 shows that the notion of speaking in an English class at the beginning of the semester was not considered as a common activity. By the end of the semester this had changed for many students in Group B and C, but particularly for Group C. Presumably using activities such as Inside-Outside Circle, Three-Step Interview and the Jigsaw could encourage this change.

Table 4.14 Group responses to item 8 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 30.0 | 30 | 72.5 | 25.0 | 47.5 | 12.5 |
| seldom | 42.5 | 35 | 12.5 | 27.5 | 40.0 | 22.5 |
| sometimes | 20.0 | 25 | 15.0 | 30.0 | 10.0 | 32.5 |
| often | 5.0 | 2.5 | 0.0 | 15.0 | 2.5 | 17.5 |
| always | 2.5 | 7.5 | 0.0 | 2.5 | 0.0 | 15.0 |

Item 9. I study English because I am interested in it, not for the sake of passing exams.

The results recorded in Table 4.15 suggest that students in Group A did not change their attitudes to why they study English. Nor interestingly was change there for Group B. But students in Group C did change their attitude, perhaps taking seriously that students do prefer to think differently to each other spark a deeper interest in the study of English. Many students in Group C saw in their studies far more than just passing exams.

Table 4.15 Group responses to item 9 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 10.0 | 5.0 | 25.0 | 5.0 | 32.5 | 2.5 |
| seldom | 30.0 | 27.5 | 37.5 | 37.5 | 35.0 | 10.0 |
| sometimes | 35.0 | 35.0 | 30.0 | 35.0 | 25.0 | 35.0 |
| often | 17.5 | 22.5 | 7.5 | 7.5 | 5.0 | 42.5 |
| always | 7.5 | 10.0 | 0.0 | 15.0 | 2.5 | 10.0 |

Item 10. I hope to have more English classes in a week.

Interestingly, it appears that many students particularly in Group B and C thought that more English classes in a week would be good by the end of the semester. This shows that they saw the learning of English as more important and were more motivated. However the movements for Group B and particularly for Group C was more noticeable. Hence the impact of the use of CL and more so the combination of CL and MI notions is probably the cause.

Table 4.16 Group responses to item 10 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 30.0 | 22.5 | 42.5 | 20.0 | 35.0 | 0.0 |
| seldom | 30.0 | 22.5 | 20.0 | 22.5 | 30.0 | 10.0 |
| sometimes | 22.5 | 45.0 | 32.5 | 35.0 | 22.5 | 20.0 |
| often | 5.0 | 7.5 | 5.0 | 10.0 | 7.5 | 35.0 |
| always | 12.5 | 2.5 | 0.0 | 12.5 | 5.0 | 35.0 |

Item 11. I hate English, but I do not have any choice. I just have to sit in class.

Given the results of Table 4.16, the results in Table 4.17 are no surprise. They mirror the expected movements for the different groups.

Table 4.17 Group responses to item 11 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 12.5 | 12.5 | 7.5 | 17.5 | 17.5 | 57.5 |
| seldom | 20.0 | 40.0 | 17.5 | 15.0 | 30.0 | 35.0 |
| sometimes | 40.0 | 25.0 | 22.5 | 37.5 | 42.5 | 5.0 |
| often | 22.5 | 12.5 | 22.5 | 25.0 | 0.0 | 2.5 |
| always | 5.0 | 10.0 | 30.0 | 5.0 | 10.0 | 0.0 |

Item 12. I like English because I like my English teacher.

The roles of the teacher hinted at in the interpretation of Table 4.16 are confirmed by the changes in Table 4.18. The dynamic between students' perception of a subject and their perception of a teacher means it is often difficult to separate the two. She has had an important impact on all students, but particularly in the free atmosphere of Group B and more so in Group C.

Table 4.18 Group responses to item 12 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 10.0 | 7.5 | 10.0 | 2.5 | 2.5 | 0.0 |
| seldom | 12.5 | 17.5 | 17.5 | 2.5 | 22.5 | 0.0 |
| sometimes | 52.5 | 32.5 | 37.5 | 12.5 | 37.5 | 2.5 |
| often | 15.0 | 27.5 | 17.5 | 37.5 | 32.5 | 7.5 |
| always | 10.0 | 15.0 | 17.5 | 45.0 | 5.0 | 90.0 |

Item 13. I always pay attention to the English I learned in class when I watch an English TV program.

One hopes that learning in the classroom does have an impact on students' lives in the outside world. There are worries for students in Group A (See Table 4.19). A number of students seem to have been paying less attention to English learned in class when outside the class at the end of the semester than at the beginning. In contrast, there was a drift to more use for students in Group B, but a marked increase for students in Group C. This suggests that CL activities help the generalization of English, but when CL is combined with MI this is ever more noticable.

Table 4.19 Group responses to item 13 of the motivational questionnaire.

| | Group pre | Group post | Group pre | Group post | Group pre | Group post |
|-----------|-----------|------------|-----------|------------|-----------|------------|
| never | 15.0 | 7.5 | 17.5 | 2.5 | 15.0 | 2.5 |
| seldom | 20.0 | 20.0 | 22.5 | 15.0 | 40.0 | 0.0 |
| sometimes | 22.5 | 47.5 | 32.5 | 35.0 | 20.0 | 25.0 |
| often | 22.5 | 15.0 | 25.0 | 32.5 | 20.0 | 45.0 |
| always | 20.0 | 10.0 | 2.5 | 15.0 | 5.0 | 27.5 |

In general, all items of the Motivational Questionnaire support in various ways the teaching strategies used for Group B, but even more so for Group C, compared the traditional strategies used in Group A.

To sum up, there were improvements in language learning showing more in the CL & MI group than was also reflected in their motivation and attitudes.

4.5. Results of Students' Four Language Skills and the Mid-term and Final-term Examination.

From an inspection of the descriptive statistics of the pre-test and post-test of the four-language skills, there did seem to be differences arising. The mid-term and final-term Examination were normal tests that all students had to take. These results

were an important measure of all students' general language proficiency, and would be used to mark students' progress in the college.

Table 4.20 Descriptive statistics for the pretest and posttest of the four language skills and the Mid-term and Final-term Examination.

| | Control group N=40 | | Cooperative Learning Group N=40 | | Cooperative Learning and Multiple Intelligences Group N=40 | |
|-------------|--------------------|----------------|---------------------------------|----------------|--|----------------|
| | Mean | Std. Deviation | Mean | Std. Deviation | Mean | Std. Deviation |
| listening 1 | 69.9 | 11.5 | 69.6 | 11.9 | 70.6 | 14.0 |
| listening 2 | 77.3 | 13.0 | 84.4 | 17.0 | 89.4 | 13.3 |
| reading 1 | 42.3 | 10.6 | 41.0 | 15.5 | 46.2 | 14.5 |
| reading 2 | 47.2 | 14.3 | 47.6 | 15.6 | 52.9 | 13.9 |
| writing 1 | 24.8 | 10.0 | 33.0 | 17.3 | 31.0 | 17.4 |
| writing 2 | 31.0 | 10.5 | 38.7 | 18.3 | 40.6 | 17.2 |
| speaking 1 | 71.4 | 11.4 | 74.2 | 9.0 | 72.3 | 13.5 |
| speaking 2 | 77.2 | 8.0 | 80.4 | 10.4 | 80.3 | 7.5 |
| mid term | 57.3 | 18.8 | 60.8 | 23.3 | 57.8 | 24.3 |
| final term | 61.3 | 18.6 | 61.8 | 20.9 | 62.4 | 20.2 |

(Listening 1 means listening pre-test. Listening 2 means listening post-test)

It is worth noting immediately that for all groups, scores for the final-term Examination were higher than in the mid-term Examination for each of the four language skills. Such a result is clearly in line with expectations, but it is also worth noting that final-term examination scores with all three groups were similar. Although the scores in Group C showed more improvement, this was really only slight.

Since some of the questions in this study concern students' improvement in English as measured by Standard Test, it was appropriate to use statistical tests to make comparison. In particular to respond to the stated hypotheses t-test were used since they enabled a direct comparison between two groups taking into account the direction of the difference.

A paired t-test was used to look at the improvement within each group. Statistical significant though does not equate to the educational significance. The group size has an impact on the level of significance statistically. For this reason Cohen's (1969) effect size was used to further compare the groups in this project to reflect the educational significance of the change.

Effect size index (d) is a ratio which is independent of the original measurement unit and is similar to a standard score.

$$d = \frac{X_A - X_B}{S_{\text{pooled}}}$$

where X_A and X_B are the means of the two samples

$$\text{and } S_{\text{pooled}} = \sqrt{[(n_A - 1)S_A^2 + (n_B - 1)S_B^2] / (n_A + n_B - 2)}$$

The interpretation of d is relative to the situation but in most areas of psychological testing and sociological differences, Cohen's rule of thumb seems appropriate. A d of 0.2 is a small effect. A d of 0.5 is a medium effect and one that would be noticed. Cohen uses as his example that this is the difference in height between 14 and 18 year old girls and is also the IQ difference between clerical and semi-skilled workers. A d of 0.8 is large and is equivalent to the difference in IQ between PhD.s and college freshmen and between college graduates and those with a 50-50 chance of passing academic high school.

The t-tests shown in Tables 4.21 and Table 4.22 demonstrate that there was significant difference between the CL group (B) and the control group (A) in listening and between the CL and MI group(C) and group A in listening, ($p < .005$) in the difference of the two tests, but while there were differences apparent in the other three areas of learning, they were not statistically significant.

Table 4.21 Independent Sample Test for the improvement of the four language skills between control group A and cooperative learning group B.

| | t | df | Sig(2-tailed) |
|-----------|--------|----|---------------|
| Listening | -3.011 | 78 | 0.004* |
| Reading | -0.769 | 78 | 0.444* |
| Writing | 0.322 | 78 | 0.748* |
| Speaking | -0.304 | 78 | 0.762* |

*p < 0.05

Table 4.22 Independent Sample Test for the differences of the four language skills between control group A and cooperative learning and multiple intelligence group C.

| | t | df | Sig(2-tailed) |
|-----------|--------|----|---------------|
| Listening | -4.415 | 78 | 0.000* |
| Reading | -.946 | 78 | 0.347* |
| Writing | -1.598 | 78 | 0.114* |
| Speaking | -1.223 | 78 | 0.22* |

*p < 0.05

Tables 4.23 to 4.26 show that the students in all three classes did improve in their language skills over the 64 hours of lessons. The results are presented as the t-tests with the effect size of the improvement also given. It is clear from the effect sizes that the improvement in listening for Group C was the greatest for the experimental groups.

Differences showed between the groups in listening. Also of interest is whether there was growth in each area of language learning and whether or not there were groups' differences. For this reason, a t-test was done on the growth in each aspect of language within the groups. While a statistical test sometimes shows there is growth,

the effect size, which is a ratio of change to spread (standard deviation), can show the extent of that growth.

Table 4.23 Paired Sample Test of the listening skills for the three groups.

Listening 1-Listening 2

| Class group | Paired difference | | t | Sig.(2-tailed) | df | Effect size |
|-------------|---------------------|---------------|-------|----------------|----|-------------|
| | Mean of differences | Std.Deviation | | | | |
| Group A | 7.40 | 8.620 | 5.430 | 0.000* | 39 | 0.61 |
| Group.B | 14.75 | 12.808 | 7.284 | 0.000* | 39 | 0.98 |
| Group C | 18.75 | 13.787 | 8.601 | 0.000* | 39 | 1.34 |

Group A: control group. Group B: cooperative learning group. Group C: cooperative learning and multiple intelligence group.

Table 4.24 Paired Sample Test of the reading skills for the three groups.

Reading 1-Reading 2

| Class group | Paired difference | | t | Sig.(2-tailed) | df | Effect size |
|-------------|---------------------|---------------|-------|----------------|----|-------------|
| | Mean of differences | Std.Deviation | | | | |
| Group A | 4.92 | 10.039 | 3.103 | 0.004* | 39 | 0.39 |
| Group.B | 6.65 | 10.022 | 4.197 | 0.000* | 39 | 0.43 |
| Group C | 6.75 | 6.953 | 6.156 | 0.000* | 39 | 0.48 |

Table 4.25 Paired Sample Test of the writing skills for the three groups.

Writing 1-Writing 2

| Class group | Paired difference | | t | Sig.(2-tailed) | df | Effect size |
|-------------|---------------------|---------------|-------|----------------|----|-------------|
| | Mean of differences | Std.Deviation | | | | |
| Group A | 6.25 | 6.088 | 6.493 | 0.000* | 39 | 0.61 |
| Group.B | 5.72 | 8.324 | 4.350 | 0.000* | 39 | 0.32 |
| Group C | 9.63 | 11.886 | 5.122 | 0.000* | 39 | 0.54 |

Table 4.26 Paired Sample Test of the speaking skills for the three groups.

Speaking 1 - Speaking 2

| Class group | Paired difference | | t | Sig.(2-tailed) | df | Effect size |
|-------------|---------------------|---------------|-------|----------------|----|-------------|
| | Mean of differences | Std.Deviation | | | | |
| Group A | 5.75 | 6.480 | 5.612 | 0.000* | 39 | 0.58 |
| Group.B | 6.15 | 5.206 | 7.471 | 0.000* | 39 | 0.64 |
| Group C | 7.95 | 9.351 | 5.377 | 0.000* | 39 | 0.76 |

As a result of teaching as any teacher would desire, all groups improved in their learning. Prior to the treatment, all three groups took the pre-tests on the four language skills. The pre-test results (Table 4.20) showed that the three groups' proficiency levels were similar, except that the control group students scored lower on their writing test. But by using teaching strategies influenced by Cooperative Learning techniques and the theory of Gardner's Multiple Intelligences, the experimental groups B and C appeared to perform better than the control group A in the improvement they made, though no significant difference was found.

The greatest improvement seems to be for listening skills. This indicates that CL activities (Olsen & Kagan, 1992) and MI theories (Armstrong 2000) in the ESL or EFL classroom setting provided an environment where students could get more exposure to listening to English. An examination of the Table 4.23 to 4.26 also suggests that there was a greater improvement for Group C students compared to Group B students for each of the four skills. Thus the combined impact of the difference of CL and MI on teaching strategies was better than just using teaching strategies influenced by CL Ideas.

Looking specifically at the program and data on students' activities suggested some reasons why students' listening abilities were enhanced. Firstly, the curriculum design focused more on listening. Secondly, since all students had two hours of class each week in the language lab their use of listening was greater than perhaps it had been in the past. There were four hours per week for each English class, and two hours of this was in the language lab, two hours in the classroom. In addition, all students could go to the Language Learning Center for self-study to complete the assignments provided by the teacher. The extra time for self-study in the Language Learning Center meant

students had more chances to practise listening activities. Data provided by the teacher who takes charge of the language center showed that the percentages of the three group students' attending the Language Learning Center were 11% for the control group, 32% for the Cooperative Learning group and 57% for the Cooperative Learning and Multiple Intelligence group. This was not a requirement. Hence it can be speculated that motivation played a role. It can also be assumed that motivation and attitudes translated into action. As a result, with the addition of CL activities and MI theory, students' listening abilities obviously improved more than that of the control group, and most when both CL and MI influences were integrated.

Table 4.27 The standard scores of the General English Proficiency Test:

| | Listening | Reading | Writing | Speaking |
|-----------------|-----------|---------|---------|----------|
| Standard scores | 80 | 80 | 70 | 80 |

If students want to pass the General English Proficiency Test for beginners, it is necessary that all the scores of listening, reading, writing, and speaking have to reach the level that is shown in Table 4.27. For the final examination, students should take the listening, reading and writing tests first. If they pass these three parts, then they can have the chance to take the speaking test. In this research all four tests were given to all students.

The group work with Group B and Group C gives students more opportunities to practice their speaking and listening skill. Hence it is no surprise really that these groups had higher scores. They had more chances to talk, so the progress in listening and speaking were really better. This result is supported by finding of an earlier study by Long and Porter (1985). Long and Porter (1985) stated that group work, one of the elements of the incorporation of interpersonal intelligence in the classroom, not only gave students greater practice opportunities, but also allowed students to escape from traditional teacher-fronted lessons. In addition, group work afforded each student considerably more time listening and speaking and could individualize and maximize their learning as a result.

As Wei (1997a) stated, interaction between more than two persons were the necessities for effective oral practice and communication activities. The frequent

practice of the dialogues with the Inside-Outside Circle and talk-pairs might be an important factor contributing to the students' acquisition of oral communicative competence and this supports Liang' (2001) findings. Cooperative Learning groups encouraged student-student communication. As well students in Group B and Group C had longer conversational turns than those Group A students who were in a teacher-centered setting. Cooperative learning groups had more opportunities to practice what they had learned and provided the teachers with more information about their needs and ideas. The more opportunities students had to talk, the better they could learn what had been taught. In addition, students in both Group B and C were exposed to more comprehensible input from their peers and could also get immediate response from peers when involved in team talk. Thus, students developed better the listening and oral skills resulting from acting and responding on what had been said. Such results were consistent with a growing body of literature that claims the effectiveness of Cooperative Learning in enhancing the oral and speaking skills (Olsen & Kagan, 1992; Tsai, 1998).

For the speaking part, because of the problem associated generally with testing being limited in style component of story telling, drama and English songs performance were added to the speaking as assessment. Table 4.28 showed the numbers of the students who passed the Simulate General English Proficiency tests both at the beginning and the end of the 16weeks.

Table 4.28 Number of students passing tests

| | Control group N=40 | | Cooperative Learning Group N=40 | | Cooperative Learning and Multiple Intelligences Group N=40 | |
|-----------|--------------------|----------|---------------------------------|----------|--|----------|
| | pretest | posttest | pretest | posttest | pretest | posttest |
| listening | 9 | 20 | 10 | 24 | 10 | 30 |
| reading | 0 | 0 | 1 | 2 | 1 | 4 |
| writing | 0 | 0 | 1 | 3 | 2 | 5 |
| All | 0 | 0 | 0 | 2 | 0 | 4 |

The test results for the four language skills yielded in this study showed that there were two students in Cooperative Learning group and four students in Cooperative Learning and Multiple Intelligence groups passed the Simulate General English

Proficiency test. In these classes, all students who passed the listening, reading and writing tests also passed the speaking test. There are more than ten thousand students in this school where the researcher did this experiment. But from the estimate of the school, in total, there were not more than 30 students who passed the General English Proficiency Test in this school. This makes the pass rate only 0.3%. On the contrary, there were only 120 subjects included in this experiment and they were all from what was considered the lower proficiency group in English. The duration of this study is only 64 hours. At the end of this study, six of the 120 students had passed and these were in the experimental groups. This gives pass rates of 0% in Group A (Control group), 5% in Group B (Cooperative Learning Group) and 10% in Group C (Cooperative Learning and Multiple Intelligence Group). Although this is a small number of students that passed the exam, it is a considerable improvement on the school past 0.3% rates. Hence progress was made.

CHAPTER FIVE

Conclusion, Implications and Recommendation

Introduction

The purpose of this study was to investigate the effectiveness of firstly Cooperative Learning within a Whole Language Approach and secondly the addition of notions from Gardener's theory of MI added to this teaching strategy in teaching English as a Foreign Language to a group of junior college students in Taiwan. It aimed to evaluate whether CL activities enable vocational college students to improve their language proficiency as measured by proficiency tests. It was also hoped that this study would also help teachers of English as a Second and Foreign language (ESL/EFL) understand the potential effectiveness of CL and acquaint Taiwan English teachers with techniques for applying CL, MI, WLA and Language Learning Center to their teaching.

The population for this study was 120 junior college students. The subjects were the researcher's three classes of students. This was a quasi-experimental study, so the researcher randomly chose one class of 40 students as a control group that was taught using traditional teaching strategies. The other two classes, each of 40 students, were the experimental groups and both used a Whole Language Approach. One of the experimental groups was taught using strategies based on Cooperative Learning ideas. The other used both Cooperative Learning and Multiple Intelligences ideas to change the type of teaching used. The overall approach to the group that used both Cooperative and Multiple Intelligence ideas was that of Action Research. The duration of this study was a sixteen- week semester, in total 64 hours of class time for each group, although about 4 weeks of this was taken up with assessment tasks.

Cooperative Learning activities found in the literature, such as Jigsaw Procedure, Learning Together, Three-Step Interview, and Inside-Outside Circle were integrated into the teaching process. These models involved students in mixed-ability, grouping

the same or with the different intelligence groups. Teamwork was viewed as an important element in all learning activities in the experimental groups. The approaches for the three groups are summed up in Table 5.1

Table 5.1 The approaches used for the three groups

| Group | Language teaching approach | Group approach | Teaching activities | Organization | Language learning center |
|--------------------|----------------------------|----------------|---------------------|-----------------------------|--------------------------|
| Control group | Traditional | None | Traditional | None | Attend |
| Experimental CL | WL | CL | CL | Groups mixed | Attend |
| Experimental CL&MI | WL | CL | CL MI | Groups flexible based on MI | Attend |

There were four sources of data that were used to explore the research questions. One source was the pretest and posttest of the four language skills adapted from the Simulate General English Proficiency Test and the normal mid-term and final-term examinations used in the College. This provided data on students' performances on the four language skills. The second source was a questionnaire to elicit the students' reflections, attitudes, and feedback on various kinds of learning activities used in their group. The third source was from interviews with a selection of students from the CL & MI experimental group. Fourthly a second questionnaire concentrated on the motivation of students. The teacher's notes and planning documents provided the final sources.

This chapter first summarizes the major finding of the study. After that, pedagogical implications for junior college students learning English in Taiwan and the limitation of the study are discussed. Lastly, some recommendations for further research are made.

5.1. Conclusions

The findings presented here are based on interviews with the students, the questionnaire and the results of pre-and post- test scores of the four language skills, and correspond to the research questions.

5.1.1 Students' Change in Attitudes and Motivation

Some of the major problems mentioned in chapter one concerning English teaching and learning dealt with students' negative attitudes and lack of motivation. This study suggests that the adoption of notions from Cooperative Learning and the theory of Multiple Intelligences, as well as a Whole Language Approach to curriculum development and the use of the Language Learning Center could help students' attitudes and motivation.

The results from this study suggest that the use of group work can lead to the feelings of comfort, less pressure, and motivation. Many students in the CL & MI group expressed pleasure, enjoyment and liking that they attributed to the teaching approaches that were used. When students were afraid to express their ideas in class, group work lowered their anxiety. The students' interviews verified this notion. The finding from this study on the improvement of attitudes with the cooperative groups are similar to earlier findings of Long and Poter (1985) who stated that the use of group work and interaction in Cooperative Learning among the members of the class can lead to the feelings of comfort, ease and motivation. The students in this study also stated that their classroom was like a family, because they could talk about everything and did not feel shy. In addition, in the group work, when sharing learning tasks and everyone was assigned a role, this led to the feelings of less pressure and liking to do their best to complete the assignment and duty. Shore (2001) states when the attitude toward learning is positive and the mood in a classroom is comfortable, this might promote language learning efficacy. This is what happened during the study. Reflecting back to the research question 1.1 and 1.2, Cooperative Learning did enhance students' attitude, and CL and MI ideas for teaching did enhance this motivation, when learning the four language skills.

Students' responses to a number of classroom activities related to CL, MI, WLA and Language Learning Center used in this study, which appeared to enhance the students' motivation and attitudes in learning the four-language skills are now commented on.

Firstly, in response to the activities based on Multiple Intelligences that were used in the classroom, the students volunteered that they liked the English songs that they

learned during the semester. Knowing the plot of the stories of the song and enjoying the nice melody were both important. When the students listened to songs, they were completely attentive, and sometimes even wrote down the words that they felt were important. Thus, listening to English songs became their hobby and their listening ability was enhanced. This finding corresponded to Lo and Li's (1998) research that learning through songs developed a non-threatening classroom atmosphere, with a lowered affective filter, in which the four language skills could be enhanced. The enjoyment aspect of learning language through songs is directly related to affective factors. The belief that songs provided enjoyment and develop language skills was also noted by several other authors (Guglielmino, 1986; Lems, 1996).

From the interviews, some student mentioned that they seldom had the chance to speak English and felt nervous when they needed to do so. Most students in this study hesitated to speak English in class; this was not surprising, because their English speaking proficiency was limited. They tended to speak only some key words or phrases instead of whole sentences. However they felt much more comfortable in speaking English with their peers during the drama performance; they could talk it out without hesitation. They found it was a good way to train their oral skills. In addition, when preparing the performance of the drama, everyone was assigned a role. They felt that a sense of duty had been instilled on them. Most students did a good job for the dramatization. They worked and learned together. The characters in the play rehearsed several times, and other students helped prepare the props that were needed. On the performance day, the researcher was impressed by the student players' performance which was much better than what the researcher expected. This reflected what Freeman and Freeman (1992) stated that students could perform the target language very well but only if teachers trust their potential and ability. Although some students were a little nervous and some forgot some lines, they all had a new experience of learning the target language by using it in the drama. This finding corresponded to Royka's (2002) views that more students have the chances to engage in some form of language use and interaction in different settings that are able to be created in one space. Group drama activities can develop better language use and also provide the teacher more observation time and less direct teaching time.

Students responded to the activities mentioned above were positive. This is supported by Pierce and O'Malley (2004) who state teachers can administer performance assessment to determine oral language comprehension and production. Oral performance assessments are not limited to a single type and can take various forms which depend upon their authenticity in relation to classroom activities. These activities involved oral interview, story telling, directed dialogue, group drama activities, picture cue and incomplete story/topic props which students are asked to complete. Story retelling was also an effective way to integrate oral and written language skills. Students who had just listened to or read a story were asked to summarize the main ideas or retell the story. When cues cards, pictures, topic monologues or story retelling techniques were used, instead of the typical interview pattern of teacher-question students-response/ teacher-question, teacher talk is reduced and students can have more time for language production. Not only songs and story retelling can help students learn the language, but also large group drama activities are ideal for English Language Teaching (ELT) situation.

Secondly, the Jigsaw that was designed to assist students to master quite large amounts of content through talking and sharing information was ideally suitable for the content-based classroom. The relevance of this approach for second language learners was that Jigsaw provides a good learning environment for the acquisition of language through the exploration of relevant content, using of purposeful talk in the classroom and the development of academic skills through carefully structured reading and writing activities (Coelho, 1992). In addition, retelling or paraphrasing the main points of what had been heard or read was a very effective learning and teaching strategy for the development of reading and listening comprehension.

The Jigsaw method of cooperative learning is also a good way to involve all students in speaking and learning in the classroom. This activity is a good way to elicit participation from each class member. Students in this study felt less inhibited by first presenting in small groups. After much practice, they often feel more comfortable to present in front of the whole class

Because Jigsaw offers a highly interactive learning experience, its strategy supports the communicative approach and the whole language approach in language teaching.

In addition, students with different levels of English language proficiency may need different kinds of materials and interactions. Students who acquire English may need more context and fewer dependent materials and tasks. An additional benefit of the Jigsaw classroom is that it provides a great deal of various study materials available at different levels of difficulty. The multilevel nature of most ESL classrooms demands a more learner-centered approach. The Jigsaw techniques allowed the teacher to use information sources and some texts at different levels of linguistic or conceptual difficulty in one class thus catering for individual differences. During the action research in CL and MI classroom, the researcher also found that in Jigsaw reading classroom, the students who were easily absent-minded could concentrate more in class because they had their own tasks to complete. Though the differences in reading did not show as significant, Group C did improve with a slightly greater effect size (0.48) than the control group (0.39) and this was after only 64 hours of learning.

Thirdly, many language teaching learning methodologies, either traditional or innovative, have their own values and limitations in theory and practice. For traditional methods, the Grammar Translation Method (Larsen-Freeman, 1986) that used grammar study and translation as the main activities in learning and teaching focuses on reading and writing and seldom satisfies the needs of those ESL/EFL learners who hope to use English for communication. However, in the WLA classroom, students experienced a curriculum that was not broken into small pieces or subjects but came naturally from the students' interests that were centered on topics of study or certain themes. In addition, in WL classroom, students often engaged in social interaction. When they engaged in social interaction with their peers and sharing ideas such as in Jigsaw reading activities, individual concepts were developed and they also learned the important life skill of collaboration (Vygotsky, 1978). From students' interviews and questionnaires, the curriculum based on the Whole Language Approach for the experimental groups attracted students' attention and interest more than the control group that adopted the Grammar Translation Method. This finding corresponded to Goodman's (1986) theory that learning is easier when learners are engaged in interesting, meaningful and authentic activities and learning is easier when the content area is relevant to their experience and daily life. In addition, instructional materials that can meet students' need help to motivate students' learning.

Fourthly, both CL techniques and the Language Learning Center provided a student-centered environment where students were often exposed to an English discourse and thus their listening abilities improved (See Table 6.2). As one student mentioned “I liked to study English or complete my homework in the Language Learning Center. Not only did it provide a good learning environment for us, but also if we had problems in learning, we could consult the teacher who was on duty there. All the teachers there were very kind and were able to give us timely help”.

The extra time for self-study in the Language Learning Center meant students had more chance to practice the language skills. Data provided by the teacher who takes charge of the Language Center showed that the percentages of the three group students’ attending the Language Learning Center were 11% for the control group, 32% for the Cooperative Learning group and 57% for the Cooperative Learning and Multiple Intelligence group. Attendance at the center was not a requirement. Hence it can be speculated that motivation played a role. It can also be assumed that motivation and attitudes translated into action. As a result, with the addition of CL activities and MI theory, students’ language skills obviously improved more than that of the control group. In addition, the researcher’s role in the Language Learning Center was as a facilitator who was to go around each center, answer students’ questions, solve potential equipment problems, and observe students’ learning. For a teacher in another situation to manage a class that has over forty students and design a teaching strategy that will meet each student’s need would be difficult. However, in this way, individual needs could be better met. Above all, the experimental groups who received the CL techniques as a treatment scored significantly higher than the control group.

Fifthly, in Taiwan’s EFL education, quantitative markers are the most commonly used assessment instruments where items in the tests are of the true or false, fill-in-the blank and multiple-choice types. Although the standardized mode is objective, it could not provide profound understanding of the learner’s knowledge. Teachers also cannot thoroughly examine learner’s progress and achievement from various perspectives. Moreover, most school tests that focus on verbal-linguistic and logical-mathematical are very academically oriented. Therefore, it is quite important to let students be assessed through intelligence-fair tools that are compatible with

cognitive development of the particular students. Multiple intelligence theory did provide a good choice.

Gardner (1993) holds that assessment is an essential component of Multiple Intelligence education and that tests should be designed to elicit these differences: thus it is particularly important to use multiple modes of assessment that will allow students to show their strength and perform adequately. This view has gained the support of many testing professionals (Darling-Hammond, Acnes & Falk, 1995). They share the belief that authentic assessment, which emphasizes assessing what students know and how students perform from different perspectives, constitutes a new approach to assessment that can provide a complete picture of students' abilities, efforts, and progress during the learning process.

After this study, the multiple intelligences based assessment provided the experimental group that adopted MI theory and CL techniques more choices to show their strength. Above all, for the low achieving students, their confidence and self-esteem were enhanced a great deal. The students' interviews and questionnaire verified this notion with students' commenting how much they have gained in confidence.

Sixthly, the results of the motivational questionnaire indicated that the experimental group B that adopted both MI and CL gained more significantly in their motivation than the group that adopted only CL and the control group after the study. It was as predicted, motivation and language achievements are closely correlated. The significant gain in the students' motivation toward learning English complemented the improvement in their language learning. Such results were consistent with the literature that claimed the effectiveness of cooperative learning in boosting the learners' motivation (Lang, 2001; Lin, 1997; Tsai, 1998). This motivation to learning should lead to greater improvement in the longer term. Reflecting back on the research question 1.5, Cooperative Learning and Garder's theory of Multiple Intelligences did allow learners with different learning styles and learning paces to work together and fulfill different needs.

There have been many studies, which have looked at individual aspect such as a Jigsaw approach in EFL learning. This study integrated those three approaches, the Whole Language as a language approach, the Cooperative Learning as the organization and activity approach, and the Multiple Intelligence as the approach about how grouping was formed and the in class assessment was involved. The use of WL and CL alone did not lead to quite such improvements so that it was useful to integrate them together. This study found the greatest improvement was in Group C, the group which used all the three of WL, CL and MI. While the initial 64 hours program led to significant improvement in attitude and listening skills, improvements in other areas could be expected to follow if the approaches were continued.

5.1.2. Performance of the Students

The mean scores and standard deviation for each of the pretest and posttest are shown in Table 4.20 and the effect sizes of the improvements are shown in Table 5.2

Table 5.2 The effect sizes of the improvements for four language skills.

| | Group A Traditional | Group B CL | Group C CL & MI |
|-----------|------------------------|---------------|--------------------|
| Listening | 0.61 | 0.98 | 1.34 |
| Reading | 0.39 | 0.43 | 0.48 |
| Writing | 0.61 | 0.32 | 0.54 |
| Speaking | 0.58 | 0.64 | 0.76 |

From the data on the pretests and posttests, there were improvements in listening for all groups. The improvement in listening skills was noticeable for all groups; however, the two experimental groups and in particular group C was a strong improvement. The improvements shown in reading and speaking for the two experimental groups were also greater than that for the control group. Interestingly, although there was improvement in writing for all groups, it was greatest for the control group. So there were improvements in listening, reading, and speaking in all groups but particularly in the experimental groups over the control group with the strongest improvement being in the CL&MI group. Considering that writing skill is one of the themes on which the traditional method really concentrated, the greater response from the control group for this skill was perhaps not so surprising. But for the experimental groups, some students felt that writing skills received the least attention in this study

because of the time span of the study was somewhat short and students were exposed more to a learning environment for daily reading, listening and speaking. If this study had lasted longer, it would be possible that the students' English writing ability would have improved more.

The test results (see Table 4.28) for the four language skills in this study showed that there were two students in Cooperative Learning group and four students in Cooperative Learning and Multiple Intelligence group that passed the Simulated General English Proficiency test. There are more than ten thousand students in this college where the researcher completed this study. Within the college as a whole, there were not more than 30 students who passed the General English Proficiency Test. This makes the pass rate for the college only 0.3%. In comparison, there were 120 subject included in this study. The duration of this study was only 64 hours. At the end of the study, six of the 120 students had passed the Proficiency Test and all these six were in the experimental groups. This gives pass rates of 0% in Group A (Control group), 5% in Group B (Cooperative Learning Group) and 10% in Group C (Cooperative Learning and Multiple Intelligence Group). Although this is a small number of students that passed the exam, it is a considerable improvement on the college 0.3% rate, even with such a short program. This is still not a high pass rate as the aim is at least 50%, but it is certainly an improvement.

Reflecting back on the research questions 1.3 and 1.4, Cooperative learning did have a positive effect on students's language proficiency performance and MI-based activities in class in conjunction with CL ideas appeared to improve the students' four language skills.

5.2. Pedagogical Implications

There are some major pedagogical implications arising from this study; for instance, the importance of teachers' incorporation of multiple intelligences into classroom activities and the importance of guiding the students to focus on linguistic forms within a student-centered cooperative learning context.

Although Multiple Intelligence theory provides an effective instructional framework, teachers should avoid using it as a rigid pedagogical formula, because instructional methods should be appropriate for the content. This is not to say that teachers should constantly avoid an intelligence because it is out of their comfort zone. Instead, teachers ought to team up with colleagues in order that they can increase both students and their own educational options. As Gardner (1999) states, the incorporation of intelligences is not simply a matter of exercising the intelligence muscle. Using MI theory-based lessons means teaching concepts through a variety of well-woven and integrated intelligences in lessons in the classroom. In addition, Gardner (1999, cited in Shore, 2001) also states that when applying MI theory in the classroom, educators have to be aware that it is a weaving of the theory into instruction, not simply supplementing instruction with intelligence “activities”. Teachers should not think that exercising the intelligences are activities that ought to be as warm ups, but not found in the body of skills and practice.

Teachers in class also need to help students develop their potential by showing their faith in their ability to succeed rather than labeling such students as limited English proficiency students or learning disabled students. Cheng (2000) stated that when using Cooperative Learning to teach the students with low proficiency in four language skills, teachers should be very careful about the curriculum design, because the students are not proficient enough to provide adequate input for each other if there is no form-focused instruction in the classroom at all. Therefore, to balance the meaning-oriented communicative activities and the form-focused instruction in a cooperative learning class, the guidance for implementing Cooperative Learning into lesson plans should be taken into consideration since the classroom is a dynamic context full of unexpected problems.

Lastly, any approach or activities used in the classroom need to take account of students’ current knowledge so that they can work within their zone of proximal development and thus progress. This makes the collection of assessment data to inform the teaching a critical change.

5.3 Limitations

This quasi-experimental study was conducted in a regular college. Several limitations might be found. Firstly, many factors affect individual learning and it was not possible for the researcher to deal with all of them. For example, this study could not control the gender composition of the groups, but it was not overlooked that gender composition might influence the students' language performance and peer interaction. Secondly, there were some practical difficulties regarding implementation in this study. For example, the classroom was not spacious enough to prevent students from impacting on each other and it was difficult to prevent the noise from disturbing neighboring groups. Since this is only 4 hours per week for English class and the teacher is under pressure to cover content, time is a problem. The gains made here were not great but considering the program was only 16 weeks long, the improvement is important and the greater motivation should lead to greater future gains. Thirdly, there was only one teacher involved. Ideally, it would be beneficial to see a number of different teachers working in the three structures Group A, B and C to remove the effect of the personality and beliefs of the teacher. Fourthly, the advocates of Whole Language Teaching claim that students should have the chance to determine their own reading materials according to their interests; however, because of the limitations of standard textbooks, it is hard to do this in an EFL learning environment

Lastly, the approach used in the experimental groups was framed using the notion of action based research. The main instrument for the action research is the researcher, so the biggest limitation is the people taking part in the study. All researchers have their own points of view and these will affect both the processes and results of the research. In addition, one possible difficulty with a researcher being actually involved as the teacher in a research project is that their involvement might lead to a loss of objectivity. It is difficult to separate this personal involvement from the results. For this reason in this study, a great deal of data was collected to try to ensure that findings were authentic and real for this group of students. However, as a researcher, I must acknowledge that although I have tried to step back and look at the data objectively, I am enthusiastic about my teaching, and hence my personal views may affect my presentation of the results. These factors, together with the necessary practical size of the study, limited the extent to which generalizations could be made from the study.

On the other hand, the collection and analyzing a set of rich data to begin to explore these problems countered the limitations sufficiently for the study to make a contribution to EFL learning.

5.4 Recommendations

Based on the findings, and limitations, several recommendations for further research are made. First, the scope of this study was limited to the school in Chung Hwa College of Medical Technology. The samples of the participants were restricted to only three classes in the third-grade junior college students. For future studies, the research should be expanded to include more vocational and technological colleges EFL programs in various areas in Taiwan to generate more evidence regarding the effects of CL, MI, WL and the Language Learning Center. Second, this study found the greatest improvement was in Group C, the group which used all the three of WL, CL and MI. While the initial 64 hours program led to significant improvement in attitude and listening skills, improvements in other areas could be expected to follow if the approaches were continued. Third, hopefully, the school will build more Language Learning Centers for the students when their learning attitudes become active. If the students' attitudes change, they study English because they are interested in it, not just for the sake of passing the test or examination. They would like to spend more time practicing the language. Hence, their language proficiency will be improved more.

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Appendix A

The MI-based Assessment ideas Menu

| | |
|----------------------|---|
| Verbal-linguistic | Audio cassette recordings Dictation Formal speech Written essays Listening and reporting Poetry writing Vocabulary Quiz Recall of verbal information Story telling |
| Logical-mathematical | Outlining Analysis & Critique Grammar formulas Collecting and Classifying Ranking Comparing and contrasting Problem-solving Competitive pattern games Cognitive organizer |
| Visual-spatial | Flowcharts and graphs Video records and photography Pictures/Maps creating Sculpting and building Imaginary conversation Mind-mapping |
| Interpersonal | Groups games Group Jigsaws Cooperative project Partner-sharing Random Group tests Interview, questionnaires and people searches |
| Bodily-kinesthetic | Acting Dancing Mines Drama |

| | |
|------------------|--|
| | Constructing Role-play Physical games |
| Musical-rhythmic | Illustrating with sound (background music) Creating songs or maps Linking existing music and rhythm with concepts Music/songs performance |
| Naturalist | Sensory stimulation exercises Natural objects classification Environment/nature observation and feedback Field trip records |
| Intrapersonal | Meta cognitive surveys and questionnaires Personal learning diaries Self-project reporting Concentration tests |

The MI-based Assessment ideas Menu

Armstrong (2000), Chao (2002). Gardner (1983; 1993 & 2000), Lazear (1999 & 2000)

Appendix B

Information For Participants

ACU National

Australian Catholic University Limited

ABN 15 050 192 660

Melbourne Campus (St Patrick's)

115 Victoria Parade Fitzroy VIC 3065

Telephone 613 9953 3000

Facsimile 613 9953 3005

www.acu.edu.au

Information For Participants

Title of project: Cooperative Learning, Multiple Intelligence and Proficiency:
Application in College English Language Teaching and Learning

Program of enrolment: Doctor of Education

Names of supervisors: Dr. Marjorie Horne & Dr. Philip Clarkson

Name of researcher: Shu-Fen Chen

Dear Participant:

The purpose of this study is to investigate the effectiveness of cooperative learning (CL) and to examine the implementation of Gardener's theory of multiple intelligences in teaching English as a foreign language to a group of junior college students in Taiwan. It aims to evaluate whether CL activities enable students to improve their language proficiency and achievement test.

This experimental study will be scheduled to last for eighty hours over sixteen weeks. Some instruments will be used for the purpose of this study. The instruments

are Questionnaires, the Multiple Intelligences Inventory for EFL young adults and General English Proficiency Test in Taiwan which includes the listening Comprehension Test, Speaking Test, Reading Test and Writing Test. Besides, the participants need to take the mid-term and final term examination and a short interview.

This teaching method may address the various needs of the students with mixed levels of English ability in a heterogeneous class. It also creates natural, interactive contexts in which students can have more chances to ask questions, re-state points of view and clarify issues. Such frequent interaction among the learners will increase the students' participation in the classroom.

As a participant, you will be videotaped during class observation and audio taped during the interview process. You are free to discontinue participation in the study and withdraw your consent at any time without giving a reason. It is important to emphasize that any withdrawal from the research will not prejudice the participant's academic progress or future care. This study has been approved by the principal of Chung Hwa College of Medical Technology and the results of the study may be published.

Any questions regarding this project should be directed to Shu-Fen Chen on 886(6) 2671214 in the Food Nutrition Department, Chung-Hwa College of Medical Technology, No.51, Wei-Hwa First Street, Ren Der Hsiang, Tainan Hsieng, Taiwan, 717 or Dr. Marjorie Horne on 613-9953-3289, M.Horne@patrick.acu.edu. in the Faculty of Education, St. Patrick's Campus, 115 Victoria Parade, Fitzroy, Victoria, 3065.

This study has been approved by the University Human Research Ethics Committee at the Australian Catholic University.

If you have any complaint or concern about the way you have been treated

during the study or if you have a query that the investigator or student researcher have not been able to satisfy, you may write to the Ethics Committee at the following address:

Chair, University Human Research Ethics Committee
C/o Research Services, Australian Catholic University
Melbourne Campus, locked Bag 4115
Fitzroy VIC 3065
Tel: 613- 9953- 3157, Fax: 613- 9953-3315

J.Ozolins@patrick.acu.edu.au

Any complaint will be treated in confidence and investigated fully. The participant will also be informed of the outcome. If you agree to participate in this project, you should sign both copies of the consent form, retain one copy for your records and return the other copy to the student researcher.

Signature of Principal Investigator:_____

Date:

Signature of Student Researcher:_____

Date:

Appendix C

ACU National

Australian Catholic University Limited

ABN 15 050 192 660

Melbourne Campus (St Patrick's)

115 Victoria Parade

Fitzroy VIC 3065

Telephone 613 9953 3000

Facsimile 613 9953 3005

www.acu.edu.au

Consent Form

Title of project: Cooperative Learning, Multiple Intelligence and Proficiency:
Application in College English Language Teaching and Learning

Names of supervisors: Dr. Marjorie Horne & Dr. Philip Clarkson

Name of researcher: Shu-Fen Chen

I (*the participant aged under 18 years*) understand what this research project is designed to explore. What I will be asked to do has been explained to me. I agree to take part in the project, realising that I can withdraw at any time without having to give a reason for my decision. Besides, I agree that I will be videotaped during class observation and audio taped during the interview process.

NAME OF PARTICIPANT AGED UNDER 18:

SIGNATUREDATE.....

SIGNATURE of SUPERVISOR:.....

DATE:.....

SIGNATURE OF STUDENT RESEARCHER.....

DATE.....

ACU National

Australian Catholic University Limited

ABN 15 050 192 660

Melbourne Campus (St Patrick's)

115 Victoria Parade Fitzroy VIC 3065

Telephone 613 9953 3000

Facsimile 613 9953 3005

www.acu.edu.au

Parent or Guardian Consent Form

Title of project: Cooperative Learning, Multiple Intelligence and Proficiency:
Application in College English Language Teaching and Learning

Names of supervisors: Dr. Marjorie Horne & Dr. Philip Clarkson

Name of researcher: Shu-Fen Chen

I (*the parent/guardian*) have read (or, where appropriate, have had read to me) and understood the information provided in the Letter to the Participants. Any questions I have asked have been answered to my satisfaction. I agree that my child, nominated below, may participate in this activity, realising that I can withdraw my consent at any time. I agree that research data collected for the study may be published or may be provided to other researchers in a form that does not identify my child in any way. Besides, I agree that my child will be videotaped during class observation and audio taped during the interview process.

NAME OF Parent or Guardian:

SIGNATUREDATE.....

Name of Child.....

SIGNATURE of SUPERVISOR:.....

DATE:.....

SIGNATURE OF STUDENT RESEARCHER

DATE.....

Appendix D

Australian Catholic University
Brisbane Sydney Canberra Ballarat Melbourne



Human Research Ethics Committee

Committee Approval Form

Principal Investigator/Supervisor: Dr Marjorie Horne Melbourne Campus
Co-Investigators: PHILIP CLARKSON Brisbane Campus
Student Researcher: Shu-Fen Chen Melbourne Campus

Ethics approval has been granted for the following project:
Cooperative learning, multiple intelligence and proficiency: Application in College English language teaching and learning

for the period: 1.2.2004 - 23.12.04

Human Research Ethics Committee (HREC) Register Number: V2003.04-43

The following standard conditions as stipulated in the *National Statement on Ethical Conduct in Research Involving Humans* (1999) apply:

- (i) that Principal Investigators / Supervisors provide, on the form supplied by the Human Research Ethics Committee, annual reports on matters such as:
 - security of records
 - compliance with approved consent procedures and documentation
 - compliance with special conditions, and
- (ii) that researchers report to the HREC immediately any matter that might affect the ethical acceptability of the protocol, such as:
 - proposed changes to the protocol
 - unforeseen circumstances or events
 - adverse effects on participants

The HREC will conduct an audit each year of all projects deemed to be of more than minimum risk. There will also be random audits of a sample of projects considered to be of minimum risk on all campuses each year.

Within one month of the conclusion of the project, researchers are required to complete a *Final Report Form* and submit it to the local Research Services Officer.

If the project continues for more than one year, researchers are required to complete an *Annual Progress Report Form* and submit it to the local Research Services Officer within one month of the anniversary date of the ethics approval.

Signed: Ly Hay'dak Date: 1/2/2004
(Research Services Officer, Melbourne Campus)

Appendix E

Multiple Intelligences Inventory for EFL young adults

Directions: Rate each statement 0, 1, 2.

0 means you disagree. 1 means you are in the middle. 2 means you strongly agree.

Total the points for each intelligence. Compare your scores on the different intelligences.

Verbal/Linguistic Intelligence

- _____ 1. I like to read books, magazines, or newspapers.
- _____ 2. I often write notes and letters to my friends and family.
- _____ 3. I like to talk to people at parties or talk to my friends on the phone.
- _____ 4. I like to tell jokes, and enjoy word games or tongue-twister.
- _____ 5. I enjoy talk shows more than television or movies.
- _____ 6. I like to talk about things I read.

Logical/Mathematical Intelligence

- _____ 1. I can do arithmetic easily in my head.
- _____ 2. I am good at doing a budget and solving problems
- _____ 3. I am good at chess, checkers, or number games.
- _____ 4. Math and science are my best subjects in school.
- _____ 5. I like to analyze things or organize things.
- _____ 6. I enjoy playing games that require logical thinking.

Musical Intelligence

- _____ 1. I can hum the tunes to many songs.
- _____ 2. I am a good singer and have a pleasant singing voice.
- _____ 3. It's easy for me to learn to play a musical instrument.
- _____ 4. I can tell when music sounds off-key.
- _____ 5. I often listen to music and tap rhythmically on the table or desk.
- _____ 6. I often sing songs and often sing back a melody accurately after I hear a new selection only once or twice.

Spatial/Visual Intelligence

- _____ 1. I can read maps easily and translate their information into reality.
- _____ 2. I have vivid dreams and enjoy art activities.
- _____ 3. I am sensitive to color and draw well.
- _____ 4. Movies and slides really help me learn new information.
- _____ 5. I love books and magazines with pictures and many illustrations.
- _____ 6. I enjoy jigsaw and putting puzzles together.

Bodily/kinesthetic Intelligence

- _____ 1. It is difficult for me to sit still and quietly for long periods of time.
- _____ 2. It is easy for me to follow exactly what other people do.
- _____ 3. I am good at sewing, woodworking, building or mechanics.
- _____ 4. I enjoy running and jumping and I am good at sports or other physical activity.
- _____ 5. I speak with my hands or other body language.

_____6. In order to learn a new skill, I have to practice it to learn it, rather than read about it or see it in a video.

Interpersonal Intelligence

_____1. I am often the leader in activities.

_____2. I feel comfortable in a crowd and enjoy talking to my friends.

_____3. I often help my friends and people often come to me for advice.

_____4. My friends often talk to me about their problems.

_____5. I have many close friends and prefer to spend time with them than alone.

_____6. I prefer social activity and am a member of several clubs.

Intrapersonal Intelligence

_____1. I like to go to the movies alone.

_____2. I often go to the library alone to study.

_____3. I can tell you some things I am good at doing.

_____4. I prefer spending time by myself than with many people around me.

_____5. My friends find some of my actions strange sometimes.

_____6. I learn from my mistakes and have a good self-esteem.

Naturalist Intelligence

_____1. I enjoy working in the garden, or collecting bugs, flowers, leaves, or other natural things to show to other.

_____2. I would like to have a pet and enjoy having animals around the house.

_____3. I like houseplants and know the names of many different flowers.

_____4. I enjoy visiting the zoo and know the names of many different wild animals.

_____5. I like to hike and to be outdoors.

_____6. I notice the trees and plants in my neighborhood.

(Adapted from Christison, 1996,1999 & Lin, 2000)

Appendix F

International Language Proficiency Rating

GENERAL DESCRIPTON

| LISTENING | SPEAKING | READING | WRITING |
|--|---|---|--|
| Zero Proficiency -0 | | | |
| Unable to comprehend the spoken language | Unable to function the spoken language | Unable to comprehend the written language | Unable to function the written language |
| Initial proficiency -0+ | | | |
| Able to comprehend only a very restricted range of simple utterances within the most predictable areas of need | Able to operate only in a very limited capacity within very predictable areas of need | Able to read only a limited range of essential sign words and short simple sentences whose forms have been memorized in response to immediate needs | Able to write clearly a limited number of words of short formulae pertinent to the most predictable areas of everyday need |
| Elementary Proficiency-1- | | | |
| Able to comprehend readily only utterance which are thoroughly familiar or are predictable within the area of immediate survival needs | Able to satisfied immediate needs using learned utterances | Able to read short simple sentences and short instructions | Able to write with reasonable accuracy short words and brief familiar utterance |
| Minimum survival proficiency-1 | | | |
| Able to comprehend enough to meet basic survival needs. | Able to satisfy survival needs and minimum courtesy requirements | Able to read personal and place names, street signs, office and shop designation, numbers, isolated words, phrases and short sentences | Able to satisfy basic survival needs |
| Survival Proficiency- 1+ | | | |
| Able to satisfy all survival needs and limited social needs | Able to satisfy all survival needs and limited social needs | Able to read short texts on subjects related to her immediate needs | Able to satisfy all survival needs and limited social needs |
| Minimum Social Proficiency- 2 | | | |
| Able to understand in routine social situations and limited work | Able to satisfy routine social demands and limited work | Able to read simple prose, in a form equivalent to typescript or printing | Able to satisfy routine social demands and limited work |

| situations | requirements | on subjects within a familiar context | requirements |
|---|---|---|---|
| Social Proficiency-2 + | | | |
| Able to follow most conversations especially when topics are familiar | Able to speak the language with sufficient accuracy to handle with confidence most social situations and basic work requirements | Able to read stand newspaper articles and other simple prose with dictionary assistance. Can read cursive handwriting | Able to write with sufficient accuracy in structures and spelling to meet all social needs and basic work needs |
| Minimum Vocational Proficiency-3 | | | |
| Able to comprehend sufficiently readily to be able to participate effectively in most formal and informal conversations with native speakers on social topics and on those vocational topics relevant to own interests and experience | Able to speak the language with sufficient accuracy and vocabulary to participate effectively in most formal and informal conversations on practice, social and vocational topics | Able to read standard newspaper items addressed to the general reader, routine correspondence, reports and technical material in own special field and other everyday materials | Able to write with sufficient accuracy in structure and spelling to meet all social needs and basic work needs. |
| Approaching Vocational Proficiency-3 + | | | |
| Comprehend accurately in most personal, social and relevant vocational contexts | Able to participate in conversation with fluency and very few errors on topics within own range of experience | Able to read almost all styles and forms of the language pertinent to personal, social, academic or vocational needs | Able to write fluently on most levels normally pertinent to personal, social, academic or vocational needs |
| Vocational Proficiency-4 | | | |
| Can comprehend accurately in most personal, social and relevant vocational contexts | Able to use the language fluently and accurately on all levels normally pertinent to personal, social, academic or vocational needs. | Able to read all styles and forms of the language pertinent to personal, social academic or vocational needs | Able to write fluently and accurately on all levels normally pertinent to personal, social, or vocational needs |
| Approaching Native like Proficiency 4 + | | | |
| Listening proficiency is almost equivalent to that of a native speaker of the same socio-cultural variety | Speakers with almost native like proficiency although a foreign accent may continue | Reading proficiency is almost equivalent to that of a native speaker of the same socio-cultural variety | Written proficiency is almost equivalent to that of a native speaker of the same social-cultural variety |
| Native Like Proficiency-5 | | | |
| Listening proficiency equivalent to that of a native speaker of | Speaking proficiency equivalent to that of | Reading proficiency equivalent to that of a native speaker of | Written proficiency equivalent to that of a native speaker of |

| | | | |
|---------------------------------------|---|---------------------------------------|---------------------------------------|
| the same socio-cultural variety | a native speaker of the same social-cultural variety | the same socio-cultural variety | the same socio-cultural variety |
|---------------------------------------|---|---------------------------------------|---------------------------------------|

(Adapted from Australian Catholic University- Mercy Campus Elicos Center)

The authors: Ingram & Wylie

Appendix G

EFL Motivational Questionnaire

Please respond to the following statements about learning English according to the scale on the right. You may also write comments. You don't have to write your name on this questionnaire.

Disagree → Agree → Strongly agree

1 2 3 4 5

1. I like English class, because it is interesting.

1 2 3 4 5

2. I feel very happy when we are in English class.

1 2 3 4 5

3. I think my English can make progress if I can study hard.

1 2 3 4 5

4. I feel that the English class is boring.

1 2 3 4 5

5. I feel English is important to find a good job.

1 2 3 4 5

6. I am attentive to what my teacher says in class.

1 2 3 4 5

7. I feel it is not difficult to learn English well.

1 2 3 4 5

8. I like to speak English in class.

1 2 3 4 5

9. I study English because I am interested in it, not for the sake of passing exams.

1 2 3 4 5

10. I hope to have more English classes in a week.

1 2 3 4 5

11. I hate English, but I don't have any choice. I just have to sit in class.

1 2 3 4 5

12. I like English class because I like my English teacher.

1 2 3 4 5

13. I always pay attention to the English I learned in class when I watch an English TV program.

1 2 3 4 5

Appendix H

EFL Questionnaire for the Multiple Intelligence group

Please respond to the following statements about learning English according to the scale on the right. You may also write comments. You don't have to write your name on this questionnaire.

Strong Disagree → Disagree → The Same → Agree → Strongly Agree

1 2 3 4 5

1. The textbooks or teaching materials are more practical and useful in this semester.

1 2 3 4 5

2. I feel that English curriculum in this semester is more interesting.

1 2 3 4 5

3. I like small group work in the classroom. It can lower my anxiety and fear about learning English.

1 2 3 4 5

4. I feel small group work in the classroom can increase my motivation, interest and participation in learning English.

1 2 3 4 5

5. I prefer to cooperative learning in group work rather than traditional teaching methods.

1 2 3 4 5

6. I feel cooperative learning in group work can increase my basic English speaking proficiency.

1 2 3 4 5

7. I feel cooperative learning in group work can increase my basic English writing proficiency.

1 2 3 4 5

8. I feel cooperative learning in group work can increase my basic English reading proficiency.

1 2 3 4 5

9. I feel cooperative learning in group work can increase my basic English listening proficiency.

1 2 3 4 5

10. I feel cooperative learning in group work can increase my basic English pronunciation proficiency.

1 2 3 4 5

11. I feel cooperative learning in group work can improve interpersonal relationships among classmates.

1 2 3 4 5

12. I feel the multiple-intelligence based assessment can give me more confidence and lower my anxiety in learning English.

1 2 3 4 5

13. I like to go to the self-study Language Center where I can choose my own way of learning English.

1 2 3 4 5

14. I feel I can learn more from the self-study Language Center which is set up according to students' diverse learning styles and multiple intelligence.

1 2 3 4 5

15. The class activities like story telling, drama, role-play, songs learning, group jigsaws, picture creating and so on can motivate my interest in learning English.

1 2 3 4 5

16. After filling the blanks in the Multiple Intelligence Inventory for EFL young

adults. I agree that it can match my learning and intelligence style.

1 2 3 4 5

17. When in group work, I like to work with my classmates that have the same type of intelligence.

1 2 3 4 5

18. When in group work, I like to work with my classmates that have the different types of intelligence.

1 2 3 4 5

19. I feel that multiple Intelligence based activities can improve my four language skills.

1 2 3 4 5

20. I study English because I am interested in it, not for the sake of passing the test or examinations.

1 2 3 4 5

Appendix I

EFL Questionnaire for the cooperative learning group

Please respond to the following statements about learning English according to the scale on the right. You may also write comments. You don't have to write your name on this questionnaire.

Disagree → Agree → Strongly agree

1 2 3 4 5

1. The textbooks or teaching materials are more practical and useful in this semester.

1 2 3 4 5

2. I feel that English curriculum in this semester is more interesting.

1 2 3 4 5

3. I like small group work in the classroom. It can lower my anxiety and fear about learning English.

1 2 3 4 5

4. I feel small group work in the classroom can increase my motivation, interest and participation in learning English.

1 2 3 4 5

5. I prefer cooperative learning in group work rather than traditional teaching methods.

1 2 3 4 5

6. I feel cooperative learning in group work can increase my basic English speaking proficiency.

1 2 3 4 5

7. I feel cooperative learning in group work can increase my basic English writing proficiency.

1 2 3 4 5

8. I feel cooperative learning in group work can increase my basic English reading proficiency.

1 2 3 4 5

9. I feel cooperative learning in group work can increase my basic English listening proficiency.

1 2 3 4 5

10. I feel cooperative learning in group work can increase my basic English pronunciation proficiency.

1 2 3 4 5

11. I feel cooperative learning in group work can improve interpersonal relationships among classmates.

1 2 3 4 5

13. I like to go to the self-study Language Center where I can choose my own way in learning English.

1 2 3 4 5

14. I feel I can learn more from the self-study Language Center which is set up according to students' diverse learning styles.

1 2 3 4 5

15. The class activities like story telling, drama, role-play, songs learning, group jigsaws, picture creating and so on can motivate my interest in learning English.

1 2 3 4 5

20. I study English because I am interested in it, not for the sake of passing the test or examinations.

1 2 3 4 5

Appendix J

EFL Questionnaire for the control group

Please respond to the following statements about learning English according to the scale on the right. You may also write comments. You don't have to write your name on this questionnaire.

Disagree → Agree → Strongly agree

1 2 3 4 5

1. The textbooks or teaching materials are more practical and useful in this semester.

1 2 3 4 5

2. I feel that English curriculum in this semester is more interesting.

1 2 3 4 5

13. I like to go to the self-study language center where I can choose my own way of learning English.

1 2 3 4 5

14. I feel I can learn more from the self-study Language Center which is set up according to students' diverse learning styles.

1 2 3 4 5

15. The class activities like story-telling, drama, role play, songs learning, group jigsaws, picture creating and so on can motivate my interest in learning English.

1 2 3 4 5

20. I study English because I am interested in it, not for the sake of passing the test or examinations.

1 2 3 4 5

Appendix K

Cloze Text of the English Songs

Song one:

Tie a yellow ribbon around the old oak tree

I am coming home, I've done my _____.

Now I've got to know what is and isn't _____.

If you received my _____, telling you I'd soon be free.

Then you know just what to _____, if you still want _____, if you still want me.

Tie a yellow ribbon around the old oak _____.

It's been three long _____. Do you still want _____?

If I don't see a ribbon around the old oak _____.

I'll stay on the bus, forget about _____, put the blame on _____.

If I don't see a yellow ribbon around the _____ tree.

But driver, please look for _____>

Cause I couldn't bear to see what I might _____.

I'm really still in _____>

And my love she holds the _____.

Simple yellow ribbon what I need to send me _____.

I've wrote and told her _____.

Now the whole damn bus is _____.

And I can't believe I _____.

A hundred yellow ribbon around the old oak tree.

Song two:

A dear John letter

Dear John

Oh, how I hate to _____.

Dear John

I must let you know _____.

That my love for you has _____

There is no reason to go _____

And tonight I wait _____

Dear John.

I was overseas in _____ when the postman came to _____. He handed me a
_____ And I was as _____ as I could _____ Cause the fighting was all
_____. And the battle they'd all be _____. But then I opened _____ that letter
and it stated Dear John

I was overseas in _____ When the postman came to _____

He handed me a _____.

Won't you please send back my _____?

My husband wants it _____.

Song Three

Yesterday Once more

When I was _____

I'd listen to the _____

Waiting for my favorite _____.

When they played I'd sing _____

It made me _____.

Those were such happy _____ and not so long _____

How I wondered where they'd gone

But they're back _____
Just like a long lost _____
All the songs I loved so _____
Every sha-la-la-la
Every Wo-wo-wo
Still _____
Every shing-a ling-a ling
That they're starting to _____
So _____.
When they get to the _____
Where he's breaking her _____
It can really make me _____.
Just like before
It yesterday once more
Looking back on hoe it _____
In years gone by
And the good times that I had
Make today seem rather _____
So much has changed
It was songs of love that
And I'd memorize each _____
Those old melodies
Still sound so good to me.

Appendix L

42 questions selected from the "Practice of The General Proficiency Oral Test" (Crane, 2003).

1. Who are the people in your family?
2. Are you usually sad or happy/ Explain?
3. What do you like to do in your free time?
4. How often do you go shopping?
5. Where did you go last weekend?
6. Who is your favorite singer?
7. Which season of the year do you like best?
8. What time do you go to bed at night?
9. What did you eat for dinner yesterday?
10. What do you do when you get older?
11. When was the last time you went to see the dentist?
12. Do you like Japanese food? Why or why not?
13. What sport can you play?
14. What is your favorite subject in school?
15. What are you going to do today?
16. What do you do after school?
17. How often do you eat At McDonald's?
18. What do you think of the weather in Taiwan?
19. What did you do yesterday morning?
20. Do you like to play computer games? Why or why not?
21. How do you go to school?
22. How often do you go to the zoo?
23. Have you ever been to other countries? Which ones?

24. What do you think of the weather will be like tomorrow?
25. Did you make phone call yesterday? Who did you talk to?
26. What does your best friend look like?
27. How long have you learned English?
28. What do you usually do when you are alone?
29. What kind of TV program do you like to watch?
30. What do you usually do when you are bored?
31. Where were you born?
32. What do you look like?
33. Do you have any bad habits? What are they?
34. How much money do you spend every week?
35. How often do you talk to your friends on the phone?
36. What did you do on your last vacation?
37. What do your family members like to do?
38. What do you like to wear?
39. What do you think of your neighbors?
40. Do you like to sleep late or get up early?
41. Would you like to be a teacher? Why or why not?
42. What are your favorite snacks?

Appendix M

Open-ended questionnaire

1. Did you learn English when you were in elementary school?
If yes, for how long did you learn it?

2. Did you go to cram school to learn English when you were in junior high school?
If yes, for how long did you learn it?

3. Do you like to study English?
Yes or No? Please write down the reason for yes or no.

.

4. What kind of activities do you feel more interested in and hope to use in your English class?

5. What is your ideal English teacher?

6. Does your family provide you with a good environment at home for learning English?

Appendix N

Students' Interviews

The comments (the researcher translated them into English) that adapted from the student interviews of Group C were as follow:

S1. I like to learn how I learn. It makes to learn more fun. I used to think I could not learn to read and speak in class, but I feel much better now.

S2. I learned some reading and writing strategies from group works in class. For example, I learned the basic sentences that are helpful for my writing. In addition, I want to work on how to guess the meaning of the word from the sentence. This can also help me in my extensive reading. I am more willing to go to the Language Learning Center to borrow novels or magazines to read.

S3. I am happy with the work we do in this class because we have choices. We do not always need to do the same assignment as a different student. I like the way of choosing assignments by my interest s when I learned cooperative learning in groups. I can get help from my classmates.

S4. Sometimes it is good to have us work by ourselves for a while before having a partner, because some classmates are not serious in class.

S4.I am a shy person, so I hate to make a comment in the class, but I like to work in groups and feel more comfortable to participate and comment in the group.

S5. I like working in groups a lot, but I need to be quiet sometimes, so I can listen to my self.

S6. I like to collect the maps and pictures by means of various techniques like Internet for my assignment, which was required by groups work. I am also motivated to learn through visual the teacher and classmates brought to the class because I can see better what I read. I feel that I can understand the vocabularies or the reading with the chart

or pictures provided in class. Besides, I like to draw pictures for the English words. It can help me memorize the new words. It seemed that my classmates like my drawings too.

S7. Graphs, colors, posters and visual aids were viewed as additional help in the classroom and campus. This semester, we decorated our “Food Nutrition Department building” by English posters or maps. Not only the stairs of the building, the lift, the restroom, the bulletin board, but also the Language Learning Center, and the Language Lab, we can see the English vocabularies, idioms everywhere in the campus. We seem to learn the English by visual help. We should say thanks to the people who provided this learning environment.

S8. Cooperative learning activities provided us a learning environment where we felt we were a necessary part in the group. In addition, it was not only the teacher that always gave the lecture and initiated the talk; therefore few students felt sleepy in class.

S9. By cooperative learning, my classmates that were too shy to ask help from teachers were more willing to turn to their teammates for assistance. The teammates that had better English proficiency would like to give timely help.

S10. The Jigsaw method of cooperative learning in reading could provide us the opportunities to work together and share opinions, feelings, knowledge and understanding. We enjoyed these interaction that felt learning became fun.

S11. In the group work, when sharing learning tasks, everyone was assigned a role, I felt that I had less pressure and would like to do my best to complete the assignment and duty.

S12. After many group presentations in front of the classroom, I felt more comfortable when presenting my ideas in class.

S13. I felt very happy in class, because I could contribute something that I was good at to my group. I could tell that everyone was important in his group.

S14. For my duty in my own group, I needed to check each classmate's worksheet. I liked to move around. It was not necessary for me to sit quietly in my own seat all the time. I felt that our English classes were not static but dynamic.

S15. I was not a good student in school and never got good grade for any subjects. I felt bored listening to the teacher constantly talking and talking. I could not figure out what my teacher was talking about. In addition, I was always blamed for making noise in class. But I like the song making and the pictures my classmates made for the vocabularies. I felt it could attract my attention in class. The most important thing was that I felt more confident to study in class. Though I did not get good grades in tests, I did a good job by performing the drama. In addition, I searched lots of pictures from the magazine, storybook, and Internet that are useful in class. So my teacher gave me the chance to make up the exam by my homework and assignment.

S16. Our English teacher is energetic and always makes the class fun.

S17. We play games; sing songs and change studying a lot. We practice reading and writing by various kinds of activities and do different homework. All of them made me feel comfortable and interested.

S18. Our class was like a family, because we can talk about everything and did not feel shy. In addition, we felt comfortable in the class. We were involved in tasks where our knowledge could grow.

S19. Some of my classmates in my group were too dependent. They sometimes relied on the members of their group whose English proficiencies too much. Hence, they did fewer assignments than the students with high English proficiency. It's unfair.

S20. I felt my English class was not boring this semester and it seemed that I learned

something from the Language Learning Center. I felt very comfortable in the Language Learning Center because I could play computer games, listen to music, watch TV, and read the novels and magazines that I liked. But the problem was that I needed to register before I visited the Language Learning Center. I hoped that school would build more Language Learning Centers so that I could go anytime when I did not have class in school.

S21. I liked the English songs that I learned this semester. I was so moved when I knew the plot of the stories of the songs “Tie a yellow ribbon around the old oak tree” and “Dear John”. The melodies of these two songs were also very nice. Listening to the English songs became my hobby. I found it could also increase my listening skills.

S 22. I liked to study English or did my homework in the Language Learning Center. Not only did it provide a good learning environment for us, but also if we had problems in learning, we could consult the teacher who was on duty there. All the teachers there were very kind to give us timely help.

S23. I seldom had the chance to speak English and felt nervous when I need to speak English, but in the drama performance, I could talk it out without hesitation. I found it was a good way to train my oral skills. In addition, when preparing the performance of the drama, everyone was assigned a role; we felt that a sense of duty had been instilled in us.

S24 I seldom dozed off since our teacher asked us to study in groups, and it was easier for me to keep awake with various activities going on in class.

S25. My English teacher was very kind. Though I failed in the mid- term examination, she gave me another chance for assessment. I could choose my own way to present my talent. I sang two English songs and searched a lot of pictures that had English vocabularies on them to present in class. My English teacher said that I did a good job. Hence, I had more confidence in studying English.

Appendix O.

The Simulated General English Proficiency Test for Reading Test (Crane, 2003)

A.Part one. There are fifteen questions as follows. Please choose the most appropriate one to each of the question.

1. Because of the heavy rain, we decided _____ out; instead, we played chess and watched movies on TV at home.
A. not going B. not to go C. to not go D. not go
2. Did you remember to _____ the air conditioner before you left the house this morning?
A. cut B. close C. stop D. turn off
3. Cathy has an annoying _____ of biting her nails whenever she gets nervous.
A. habit B. interest C. custom D. culture
4. Jack was late for school today because he didn't _____ the school bus.
A. get B. catch C. chase d. keep
5. Alice and I have many things in common. We are about the _____ age, height, and even weight.
A. special B. different C. kind D. same
6. The fruit juice she made for us tasted _____.
A. deliciously B. well C. good D. wonderfully
7. Kent: " _____ we met before? You look so familiar."
Lily: "I don't think so."
A. Are B. Have C. Did D. were
8. Before the exam started, the student behind me asked, " _____ I borrow a pen from you ?"

A. Should B. Would C. May D. Will

9. Eating too _____ sugar is bad for your teeth and health. Besides, it will make you fat.

A. more B. many C. much D. most

10. Now I _____ your name. You are Davis Jones, right?

A. remember B. am remembering C. remembering D. will remember

11. We can make dinner for the guests at home _____ take them to a restaurant.

Which do you think is better?

A. and B. but C. nor D. or

12. I have two rulers. If you don't have one, you are welcome to use one of

A. My B. mine C. me D. my ruler

13. The car is all covered with mud. I'll have the maid _____ it right away.

A. Wash B. to wash C. washing D. washes

14. Please wait patiently. They will be here _____ a few minutes.

A. At B. for C. in D. after

15. Mr. Lin used to work in that food company, but he doesn't work there _____.

A. Anyway B. anymore C. again D. anywhere

Part two. Please choose the most suitable answer to fill the blanks

QUESTIONS 16-20

Tim and Jessie Brown live in San Francisco. Tim is a chef in a Mexican restaurant and Jessie (___16___) a flower shop. They usually go to work early in the morning and do not get home (___17___) late at night.

The Browns have two children, 17-year-old David and 15-year-old Susan. Both children attend the Warren Vocational School. When he (___18___) from school,

David plans to be a soft-ware engineer. Susan, (____ 19 ____), plans on becoming a secretary. (____ 20 ____) they didn't receive much education when young, the Browns make sure that their children study hard in school. They want their children to be successful.

16. A. works B. plants C. delivers D. owns

17. A. until B. to C. at D. in

18. A. will graduate B. graduate C. graduates D. is graduating.

19. A. therefore B. on the other hand C in fact D. besides

20. A. When B. If C. After D. although

QUESTION 21-25

While a man was sailing in a boat, he dropped a piece of gold into the sea by accident. The man returned to land, took a (____ 21 ____), and began to scoop up water and pour it on the shore. He scooped and poured nonstop (____ 22 ____) three whole days.

On the fourth day, a water fairy came up out of the water and asked, “(____ 23 ____) are you scooping?” The man replied, “ Because I (____ 24 ____) a piece of gold.” The fairy asked, “ When are you going to stop scooping?” The man said,” I (____ 25 ____) stop until I have found my gold.”

The fairy sighed, returned to the sea, brought up the piece of gold, and gave it to the man.

21. A. mop B. broom C. towel D. bucket

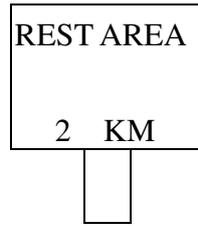
22. A. in B. for C. on D. since

23. A. what B. why C. How D. When

24. A. lose B. losing C. have lose D. have lost

25. A. don't B. will C. not D. won't

Question 26.



26. What does this sign mean?

- A. There are two rest areas ahead
- B. The rest area opens at 2 in the afternoon
- C. The rest area opens at 2 in the morning.
- D. The rest area is 2 kilometer away.

Question 27-28

2-bedroom apartment, near Northwest Junior High, furnished, air-conditioned, parking, laundry, \$500.00 / mo. Call Tammy at 2882-0099

27. Which information is NOT included in the ad?

- A. The rent
- B. The telephone number
- C. The exact address
- D. The type of housing.

28. Who is likely to respond to this ad?

- A. Someone who wants to sell an apartment
- B. Someone who is looking for a place to live
- C. Someone who is looking for a job
- D. Someone who wants to buy furniture.

Question 29-30

| SKYLARK BUS COMPANY DAILY SERVICE | | | |
|-----------------------------------|-------------------|----------|-----------------|
| Departing | Time of Departure | Arriving | Time of Arrival |
| Evans | 7:00 a.m. | Lenden | 10:00 a.m. |
| Lenden | 10:30 a.m. | Evans | 1:30 |
| Evans | 2:30 p.m. | Lenden | 5:30 |
| Lenden | 6:30 p.m. | Evans | 9:30 |

29. How long does it take to travel from Evans to Lenden by bus?

- A. One hour B. Two hours C. Three hours D. Four hours

30. What time does the last bus from Evans to Lenden depart?

- A. 2:30 p.m. B. 5:30 p.m. C. 6:30 p.m. D. 9:30 p.m.

Questions 31-32

Dear Mark:

Hello from Amsterdam. I just love this city. People here are very friendly and the whole city is decorated with beautiful flowers. We went to the Farmers' market this afternoon and tasted some of the most delicious cheese I have ever had. I bought a pair of mini-sized wooden shoes for you as a souvenir.

Tomorrow we'll go to Paris by train. I can't wait to see the Louvre and the Eiffel Tower. Then the last stop of our trip will be London. This has been a very pleasant trip and I have hope we can travel together next time.

31. Where is Nancy writing from?
A. Asia B. Europe C. America D. Japan

32. How many more cities will Nancy visit?
A. One B. Two C. Three D. Four

Questions 33-35

The families on Maple Street decided to have a garage sale on a spring day. The weather was great, each family had a lot of junk, and people from all over the town crowded the street. The sale was a big success. However, at the end of the day, these families were surprised to find that they had more junk than they started with. How did that happen?

Mr. White bought Big Johnny's bicycle for his teenage son. Big Johnny paid \$15 for Mrs. Damon's old armchair. Mrs. Damon got some children's books from Mr. Lewis. The Lewis children bargained for Howard's chessboard and finally paid two dollars. Howard spent \$ 3 on Mrs. Martin's toaster oven. And Mrs. Martin paid \$10 for Mr. White's sewing machines. Each family had bought something from their neighbor.

33. Why did the families on Maple Street want to have a garage sale?

- A. To meet people
- B. To get rid of the things they didn't need
- C. To buy some junk
- D. To celebrate the coming of spring

34. What's a good title for this story?

- A Spring on Maple Street
- B People on Maple Street
- C. Garage sale on Maple Street

E. Junk on Maple Street

35. Which of the following is true?

- A. Big Johnny bought an armchair
- B. Mrs. Martin sold her chessboard
- C. Mrs. Damon got a bicycle
- D. Howard paid \$ 10 for some books.

Appendix P.

The Simulated General English Proficiency Test for Writing Test (Crane, 2003)

Part one. Rewrite the sentence according what is required.

For example: I am fine.

Sue _____.

Ans: Sue is fine.

1. They are in the library now.

_____ two hours ago.

2. Where did Jack go last night?

I don't know _____.

3. Susan's father is taller than Helen's. (not asAs)

Helen's father _____.

4. To pass the examination is not easy.

It _____.

5. Anne drank some coffee in the restaurant.

Where _____.

Part two. Combine the sentences.

For example: John has a book.

The book is English

John _____ book.

Ans: John has an English book.

6. We were in New York last Christmas.

We went to several plays. (When)

_____.

7. Mary didn't wash the clothes.

Susan didn't wash the clothes. (neither...nor)

_____.

8. He enjoyed something.

He has a cup of coffee in the afternoon.

_____.

9. John bought a book.

The book is for his mother.

_____.

10. I know a man.

The man's sister is a pianist (use adjective clause)

_____.

Part three. Rearrange the sentence.

For example: Bill

Morning / goes / every / school / to

Ans: Bill goes to school every morning.

11. I _____ last night.

Able / play / to / the / was / piano./ well

12. Nancy's father _____.

To / told / take / before / 8: 00 / her / shower / a

13. Has _____

Sam / since/ Monday / been / last / sick

14. Wendy _____.

Her / grandparents / once / visits / every year

15. Can you _____?

My / homework / with / help / me

Part four. Paragraph composition.

You had a bad luck all day yesterday. According to the series of pictures, please write down the process. (At least 50 words)

Appendix Q

The mid-term examination

(A) Match the word that has the same meaning. 40%

1. encounter 2. apart 3. comment 4. silent 5. stare 6. embrace 7. sex 8. briefly
9. toward 10. merry 11. occur 12. courtesy 13. unassuming 14. casual 15.
maintain 16. appearance 17. remote 18. interpret 19. tend 20. rude

Ans: (a) quiet; still (b) shortly (c) in the direction of (d) meeting
(e) happy (f) happen (g) politeness (h) informal (i) outer looking (j) to keep
something (k) to show the meaning of (l) being male or female (m) to say
something about (n) modest and humble (o) to want to say something (p)
impolite (q) very far away (r) to hold in the arms
(s) separately (t). to look fixedly at

(B) Choose the right answer. 20%

- Henry wants to go to dance this weekend, and _____ Bill.
a. so is b. is too c. so does d. does so
- We'd better stop at the service station or we'll soon _____ gas
a. look after b. make up c. get out of d. run out of
- You'd better tell mom the truth, _____ she won't trust you any more.
a. or b. because c. and d. but
- Don was thirsty after running for 2 straight hours, so he drank _____ water.
a. lot of b. many c. a lot d. some
- "**Keep out of the grass**" where might a person see this sign?
a. in the street b. in the newspaper c. in the restaurant d. at a park
- I didn't carry enough _____ so I had to use my credit card to pay for the meal.
a. energy b. food c. price d. cash
- _____ it over for a few days and tell me your decision next week.
a. To think b. Think c. Thinking d. Be thinking

| | |
|-------------------------------|---|
| TONY's KITCHEN | |
| Menu May 10 | |
| Appetizers: Onion Soup | Vegetarian Dishes: Pasta & Beans |
| Ham with Melon | Fried rice & Vegetables |
| Today's specials: | Desserts: Ice Cream |
| Country-fired Chicken | Apple Pie |
| Roast Beef | Fruit Plate |

| | |
|---------------------------------|--------------------|
| Seafood Plate | Drinks: Tea |
| (all served with rice or fries) | Coffee |
| | Coke |

8. Nancy wants to have roast beef. What else must she tell the waiter?
- What appetizer she wants
 - Whether she prefers rice or fries
 - What she wants for dessert
 - Whether she prefers a vegetarian dish
9. Nancy's mother doesn't eat meat. Which dish might she order?
- Ham with melon
 - Seafood plate
 - Country-fried chicken
 - Pasta & beans
10. Jenny is on a diet. She wants something light for her dessert. Which one is best for her?
- Ice cream
 - Apple pie
 - Fruit plate
 - Ham with melon

(C) Combine the words into a complete sentence. 20%

- excuse / late / me / coming / Please / for
- Jimmy / Mary / a watch / her birthday / sent / for
- book / This / to / belong / doesn't / George
- He / uncle / last / visited / twice / his / month
- I / give / money / help / should / to / more / the / poor

(D) Translation. 20%

- If you stand too close when you are talking to a native English speaker, he or she will back away from you.
- All English speakers believe that looking away from a person or at the floor means that you are lying.
- It's considered especially impolite to touch strangers of the opposite sex or to comment on the way they are dressed.
- Native speakers of English might have started to fight if you embrace or stare too long at his wife.

The final-term examination

(A) Match the word that has the same meaning. 40%

1.insane 2. weird 3. period 4. major 5. difficult 6. baby 7. afford 8.create 9. repeat 10. extend 11. twice 12.rarely 13.recognize 14. usual 15. eyesight 16. poet 17. cruel 18. beast 19. constantly 20.artificial

Ans: (a) a length of time (b) larger (c) strange and unusual (d) man-made (e) To be able to do (f) produce (g) to say again (h)to make longer (I) two times (j) crazy (k) not easy (l) seldom (m) frequently (n)to know (o) ability to see things (p)one who writes poem (q) unkind (r) animal (s) helpful (t). very young child

(B) Choose the right answer.20%

1. Go straight and you'll see the post office _____ the end of the street.
a. in b.on c. at d. to
2. When I was walking home from school yesterday, I saw an old man ____ food on the sidewalk
a. begging b. to beg c.who begging d. that beg
3. This is my umbrella and that is Linda's. But where is _____?
a. your b. yours umbrella c. you d. yours
4. A florist is a person who owns or works in a shop_____ sells flowers
a. that b. who c. which has d. it
5. Don't bother asking him for help. It would be a _____ of time.
a. waste b.change c.matter d. question
6. It was such an _____ movie that I forgot to eat my popcorn.
a. exciting b. excited c. excitedly d.being exciting
7. After the students finished their lunch, they _____ to go to the playground.
a. allowed b. were allowingc. were allow. D.were allowed
8. A _____ is a piece of cloth or paper for cleaning mouth and hands.
a. table cloth b. napkin c. shirt d. scarf.
9. It has been 10 years _____ Betty moved to the states. I still miss her.
a. for b. until c. before d. since
10. I was lying in bed _____ a novel when the earthquake occurred last night.
a. to read b. and read c. reading d. was reading

(C) Combine the words into a complete sentence. 20%

1. taxi / about / by / What / going
2. not / We / John / to / enter / do / allow

3. You are _____?

Aren't / a / you / teacher.

4. We _____.

English / must / step / by / study / step

5. You _____.

Have / depend / yourself / on / to

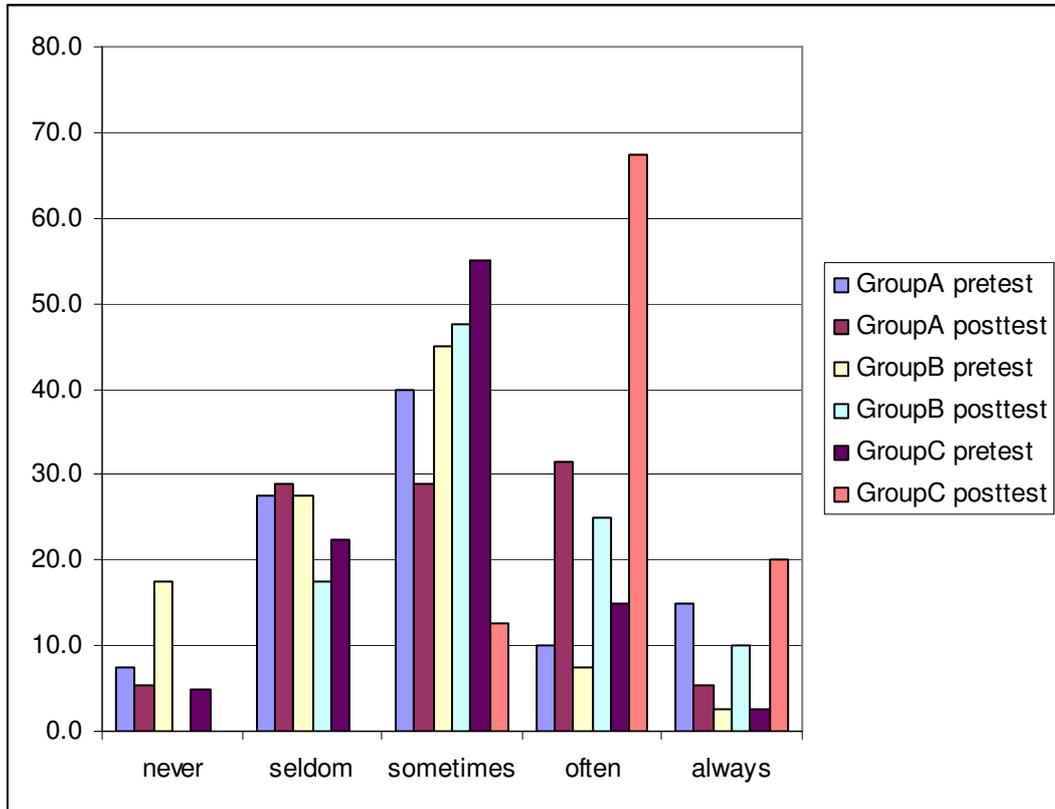
(D) Translation. 20%

1. They did some window-shopping at the busiest section in Shi-Lin. Kaori was attracted by the various fun games at the games booths, such as throwing wooden rings around toys and catching fish with a paper net.
2. Pine trees grew down to the lake's to the lakes's edge, so we had to walk through a small pine forest to reach the water.
3. Paul was the first one to dive into the lake. He laughed at us for being afraid to get our hair wet. However, he was the only one that came down with a cold that night.
4. It was a hot summer afternoon. After a short nap at home, Dad suggested that we go out for a ride on a new road that was built a few months ago.

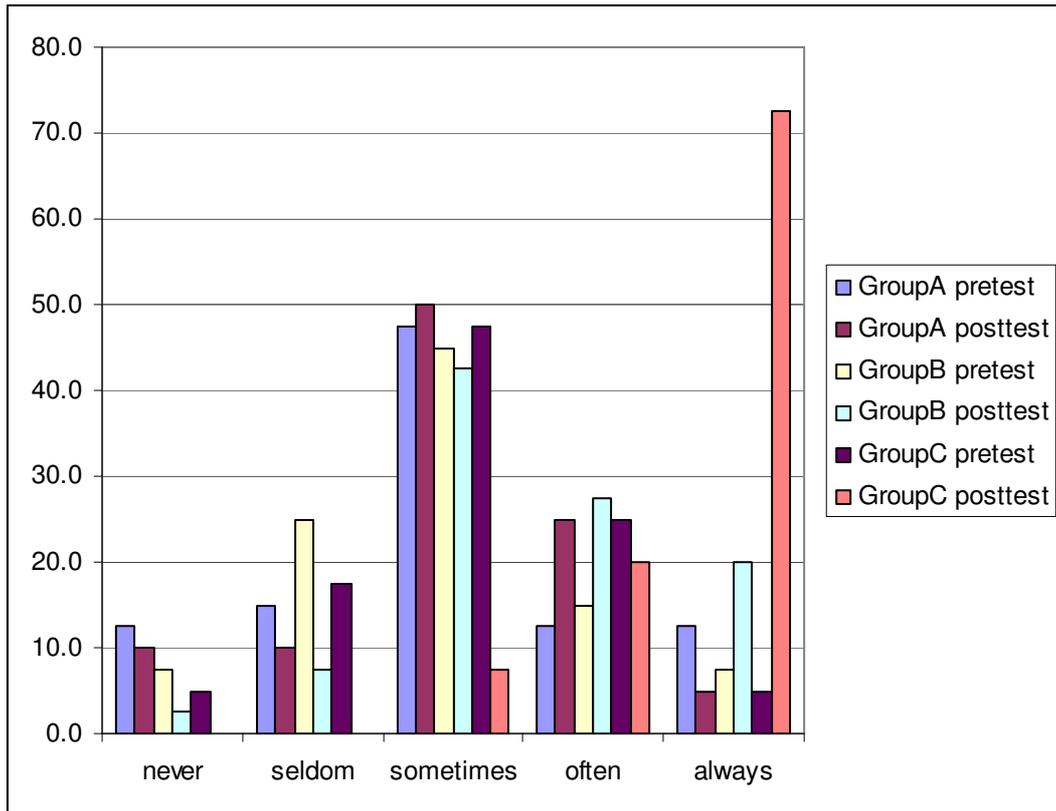
Appendix R

Results of the questionnaire about motivation

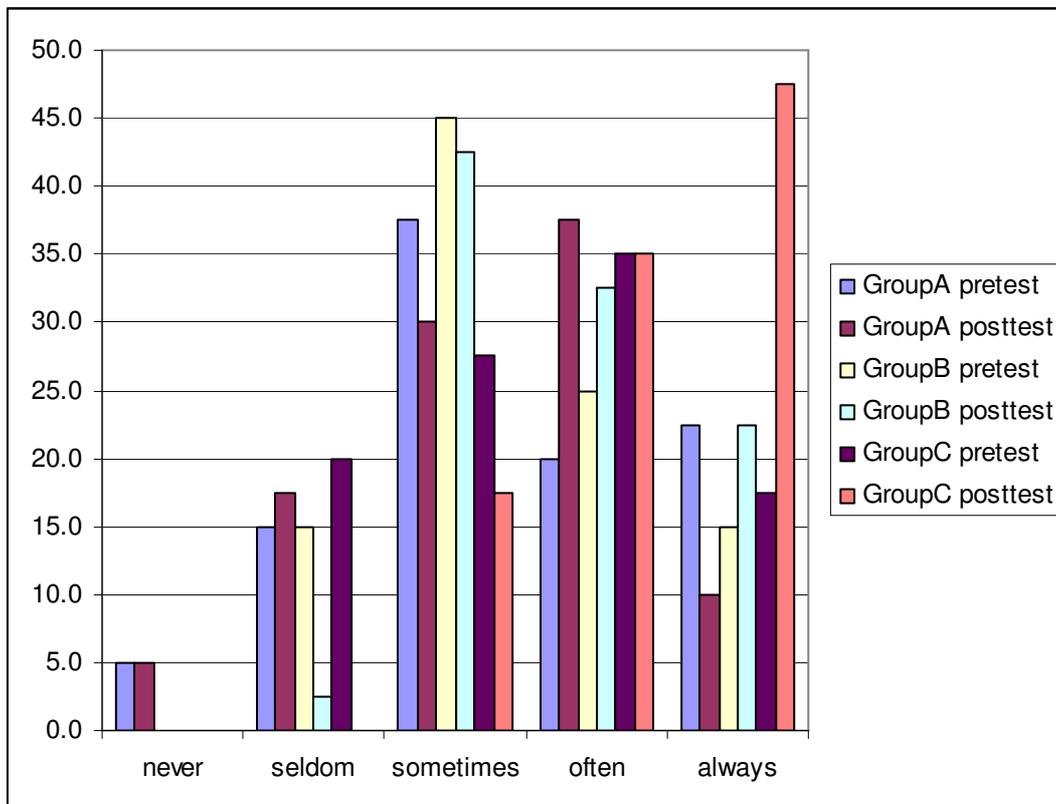
Item 1. I like English, because it is interesting.



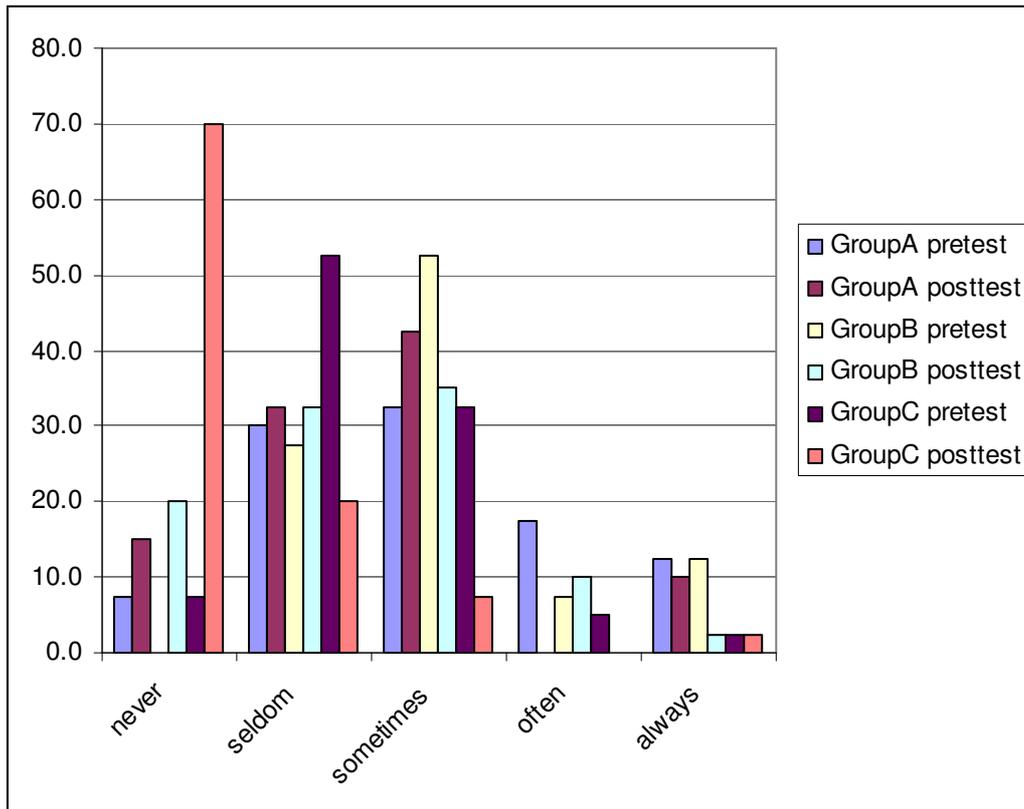
Item 2. I feel very happy when we are in English class.



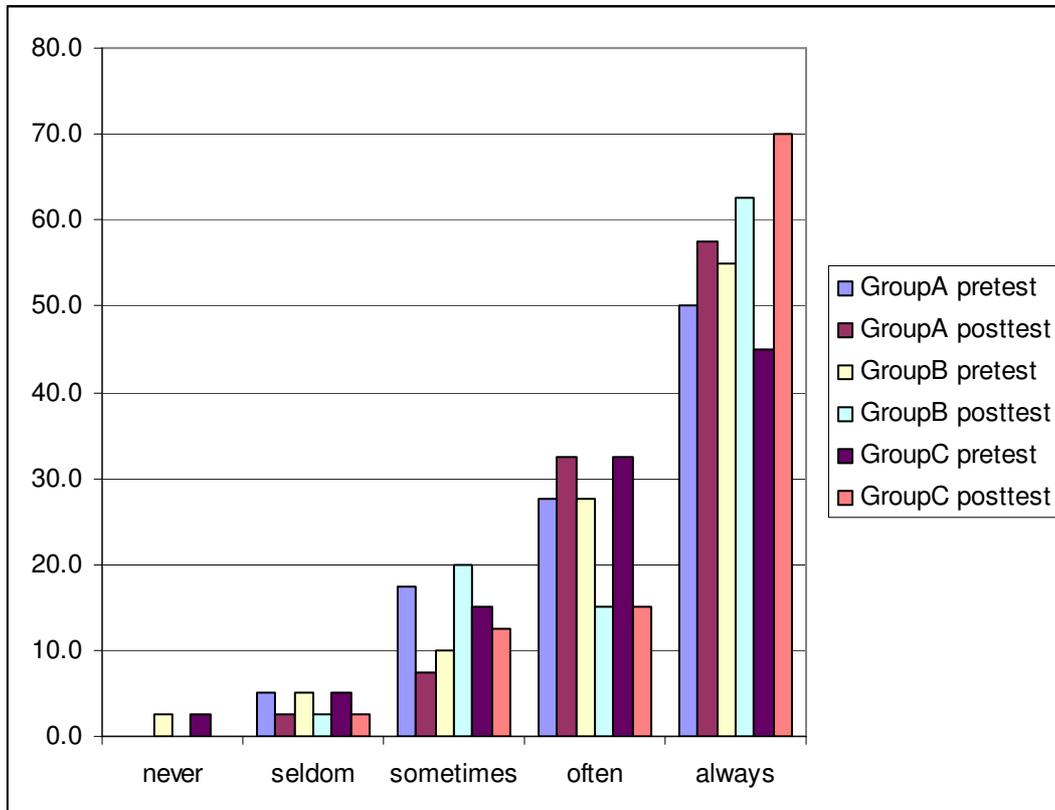
Item 3. I think my English can improve if I can study hard.



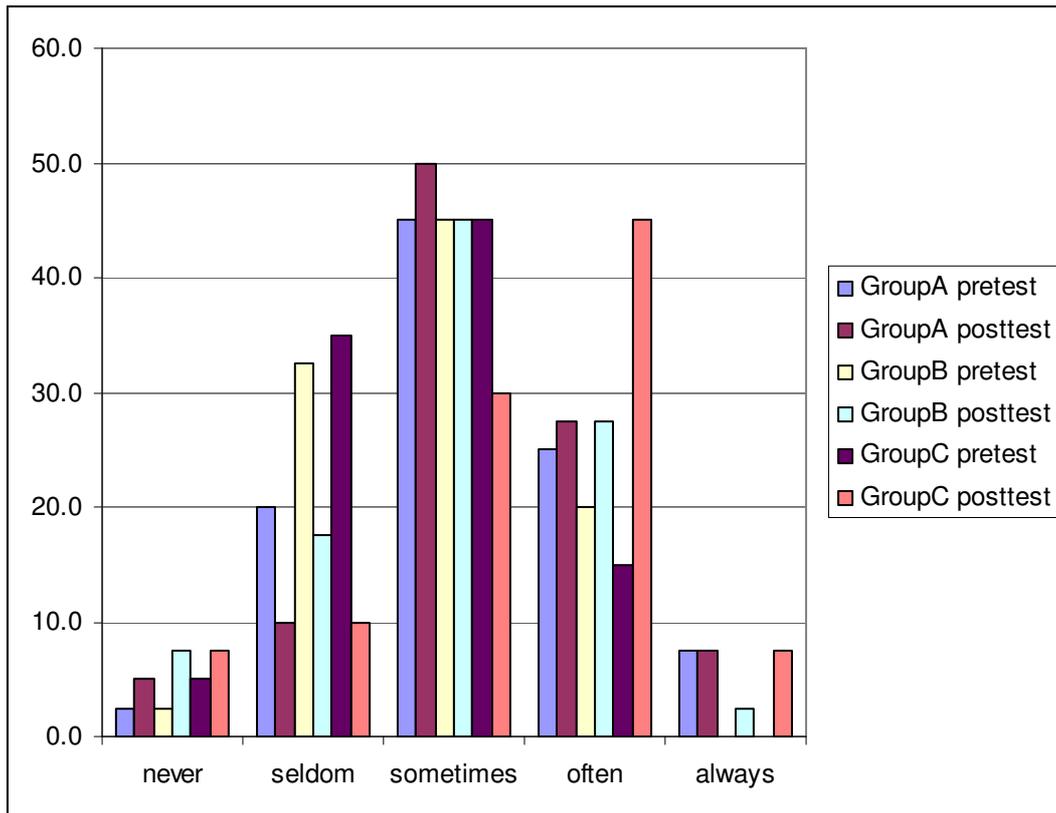
Item 4. I feel that the English class is boring.



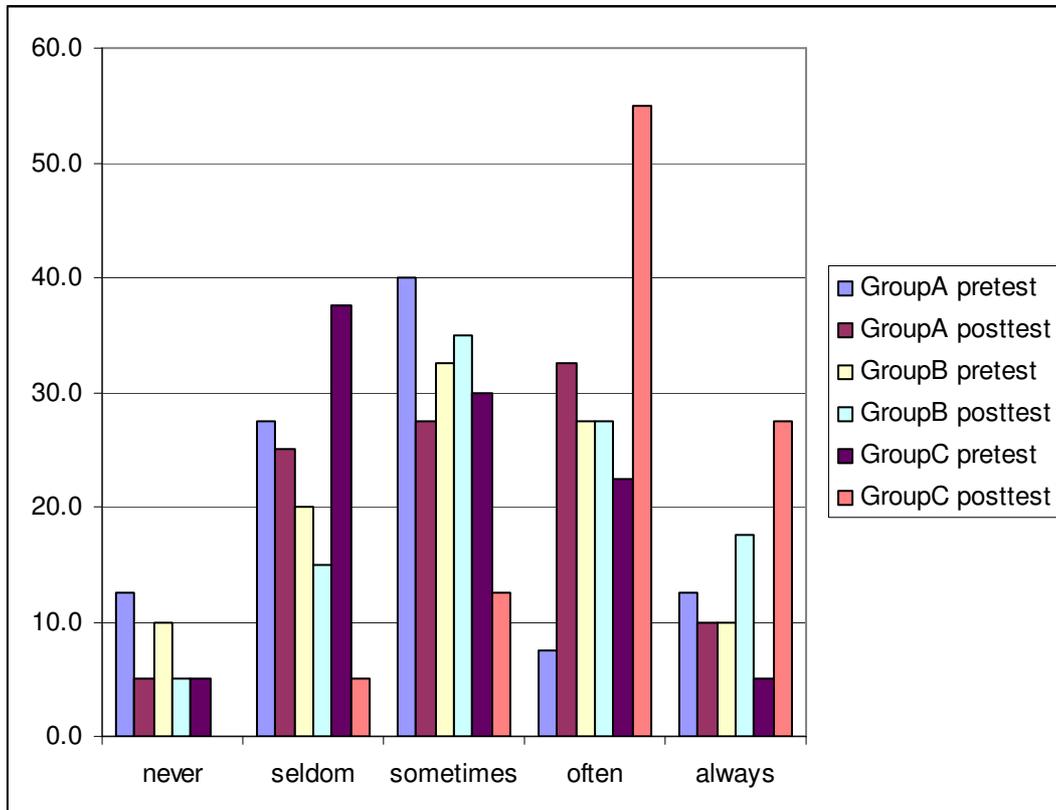
Item 5. I feel English is important for finding a good job.



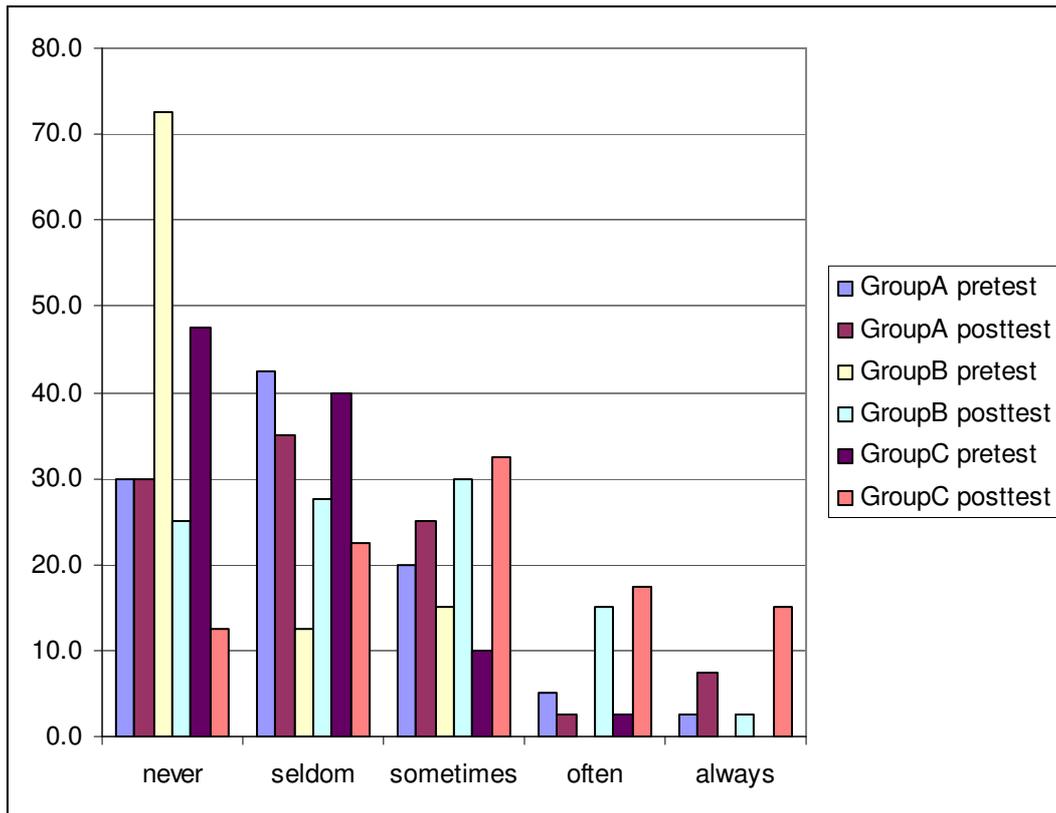
Item 6. I am attentive to what my teacher says in English class.



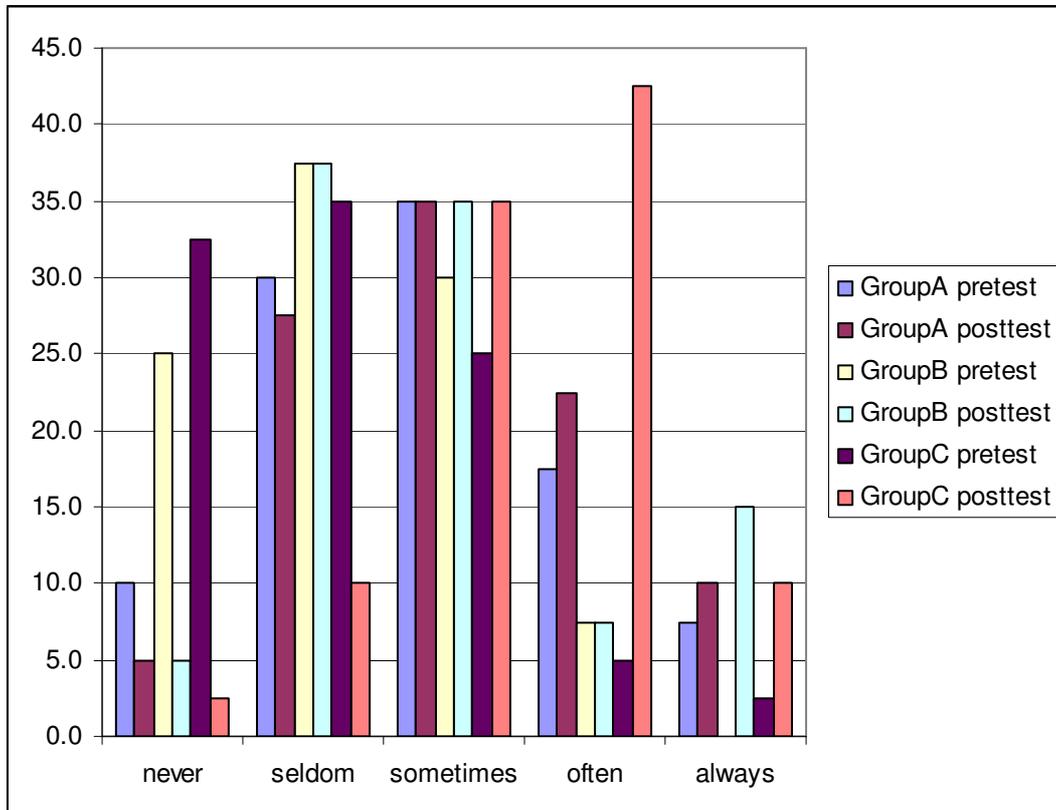
Item 7. I feel it is not difficult to learn English well



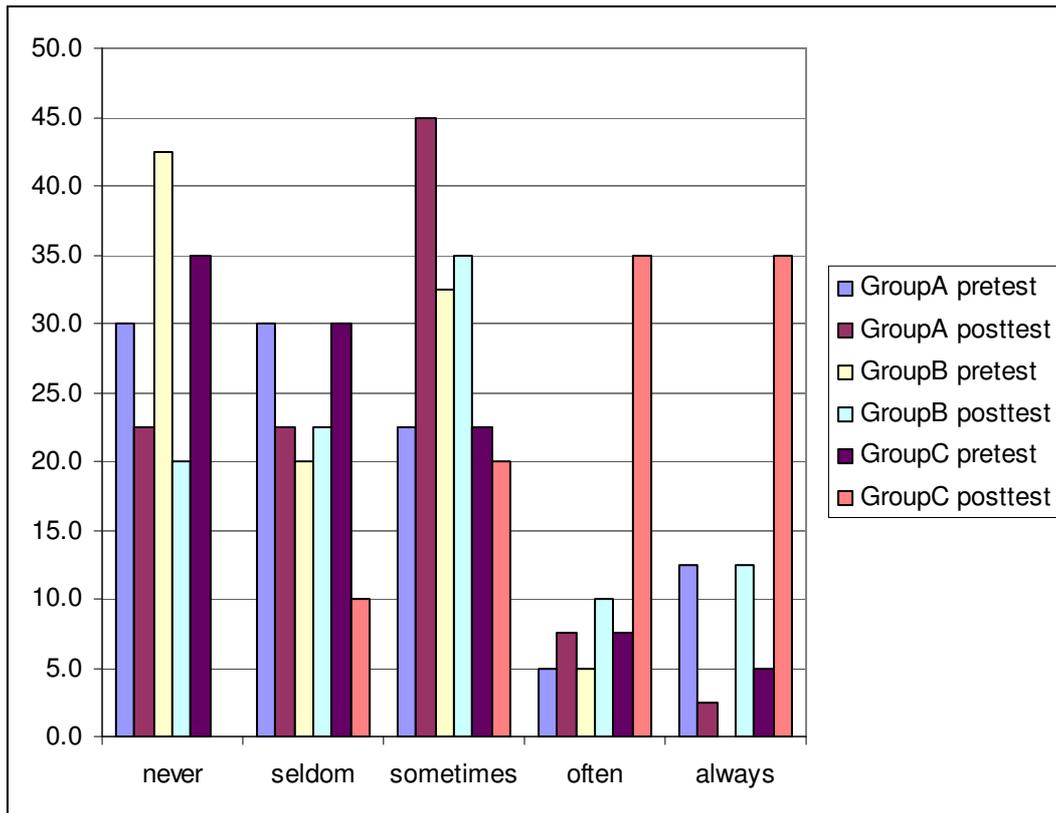
Item 8. I like to speak English in class.



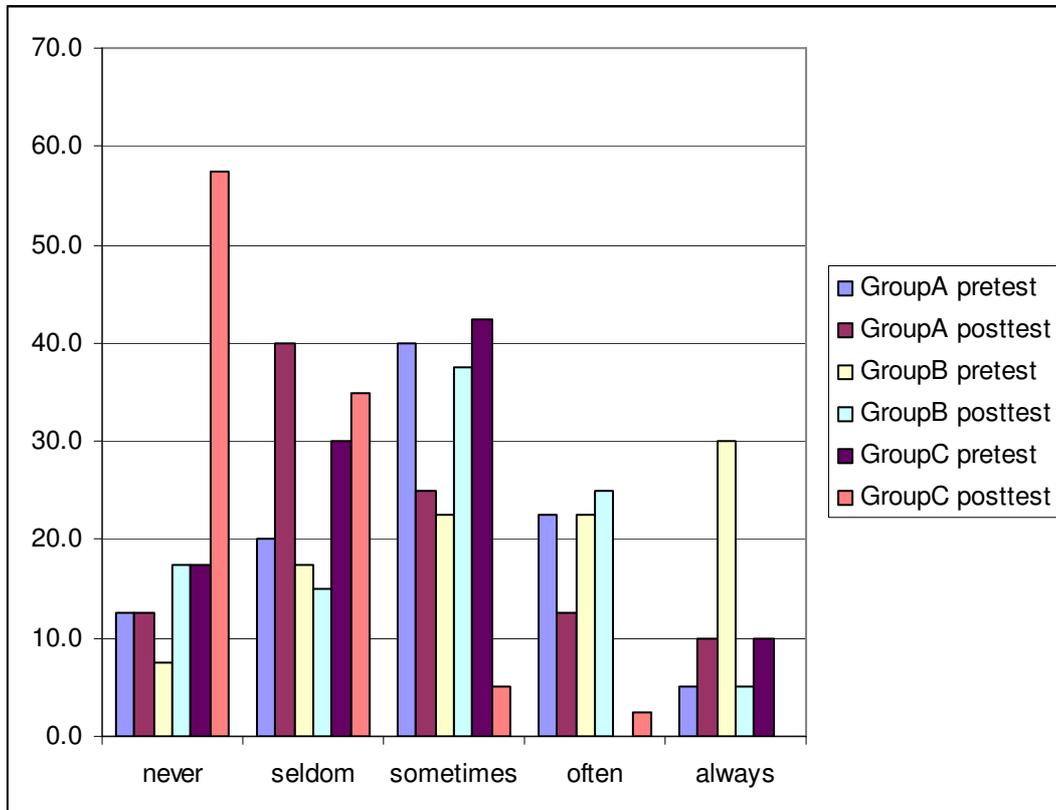
Item 9. I study English because I am interested in it, not for the sake of passing exams.



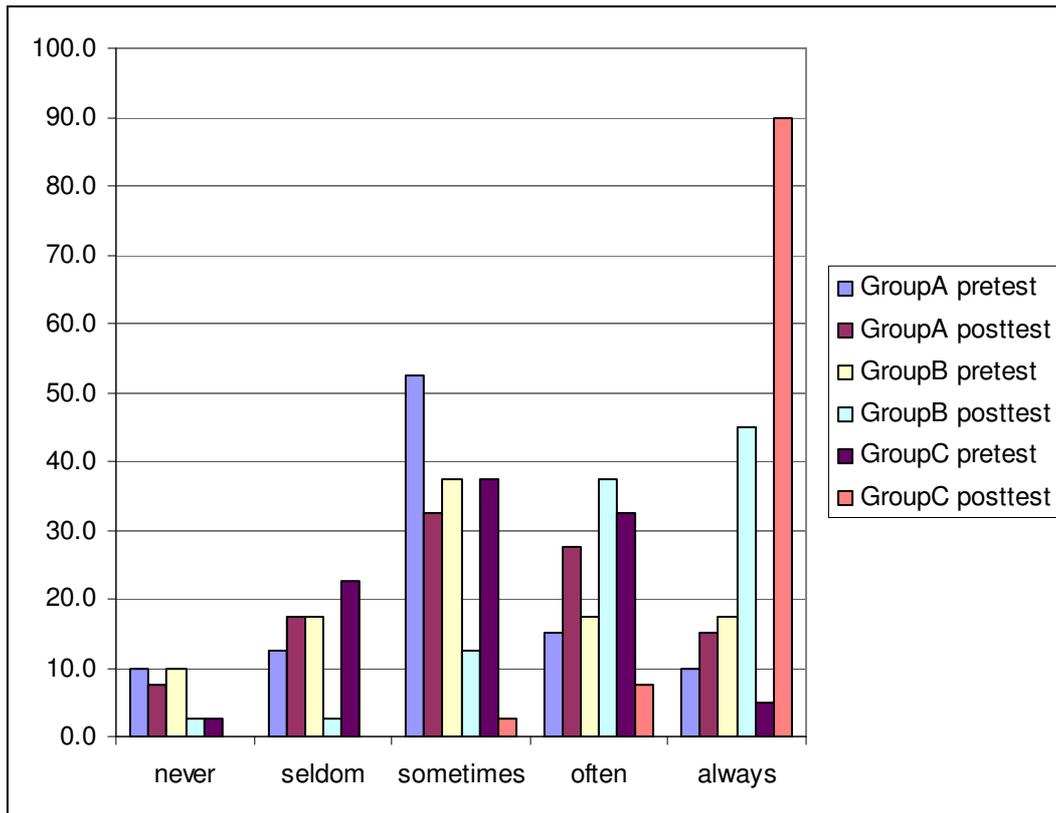
Item 10. I hope to have more English class in a week.



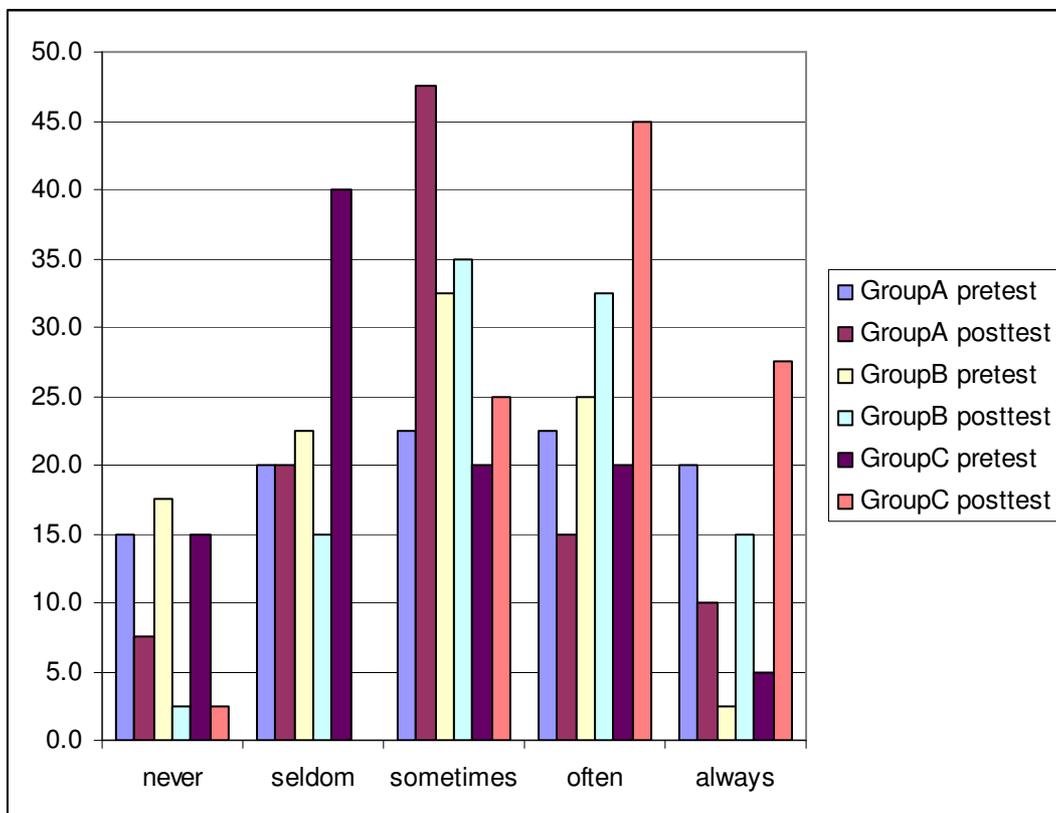
Item 11. I hate English, but I do not have any choice. I just have to sit in class.



Item 12. I like English because I like my English teacher.



Item 13. I always pay attention to the English I learned in class when I watch an English TV.



Appendix X.

Results of students' four language skills and the Mid-term and Final-term Examination.

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|----|---------|---------|------|----------------|
| Control group | | | | | |
| listening 1 | 40 | 48 | 96 | 69.9 | 11.5 |
| listening 2 | 40 | 56 | 104 | 77.3 | 13.0 |
| reading 1 | 40 | 22 | 65 | 42.3 | 10.6 |
| reading 2 | 40 | 17 | 75 | 47.2 | 14.3 |
| writing 1 | 40 | 10 | 52 | 24.8 | 10.0 |
| writing 2 | 40 | 14 | 58 | 31.0 | 10.5 |
| speaking 1 | 40 | 50 | 90 | 71.4 | 11.4 |
| speaking 2 | 40 | 60 | 90 | 77.2 | 8.0 |
| mid term | 40 | 12 | 88 | 57.3 | 18.8 |
| final term | 40 | 20 | 92 | 61.3 | 18.6 |
| Cooperative Learning Group | | | | | |
| listening 1 | 40 | 48 | 104 | 69.6 | 11.9 |
| listening 2 | 40 | 56 | 112 | 84.4 | 17.0 |
| reading 1 | 40 | 17 | 86 | 41.0 | 15.5 |
| reading 2 | 40 | 21 | 88 | 47.6 | 15.6 |
| writing 1 | 40 | 0 | 80 | 33.0 | 17.3 |
| writing 2 | 40 | 5 | 78 | 38.7 | 18.3 |
| speaking 1 | 40 | 50 | 90 | 74.2 | 9.0 |
| speaking 2 | 40 | 60 | 98 | 80.4 | 10.4 |
| mid term | 40 | 12 | 99 | 60.8 | 23.3 |
| final term | 40 | 16 | 100 | 61.8 | 20.9 |
| Cooperative Learning and Multiple Intelligences Group | | | | | |
| listening 1 | 40 | 52 | 112 | 70.6 | 14.0 |
| listening 2 | 40 | 68 | 116 | 89.4 | 13.3 |
| reading 1 | 40 | 24 | 82 | 46.2 | 14.5 |
| reading 2 | 40 | 24 | 85 | 52.9 | 13.9 |
| writing 1 | 40 | 8 | 86 | 31.0 | 17.4 |
| writing 2 | 40 | 12 | 85 | 40.6 | 17.2 |
| speaking 1 | 40 | 50 | 95 | 72.3 | 13.5 |
| speaking 2 | 40 | 60 | 95 | 80.3 | 7.5 |
| mid term | 40 | 10 | 95 | 57.8 | 24.3 |
| final term | 40 | 15 | 98 | 62.4 | 20.2 |

Appendix T.

Results of the questionnaire

| Descriptive Statistics | | | | | | |
|------------------------|--------------------|----|---------|---------|-------|----------------|
| CLASS | | N | Minimum | Maximum | Mean | Std. Deviation |
| 1 | Q1 | 40 | 1 | 5 | 2.975 | 1.143263 |
| | Q2 | 40 | 1 | 5 | 2.975 | 1.143263 |
| | Q3 | 40 | 1 | 5 | 3.4 | 1.150251 |
| | Q4 | 40 | 1 | 5 | 2.975 | 1.143263 |
| | Q5 | 40 | 2 | 5 | 4.225 | 0.919518 |
| | Q6 | 40 | 1 | 5 | 2.85 | 1.144664 |
| | Q7 | 40 | 1 | 5 | 3.15 | 0.921259 |
| | Q8 | 40 | 1 | 5 | 2.8 | 1.159133 |
| | Q9 | 40 | 1 | 5 | 2.725 | 1.085747 |
| | Q10 | 40 | 1 | 5 | 2.075 | 0.971055 |
| | Q11 | 40 | 1 | 5 | 2.825 | 1.083383 |
| | Q12 | 40 | 1 | 5 | 2.4 | 1.316561 |
| | Q13 | 40 | 1 | 5 | 2.875 | 1.066687 |
| | Q14 | 40 | 1 | 5 | 3.025 | 1.049725 |
| | Q15 | 40 | 1 | 5 | 3.125 | 1.362266 |
| | Valid N (listwise) | 40 | | | | |
| 2 | Q1 | 40 | 1 | 5 | 2.5 | 0.960769 |
| | Q2 | 40 | 1 | 5 | 2.9 | 1.007663 |
| | Q3 | 40 | 2 | 5 | 3.4 | 0.928191 |
| | Q4 | 40 | 2 | 5 | 3.05 | 0.932325 |
| | Q5 | 40 | 1 | 5 | 4.275 | 1.012423 |
| | Q6 | 40 | 1 | 5 | 3.25 | 1.103607 |
| | Q7 | 40 | 1 | 4 | 2.825 | 0.780779 |
| | Q8 | 40 | 1 | 5 | 3.075 | 1.141018 |
| | Q9 | 40 | 1 | 4 | 2.3 | 0.992278 |
| | Q10 | 40 | 1 | 3 | 1.425 | 0.747217 |
| | Q11 | 40 | 1 | 4 | 2.2 | 0.911465 |
| | Q12 | 40 | 1 | 4 | 2 | 0.987096 |
| | Q13 | 40 | 1 | 5 | 3.5 | 1.300887 |
| | Q14 | 40 | 1 | 5 | 3.15 | 1.210001 |
| | Q15 | 40 | 1 | 5 | 2.725 | 1.109111 |

| | | | | | | |
|------------------------|--------------------|----|---------|---------|----------|----------------|
| | Valid N (listwise) | 40 | | | | |
| 3 | Q1 | 40 | 1 | 5 | 2.875 | 0.822364 |
| | Q2 | 40 | 1 | 5 | 3.075 | 0.916725 |
| | Q3 | 40 | 2 | 5 | 3.5 | 1.012739 |
| | Q4 | 40 | 1 | 5 | 2.425 | 0.812956 |
| | Q5 | 40 | 1 | 5 | 4.125 | 1.017476 |
| | Q6 | 40 | 1 | 5 | 2.9 | 0.900142 |
| | Q7 | 40 | 1 | 4 | 2.7 | 0.790975 |
| | Q8 | 40 | 1 | 5 | 2.85 | 1.001281 |
| | Q9 | 40 | 1 | 5 | 2.35 | 1.051251 |
| | Q10 | 40 | 1 | 4 | 1.675 | 0.764182 |
| | Q11 | 40 | 1 | 5 | 2.1 | 1.007663 |
| | Q12 | 40 | 1 | 5 | 2.175 | 1.1522 |
| | Q13 | 40 | 1 | 5 | 2.55 | 1.108244 |
| | Q14 | 40 | 1 | 5 | 3.15 | 0.921259 |
| | Q15 | 40 | 1 | 5 | 2.6 | 1.127739 |
| | Valid N (listwise) | 40 | | | | |
| Descriptive Statistics | | | | | | |
| CLASS | | N | Minimum | Maximum | Mean | Std. Deviation |
| 1 | Q1POST | 38 | 1 | 5 | 3.026316 | 1.026325 |
| | Q2POST | 40 | 1 | 5 | 3.05 | 0.985797 |
| | Q3POST | 40 | 1 | 5 | 3.3 | 1.042679 |
| | Q4POST | 40 | 1 | 5 | 2.575 | 1.083383 |
| | Q5POST | 40 | 2 | 5 | 4.45 | 0.749359 |
| | Q6POST | 40 | 1 | 5 | 2.925 | 0.997111 |
| | Q7POST | 40 | 1 | 5 | 3.225 | 0.919518 |
| | Q8POST | 40 | 1 | 5 | 3.175 | 1.083383 |
| | Q9POST | 40 | 1 | 5 | 2.65 | 1.12204 |
| | Q10POST | 40 | 1 | 5 | 2.225 | 1.143263 |
| | Q11POST | 40 | 1 | 5 | 3.05 | 1.060962 |
| | Q12POST | 40 | 1 | 5 | 2.45 | 1.011473 |
| | Q13POST | 40 | 1 | 5 | 2.675 | 1.163273 |
| | Q14POST | 40 | 1 | 5 | 3.25 | 1.149136 |
| | Q15POST | 40 | 1 | 5 | 3 | 1.037749 |
| | Valid N (listwise) | 38 | | | | |
| 2 | Q1POST | 40 | 2 | 5 | 3.275 | 0.876693 |
| | Q2POST | 40 | 1 | 5 | 3.55 | 0.985797 |

| | | | | | | |
|---|--------------------|----|---|---|-------|----------|
| | Q3POST | 40 | 2 | 5 | 3.75 | 0.839719 |
| | Q4POST | 40 | 1 | 5 | 2.425 | 1.009887 |
| | Q5POST | 40 | 2 | 5 | 4.375 | 0.896932 |
| | Q6POST | 40 | 1 | 5 | 3.05 | 1.011473 |
| | Q7POST | 40 | 1 | 5 | 3 | 0.9337 |
| | Q8POST | 40 | 1 | 5 | 3.375 | 1.102154 |
| | Q9POST | 40 | 1 | 5 | 2.725 | 1.061868 |
| | Q10POST | 40 | 1 | 5 | 2.425 | 1.106797 |
| | Q11POST | 40 | 1 | 5 | 2.9 | 1.127739 |
| | Q12POST | 40 | 1 | 5 | 2.725 | 1.260596 |
| | Q13POST | 40 | 1 | 5 | 2.85 | 1.144664 |
| | Q14POST | 40 | 1 | 5 | 4.2 | 0.939176 |
| | Q15POST | 40 | 1 | 5 | 3.425 | 1.009887 |
| | Valid N (listwise) | 40 | | | | |
| 3 | Q1POST | 40 | 3 | 5 | 4.075 | 0.572332 |
| | Q2POST | 40 | 3 | 5 | 4.65 | 0.622237 |
| | Q3POST | 40 | 3 | 5 | 4.3 | 0.757865 |
| | Q4POST | 40 | 1 | 5 | 1.45 | 0.845804 |
| | Q5POST | 40 | 2 | 5 | 4.525 | 0.816104 |
| | Q6POST | 40 | 1 | 5 | 2.375 | 0.837808 |
| | Q7POST | 40 | 1 | 5 | 3.35 | 1.02657 |
| | Q8POST | 40 | 2 | 5 | 4.05 | 0.782829 |
| | Q9POST | 40 | 1 | 5 | 3.05 | 1.218448 |
| | Q10POST | 40 | 1 | 5 | 3 | 1.240347 |
| | Q11POST | 40 | 1 | 5 | 3.475 | 0.905468 |
| | Q12POST | 40 | 2 | 5 | 3.95 | 0.985797 |
| | Q13POST | 40 | 1 | 4 | 1.525 | 0.715667 |
| | Q14POST | 40 | 3 | 5 | 4.875 | 0.404304 |
| | Q15POST | 40 | 1 | 5 | 3.95 | 0.875595 |
| | Valid N (listwise) | 40 | | | | |

Statistics

| CLASS | | | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 |
|-------|---|---------|----|----|----|----|----|----|----|
| 1 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 |

| | | | | | | | | | |
|---|---|-------------|----|----|----|----|----|----|----|
| | | Missin g | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missin g | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Q1

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|-----------------------|
| 1 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 11 | 27.5 | 27.5 | 35.0 |
| | | 3 | 16 | 40.0 | 40.0 | 75.0 |
| | | 4 | 4 | 10.0 | 10.0 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 7 | 17.5 | 17.5 | 17.5 |
| | | 2 | 11 | 27.5 | 27.5 | 45.0 |
| | | 3 | 18 | 45.0 | 45.0 | 90.0 |
| | | 4 | 3 | 7.5 | 7.5 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 9 | 22.5 | 22.5 | 27.5 |
| | | 3 | 22 | 55.0 | 55.0 | 82.5 |
| | | 4 | 6 | 15.0 | 15.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q2

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|-----------------------|
| 1 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 6 | 15.0 | 15.0 | 27.5 |
| | | 3 | 19 | 47.5 | 47.5 | 75.0 |
| | | 4 | 5 | 12.5 | 12.5 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 2 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 10 | 25.0 | 25.0 | 32.5 |
| | | 3 | 18 | 45.0 | 45.0 | 77.5 |
| | | 4 | 6 | 15.0 | 15.0 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 7 | 17.5 | 17.5 | 22.5 |
| | | 3 | 19 | 47.5 | 47.5 | 70.0 |
| | | 4 | 10 | 25.0 | 25.0 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q3

| CLASS | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|-------|-------|-----------|---------|---------------|--------------------|-------|
| 1 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 6 | 15.0 | 15.0 | 20.0 |
| | | 3 | 15 | 37.5 | 37.5 | 57.5 |
| | | 4 | 8 | 20.0 | 20.0 | 77.5 |
| | | 5 | 9 | 22.5 | 22.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 2 | 6 | 15.0 | 15.0 | 15.0 |
| | | 3 | 18 | 45.0 | 45.0 | 60.0 |
| | | 4 | 10 | 25.0 | 25.0 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 8 | 20.0 | 20.0 | 20.0 |
| | | 3 | 11 | 27.5 | 27.5 | 47.5 |
| | | 4 | 14 | 35.0 | 35.0 | 82.5 |
| | | 5 | 7 | 17.5 | 17.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q4

| CLASS | | Frequency | Percent | Valid Percent | Cumulative |
|-------|--|-----------|---------|---------------|------------|
|-------|--|-----------|---------|---------------|------------|

| | | | | | | Percent |
|---|-------|-------|----|-------|-------|---------|
| 1 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 12 | 30.0 | 30.0 | 37.5 |
| | | 3 | 13 | 32.5 | 32.5 | 70.0 |
| | | 4 | 7 | 17.5 | 17.5 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 2 | 11 | 27.5 | 27.5 | 27.5 |
| | | 3 | 21 | 52.5 | 52.5 | 80.0 |
| | | 4 | 3 | 7.5 | 7.5 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 21 | 52.5 | 52.5 | 60.0 |
| | | 3 | 13 | 32.5 | 32.5 | 92.5 |
| | | 4 | 2 | 5.0 | 5.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q5

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 7 | 17.5 | 17.5 | 22.5 |
| | | 4 | 11 | 27.5 | 27.5 | 50.0 |
| | | 5 | 20 | 50.0 | 50.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 2 | 5.0 | 5.0 | 7.5 |
| | | 3 | 4 | 10.0 | 10.0 | 17.5 |
| | | 4 | 11 | 27.5 | 27.5 | 45.0 |
| | | 5 | 22 | 55.0 | 55.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 2 | 5.0 | 5.0 | 7.5 |
| | | 3 | 6 | 15.0 | 15.0 | 22.5 |
| | | 4 | 13 | 32.5 | 32.5 | 55.0 |
| | | 5 | 18 | 45.0 | 45.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q6

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 11 | 27.5 | 27.5 | 40.0 |
| | | 3 | 12 | 30.0 | 30.0 | 70.0 |
| | | 4 | 9 | 22.5 | 22.5 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 4 | 10.0 | 10.0 | 17.5 |
| | | 3 | 20 | 50.0 | 50.0 | 67.5 |
| | | 4 | 6 | 15.0 | 15.0 | 82.5 |
| | | 5 | 7 | 17.5 | 17.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 11 | 27.5 | 27.5 | 32.5 |
| | | 3 | 17 | 42.5 | 42.5 | 75.0 |
| | | 4 | 9 | 22.5 | 22.5 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q7

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 8 | 20.0 | 20.0 | 22.5 |
| | | 3 | 18 | 45.0 | 45.0 | 67.5 |
| | | 4 | 10 | 25.0 | 25.0 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 13 | 32.5 | 32.5 | 35.0 |
| | | 3 | 18 | 45.0 | 45.0 | 80.0 |
| | | 4 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 3 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 14 | 35.0 | 35.0 | 40.0 |
| | | 3 | 18 | 45.0 | 45.0 | 85.0 |
| | | 4 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q8

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 11 | 27.5 | 27.5 | 40.0 |
| | | 3 | 16 | 40.0 | 40.0 | 80.0 |
| | | 4 | 3 | 7.5 | 7.5 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 8 | 20.0 | 20.0 | 30.0 |
| | | 3 | 13 | 32.5 | 32.5 | 62.5 |
| | | 4 | 11 | 27.5 | 27.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 15 | 37.5 | 37.5 | 42.5 |
| | | 3 | 12 | 30.0 | 30.0 | 72.5 |
| | | 4 | 9 | 22.5 | 22.5 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q9

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 17 | 42.5 | 42.5 | 50.0 |
| | | 3 | 12 | 30.0 | 30.0 | 80.0 |
| | | 4 | 4 | 10.0 | 10.0 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 2 | Valid | 1 | 10 | 25.0 | 25.0 | 25.0 |
| | | 2 | 13 | 32.5 | 32.5 | 57.5 |
| | | 3 | 12 | 30.0 | 30.0 | 87.5 |
| | | 4 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 10 | 25.0 | 25.0 | 25.0 |
| | | 2 | 12 | 30.0 | 30.0 | 55.0 |
| | | 3 | 13 | 32.5 | 32.5 | 87.5 |
| | | 4 | 4 | 10.0 | 10.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q10

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 12 | 30.0 | 30.0 | 30.0 |
| | | 2 | 17 | 42.5 | 42.5 | 72.5 |
| | | 3 | 8 | 20.0 | 20.0 | 92.5 |
| | | 4 | 2 | 5.0 | 5.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 29 | 72.5 | 72.5 | 72.5 |
| | | 2 | 5 | 12.5 | 12.5 | 85.0 |
| | | 3 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 19 | 47.5 | 47.5 | 47.5 |
| | | 2 | 16 | 40.0 | 40.0 | 87.5 |
| | | 3 | 4 | 10.0 | 10.0 | 97.5 |
| | | 4 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q11

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|---|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 12 | 30.0 | 30.0 | 40.0 |
| | | 3 | 14 | 35.0 | 35.0 | 75.0 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | 4 | 7 | 17.5 | 17.5 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 10 | 25.0 | 25.0 | 25.0 |
| | | 2 | 15 | 37.5 | 37.5 | 62.5 |
| | | 3 | 12 | 30.0 | 30.0 | 92.5 |
| | | 4 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 13 | 32.5 | 32.5 | 32.5 |
| | | 2 | 14 | 35.0 | 35.0 | 67.5 |
| | | 3 | 10 | 25.0 | 25.0 | 92.5 |
| | | 4 | 2 | 5.0 | 5.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q12

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 12 | 30.0 | 30.0 | 30.0 |
| | | 2 | 12 | 30.0 | 30.0 | 60.0 |
| | | 3 | 9 | 22.5 | 22.5 | 82.5 |
| | | 4 | 2 | 5.0 | 5.0 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 17 | 42.5 | 42.5 | 42.5 |
| | | 2 | 8 | 20.0 | 20.0 | 62.5 |
| | | 3 | 13 | 32.5 | 32.5 | 95.0 |
| | | 4 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 14 | 35.0 | 35.0 | 35.0 |
| | | 2 | 12 | 30.0 | 30.0 | 65.0 |
| | | 3 | 9 | 22.5 | 22.5 | 87.5 |
| | | 4 | 3 | 7.5 | 7.5 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q13

| CLASS | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|-------|-------|-----------|---------|---------------|--------------------|-------|
| 1 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 8 | 20.0 | 20.0 | 32.5 |
| | | 3 | 16 | 40.0 | 40.0 | 72.5 |
| | | 4 | 9 | 22.5 | 22.5 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 7 | 17.5 | 17.5 | 25.0 |
| | | 3 | 9 | 22.5 | 22.5 | 47.5 |
| | | 4 | 9 | 22.5 | 22.5 | 70.0 |
| | | 5 | 12 | 30.0 | 30.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 7 | 17.5 | 17.5 | 17.5 |
| | | 2 | 12 | 30.0 | 30.0 | 47.5 |
| | | 3 | 17 | 42.5 | 42.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q14

| CLASS | | Frequency | Percent | Valid Percent | Cumulative Percent | |
|-------|-------|-----------|---------|---------------|--------------------|-------|
| 1 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 5 | 12.5 | 12.5 | 22.5 |
| | | 3 | 21 | 52.5 | 52.5 | 75.0 |
| | | 4 | 6 | 15.0 | 15.0 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 7 | 17.5 | 17.5 | 27.5 |
| | | 3 | 15 | 37.5 | 37.5 | 65.0 |
| | | 4 | 7 | 17.5 | 17.5 | 82.5 |
| | | 5 | 7 | 17.5 | 17.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 9 | 22.5 | 22.5 | 25.0 |
| | | 3 | 15 | 37.5 | 37.5 | 62.5 |
| | | 4 | 13 | 32.5 | 32.5 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |

| | | | | | | |
|--|--|-------|----|-------|-------|--|
| | | Total | 40 | 100.0 | 100.0 | |
|--|--|-------|----|-------|-------|--|

Q15

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 6 | 15.0 | 15.0 | 15.0 |
| | | 2 | 8 | 20.0 | 20.0 | 35.0 |
| | | 3 | 9 | 22.5 | 22.5 | 57.5 |
| | | 4 | 9 | 22.5 | 22.5 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 7 | 17.5 | 17.5 | 17.5 |
| | | 2 | 9 | 22.5 | 22.5 | 40.0 |
| | | 3 | 13 | 32.5 | 32.5 | 72.5 |
| | | 4 | 10 | 25.0 | 25.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 6 | 15.0 | 15.0 | 15.0 |
| | | 2 | 16 | 40.0 | 40.0 | 55.0 |
| | | 3 | 8 | 20.0 | 20.0 | 75.0 |
| | | 4 | 8 | 20.0 | 20.0 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Descriptive Statistics

| CLASS | | N | Minimum | Maximum | Mean | Std. Deviation |
|-------|-----|----|---------|---------|------|----------------|
| 1 | Q1 | 40 | 1 | 5 | 2.97 | 1.143 |
| | Q2 | 40 | 1 | 5 | 2.97 | 1.143 |
| | Q3 | 40 | 1 | 5 | 3.40 | 1.150 |
| | Q4 | 40 | 1 | 5 | 2.98 | 1.143 |
| | Q5 | 40 | 2 | 5 | 4.22 | .920 |
| | Q6 | 40 | 1 | 5 | 2.85 | 1.145 |
| | Q7 | 40 | 1 | 5 | 3.15 | .921 |
| | Q8 | 40 | 1 | 5 | 2.80 | 1.159 |
| | Q9 | 40 | 1 | 5 | 2.73 | 1.086 |
| | Q10 | 40 | 1 | 5 | 2.07 | .971 |
| | Q11 | 40 | 1 | 5 | 2.83 | 1.083 |

| | | | | | | |
|---|-----------------------|----|---|---|------|-------|
| | Q12 | 40 | 1 | 5 | 2.40 | 1.317 |
| | Q13 | 40 | 1 | 5 | 2.88 | 1.067 |
| | Q14 | 40 | 1 | 5 | 3.03 | 1.050 |
| | Q15 | 40 | 1 | 5 | 3.13 | 1.362 |
| | Valid N (listwise) | 40 | | | | |
| 2 | Q1 | 40 | 1 | 5 | 2.50 | .961 |
| | Q2 | 40 | 1 | 5 | 2.90 | 1.008 |
| | Q3 | 40 | 2 | 5 | 3.40 | .928 |
| | Q4 | 40 | 2 | 5 | 3.05 | .932 |
| | Q5 | 40 | 1 | 5 | 4.27 | 1.012 |
| | Q6 | 40 | 1 | 5 | 3.25 | 1.104 |
| | Q7 | 40 | 1 | 4 | 2.83 | .781 |
| | Q8 | 40 | 1 | 5 | 3.08 | 1.141 |
| | Q9 | 40 | 1 | 4 | 2.30 | .992 |
| | Q10 | 40 | 1 | 3 | 1.43 | .747 |
| | Q11 | 40 | 1 | 4 | 2.20 | .911 |
| | Q12 | 40 | 1 | 4 | 2.00 | .987 |
| | Q13 | 40 | 1 | 5 | 3.50 | 1.301 |
| | Q14 | 40 | 1 | 5 | 3.15 | 1.210 |
| | Q15 | 40 | 1 | 5 | 2.72 | 1.109 |
| | Valid N (listwise) | 40 | | | | |
| 3 | Q1 | 40 | 1 | 5 | 2.88 | .822 |
| | Q2 | 40 | 1 | 5 | 3.08 | .917 |
| | Q3 | 40 | 2 | 5 | 3.50 | 1.013 |
| | Q4 | 40 | 1 | 5 | 2.42 | .813 |
| | Q5 | 40 | 1 | 5 | 4.12 | 1.017 |
| | Q6 | 40 | 1 | 5 | 2.90 | .900 |
| | Q7 | 40 | 1 | 4 | 2.70 | .791 |
| | Q8 | 40 | 1 | 5 | 2.85 | 1.001 |
| | Q9 | 40 | 1 | 5 | 2.35 | 1.051 |
| | Q10 | 40 | 1 | 4 | 1.67 | .764 |
| | Q11 | 40 | 1 | 5 | 2.10 | 1.008 |
| | Q12 | 40 | 1 | 5 | 2.17 | 1.152 |
| | Q13 | 40 | 1 | 5 | 2.55 | 1.108 |
| | Q14 | 40 | 1 | 5 | 3.15 | .921 |
| | Q15 | 40 | 1 | 5 | 2.60 | 1.128 |
| | Valid N (listwise) | 40 | | | | |

| CLASS | | | Q1POST | Q2POST | Q3POST | Q4POST | Q5POST | Q6POST | Q7POST |
|-------|---|-------------|--------|--------|--------|--------|--------|--------|--------|
| 1 | N | Valid | 38 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missin g | 2 | 0 | 0 | 0 | 0 | 0 | 0 |
| 2 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missin g | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missin g | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Q1POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|-----------------------|
| 1 | Valid | 1 | 2 | 5.0 | 5.3 | 5.3 |
| | | 2 | 11 | 27.5 | 28.9 | 34.2 |
| | | 3 | 11 | 27.5 | 28.9 | 63.2 |
| | | 4 | 12 | 30.0 | 31.6 | 94.7 |
| | | 5 | 2 | 5.0 | 5.3 | 100.0 |
| | | Total | 38 | 95.0 | 100.0 | |
| | Missing | System | 2 | 5.0 | | |
| | Total | | 40 | 100.0 | | |
| 2 | Valid | 2 | 7 | 17.5 | 17.5 | 17.5 |
| | | 3 | 19 | 47.5 | 47.5 | 65.0 |
| | | 4 | 10 | 25.0 | 25.0 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 5 | 12.5 | 12.5 | 12.5 |
| | | 4 | 27 | 67.5 | 67.5 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q2POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|---|-----------|---------|---------------|-----------------------|
| 1 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 4 | 10.0 | 10.0 | 20.0 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | 3 | 20 | 50.0 | 50.0 | 70.0 |
| | | 4 | 10 | 25.0 | 25.0 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 3 | 7.5 | 7.5 | 10.0 |
| | | 3 | 17 | 42.5 | 42.5 | 52.5 |
| | | 4 | 11 | 27.5 | 27.5 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 3 | 7.5 | 7.5 | 7.5 |
| | | 4 | 8 | 20.0 | 20.0 | 27.5 |
| | | 5 | 29 | 72.5 | 72.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q3POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 7 | 17.5 | 17.5 | 22.5 |
| | | 3 | 12 | 30.0 | 30.0 | 52.5 |
| | | 4 | 15 | 37.5 | 37.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 17 | 42.5 | 42.5 | 45.0 |
| | | 4 | 13 | 32.5 | 32.5 | 77.5 |
| | | 5 | 9 | 22.5 | 22.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 7 | 17.5 | 17.5 | 17.5 |
| | | 4 | 14 | 35.0 | 35.0 | 52.5 |
| | | 5 | 19 | 47.5 | 47.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q4POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|--|-----------|---------|---------------|--------------------|
|-------|--|--|-----------|---------|---------------|--------------------|

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 1 | Valid | 1 | 6 | 15.0 | 15.0 | 15.0 |
| | | 2 | 13 | 32.5 | 32.5 | 47.5 |
| | | 3 | 17 | 42.5 | 42.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 8 | 20.0 | 20.0 | 20.0 |
| | | 2 | 13 | 32.5 | 32.5 | 52.5 |
| | | 3 | 14 | 35.0 | 35.0 | 87.5 |
| | | 4 | 4 | 10.0 | 10.0 | 97.5 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 28 | 70.0 | 70.0 | 70.0 |
| | | 2 | 8 | 20.0 | 20.0 | 90.0 |
| | | 3 | 3 | 7.5 | 7.5 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q5POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 3 | 7.5 | 7.5 | 10.0 |
| | | 4 | 13 | 32.5 | 32.5 | 42.5 |
| | | 5 | 23 | 57.5 | 57.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 8 | 20.0 | 20.0 | 22.5 |
| | | 4 | 6 | 15.0 | 15.0 | 37.5 |
| | | 5 | 25 | 62.5 | 62.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 5 | 12.5 | 12.5 | 15.0 |
| | | 4 | 6 | 15.0 | 15.0 | 30.0 |
| | | 5 | 28 | 70.0 | 70.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q6POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 5 | 12.5 | 12.5 | 22.5 |
| | | 3 | 25 | 62.5 | 62.5 | 85.0 |
| | | 4 | 2 | 5.0 | 5.0 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 4 | 10.0 | 10.0 | 10.0 |
| | | 2 | 4 | 10.0 | 10.0 | 20.0 |
| | | 3 | 21 | 52.5 | 52.5 | 72.5 |
| | | 4 | 8 | 20.0 | 20.0 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 18 | 45.0 | 45.0 | 57.5 |
| | | 3 | 15 | 37.5 | 37.5 | 95.0 |
| | | 4 | 1 | 2.5 | 2.5 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q7POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 4 | 10.0 | 10.0 | 15.0 |
| | | 3 | 20 | 50.0 | 50.0 | 65.0 |
| | | 4 | 11 | 27.5 | 27.5 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 7 | 17.5 | 17.5 | 25.0 |
| | | 3 | 18 | 45.0 | 45.0 | 70.0 |
| | | 4 | 11 | 27.5 | 27.5 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 4 | 10.0 | 10.0 | 17.5 |
| | | 3 | 12 | 30.0 | 30.0 | 47.5 |
| | | 4 | 18 | 45.0 | 45.0 | 92.5 |

| | | | | | | |
|--|--|-------|----|-------|-------|-------|
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q8POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 10 | 25.0 | 25.0 | 30.0 |
| | | 3 | 11 | 27.5 | 27.5 | 57.5 |
| | | 4 | 13 | 32.5 | 32.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 6 | 15.0 | 15.0 | 20.0 |
| | | 3 | 14 | 35.0 | 35.0 | 55.0 |
| | | 4 | 11 | 27.5 | 27.5 | 82.5 |
| | | 5 | 7 | 17.5 | 17.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 5 | 12.5 | 12.5 | 17.5 |
| | | 4 | 22 | 55.0 | 55.0 | 72.5 |
| | | 5 | 11 | 27.5 | 27.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q9POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 15 | 37.5 | 37.5 | 50.0 |
| | | 3 | 13 | 32.5 | 32.5 | 82.5 |
| | | 4 | 3 | 7.5 | 7.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 11 | 27.5 | 27.5 | 40.0 |
| | | 3 | 17 | 42.5 | 42.5 | 82.5 |
| | | 4 | 4 | 10.0 | 10.0 | 92.5 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 6 | 15.0 | 15.0 | 15.0 |
| | | 2 | 6 | 15.0 | 15.0 | 30.0 |
| | | 3 | 12 | 30.0 | 30.0 | 60.0 |
| | | 4 | 12 | 30.0 | 30.0 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q10POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 12 | 30.0 | 30.0 | 30.0 |
| | | 2 | 14 | 35.0 | 35.0 | 65.0 |
| | | 3 | 10 | 25.0 | 25.0 | 90.0 |
| | | 4 | 1 | 2.5 | 2.5 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 10 | 25.0 | 25.0 | 25.0 |
| | | 2 | 11 | 27.5 | 27.5 | 52.5 |
| | | 3 | 12 | 30.0 | 30.0 | 82.5 |
| | | 4 | 6 | 15.0 | 15.0 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 9 | 22.5 | 22.5 | 35.0 |
| | | 3 | 13 | 32.5 | 32.5 | 67.5 |
| | | 4 | 7 | 17.5 | 17.5 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q11POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|---|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 11 | 27.5 | 27.5 | 32.5 |
| | | 3 | 14 | 35.0 | 35.0 | 67.5 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | 4 | 9 | 22.5 | 22.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 15 | 37.5 | 37.5 | 42.5 |
| | | 3 | 14 | 35.0 | 35.0 | 77.5 |
| | | 4 | 3 | 7.5 | 7.5 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 4 | 10.0 | 10.0 | 12.5 |
| | | 3 | 14 | 35.0 | 35.0 | 47.5 |
| | | 4 | 17 | 42.5 | 42.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q12POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 9 | 22.5 | 22.5 | 22.5 |
| | | 2 | 9 | 22.5 | 22.5 | 45.0 |
| | | 3 | 18 | 45.0 | 45.0 | 90.0 |
| | | 4 | 3 | 7.5 | 7.5 | 97.5 |
| | | 5 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 8 | 20.0 | 20.0 | 20.0 |
| | | 2 | 9 | 22.5 | 22.5 | 42.5 |
| | | 3 | 14 | 35.0 | 35.0 | 77.5 |
| | | 4 | 4 | 10.0 | 10.0 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 4 | 10.0 | 10.0 | 10.0 |
| | | 3 | 8 | 20.0 | 20.0 | 30.0 |
| | | 4 | 14 | 35.0 | 35.0 | 65.0 |
| | | 5 | 14 | 35.0 | 35.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q13POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 5 | 12.5 | 12.5 | 12.5 |
| | | 2 | 16 | 40.0 | 40.0 | 52.5 |
| | | 3 | 10 | 25.0 | 25.0 | 77.5 |
| | | 4 | 5 | 12.5 | 12.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 7 | 17.5 | 17.5 | 17.5 |
| | | 2 | 6 | 15.0 | 15.0 | 32.5 |
| | | 3 | 15 | 37.5 | 37.5 | 70.0 |
| | | 4 | 10 | 25.0 | 25.0 | 95.0 |
| | | 5 | 2 | 5.0 | 5.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 23 | 57.5 | 57.5 | 57.5 |
| | | 2 | 14 | 35.0 | 35.0 | 92.5 |
| | | 3 | 2 | 5.0 | 5.0 | 97.5 |
| | | 4 | 1 | 2.5 | 2.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Q14POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 7 | 17.5 | 17.5 | 25.0 |
| | | 3 | 13 | 32.5 | 32.5 | 57.5 |
| | | 4 | 11 | 27.5 | 27.5 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 1 | 2.5 | 2.5 | 5.0 |
| | | 3 | 5 | 12.5 | 12.5 | 17.5 |
| | | 4 | 15 | 37.5 | 37.5 | 55.0 |
| | | 5 | 18 | 45.0 | 45.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 1 | 2.5 | 2.5 | 2.5 |
| | | 4 | 3 | 7.5 | 7.5 | 10.0 |
| | | 5 | 36 | 90.0 | 90.0 | 100.0 |

| | | | | | | |
|--|--|-------|----|-------|-------|--|
| | | Total | 40 | 100.0 | 100.0 | |
|--|--|-------|----|-------|-------|--|

Q15POST

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 8 | 20.0 | 20.0 | 27.5 |
| | | 3 | 19 | 47.5 | 47.5 | 75.0 |
| | | 4 | 6 | 15.0 | 15.0 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 6 | 15.0 | 15.0 | 17.5 |
| | | 3 | 14 | 35.0 | 35.0 | 52.5 |
| | | 4 | 13 | 32.5 | 32.5 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 10 | 25.0 | 25.0 | 27.5 |
| | | 4 | 18 | 45.0 | 45.0 | 72.5 |
| | | 5 | 11 | 27.5 | 27.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

Descriptive Statistics

| CLASS | | N | Minimum | Maximum | Mean | Std. Deviation |
|-------|-----|----|---------|---------|------|----------------|
| 1 | R1 | 40 | 2 | 5 | 3.90 | .955 |
| | R2 | 40 | 3 | 5 | 3.90 | .709 |
| | R3 | 0 | | | | |
| | R4 | 0 | | | | |
| | R5 | 0 | | | | |
| | R6 | 0 | | | | |
| | R7 | 0 | | | | |
| | R8 | 0 | | | | |
| | R9 | 0 | | | | |
| | R10 | 0 | | | | |

| | | | | | | |
|---|-----------------------|----|---|---|------|-------|
| | R11 | 0 | | | | |
| | R12 | 0 | | | | |
| | R13 | 40 | 3 | 5 | 3.92 | .764 |
| | R14 | 40 | 3 | 5 | 4.03 | .832 |
| | R15 | 40 | 2 | 5 | 4.00 | .816 |
| | R16 | 0 | | | | |
| | R17 | 0 | | | | |
| | R18 | 0 | | | | |
| | R19 | 0 | | | | |
| | R20 | 40 | 2 | 5 | 4.05 | .783 |
| | Valid N (listwise) | 0 | | | | |
| 2 | R1 | 40 | 1 | 5 | 3.10 | .928 |
| | R2 | 40 | 1 | 5 | 3.27 | .905 |
| | R3 | 40 | 1 | 5 | 3.13 | 1.223 |
| | R4 | 40 | 1 | 5 | 3.28 | 1.037 |
| | R5 | 40 | 1 | 5 | 3.60 | 1.128 |
| | R6 | 40 | 2 | 5 | 3.50 | .877 |
| | R7 | 40 | 1 | 5 | 3.15 | .921 |
| | R8 | 40 | 2 | 5 | 3.48 | 1.012 |
| | R9 | 40 | 2 | 5 | 3.60 | 1.008 |
| | R10 | 40 | 1 | 5 | 3.28 | 1.132 |
| | R11 | 40 | 1 | 5 | 3.73 | 1.086 |
| | R12 | 0 | | | | |
| | R13 | 40 | 1 | 5 | 3.55 | 1.108 |
| | R14 | 40 | 2 | 5 | 3.55 | .815 |
| | R15 | 40 | 1 | 5 | 3.30 | .853 |
| | R16 | 0 | | | | |
| | R17 | 0 | | | | |
| | R18 | 0 | | | | |
| | R19 | 0 | | | | |
| | R20 | 40 | 1 | 5 | 3.48 | 1.012 |
| | Valid N (listwise) | 0 | | | | |
| 3 | R1 | 40 | 2 | 5 | 3.78 | .733 |
| | R2 | 40 | 2 | 5 | 4.27 | .816 |
| | R3 | 40 | 2 | 5 | 3.98 | .862 |
| | R4 | 40 | 3 | 5 | 4.15 | .700 |
| | R5 | 40 | 2 | 5 | 4.27 | .877 |
| | R6 | 40 | 2 | 5 | 4.17 | .931 |
| | R7 | 40 | 3 | 5 | 3.95 | .597 |
| | R8 | 40 | 2 | 5 | 4.15 | .770 |
| | R9 | 40 | 2 | 5 | 4.00 | .906 |

| | | | | | | |
|--|-----------------------|----|---|---|------|------|
| | R10 | 40 | 2 | 5 | 4.20 | .853 |
| | R11 | 40 | 3 | 5 | 4.30 | .823 |
| | R12 | 40 | 3 | 5 | 4.13 | .648 |
| | R13 | 40 | 3 | 5 | 4.30 | .853 |
| | R14 | 40 | 3 | 5 | 4.10 | .841 |
| | R15 | 40 | 2 | 5 | 4.15 | .736 |
| | R16 | 40 | 3 | 5 | 4.22 | .800 |
| | R17 | 40 | 2 | 5 | 3.65 | .893 |
| | R18 | 40 | 2 | 5 | 4.13 | .883 |
| | R19 | 40 | 3 | 5 | 4.27 | .784 |
| | R20 | 40 | 3 | 5 | 4.20 | .723 |
| | Valid N (listwise) | 40 | | | | |

| CLASS | | R1 | R2 | R3 | R4 | R5 | R6 | R7 |
|-------|---|---------|----|----|----|----|----|----|
| 1 | N | Valid | 40 | 40 | 0 | 0 | 0 | 0 |
| | | Missing | 0 | 0 | 40 | 40 | 40 | 40 |
| 2 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 |
| 3 | N | Valid | 40 | 40 | 40 | 40 | 40 | 40 |
| | | Missing | 0 | 0 | 0 | 0 | 0 | 0 |

R1

| CLASS | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 2 | 3 | 7.5 | 7.5 |
| | | 3 | 11 | 27.5 | 35.0 |
| | | 4 | 13 | 32.5 | 67.5 |
| | | 5 | 13 | 32.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 |
| 2 | Valid | 1 | 2 | 5.0 | 5.0 |
| | | 2 | 5 | 12.5 | 17.5 |
| | | 3 | 24 | 60.0 | 77.5 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | 4 | 5 | 12.5 | 12.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 13 | 32.5 | 32.5 | 35.0 |
| | | 4 | 20 | 50.0 | 50.0 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R2

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 3 | 12 | 30.0 | 30.0 | 30.0 |
| | | 4 | 20 | 50.0 | 50.0 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 4 | 10.0 | 10.0 | 12.5 |
| | | 3 | 23 | 57.5 | 57.5 | 70.0 |
| | | 4 | 7 | 17.5 | 17.5 | 87.5 |
| | | 5 | 5 | 12.5 | 12.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 6 | 15.0 | 15.0 | 17.5 |
| | | 4 | 14 | 35.0 | 35.0 | 52.5 |
| | | 5 | 19 | 47.5 | 47.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R3

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 13 | 32.5 | 32.5 | 37.5 |
| | | 3 | 11 | 27.5 | 27.5 | 65.0 |
| | | 4 | 6 | 15.0 | 15.0 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 9 | 22.5 | 22.5 | 27.5 |
| | | 4 | 17 | 42.5 | 42.5 | 70.0 |
| | | 5 | 12 | 30.0 | 30.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R4

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 8 | 20.0 | 20.0 | 22.5 |
| | | 3 | 16 | 40.0 | 40.0 | 62.5 |
| | | 4 | 9 | 22.5 | 22.5 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 7 | 17.5 | 17.5 | 17.5 |
| | | 4 | 20 | 50.0 | 50.0 | 67.5 |
| | | 5 | 13 | 32.5 | 32.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R5

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 5 | 12.5 | 12.5 | 17.5 |
| | | 3 | 9 | 22.5 | 22.5 | 40.0 |
| | | 4 | 15 | 37.5 | 37.5 | 77.5 |
| | | 5 | 9 | 22.5 | 22.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 5 | 12.5 | 12.5 | 17.5 |
| | | 4 | 13 | 32.5 | 32.5 | 50.0 |
| | | 5 | 20 | 50.0 | 50.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R6

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 2 | 4 | 10.0 | 10.0 | 10.0 |
| | | 3 | 18 | 45.0 | 45.0 | 55.0 |
| | | 4 | 12 | 30.0 | 30.0 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 8 | 20.0 | 20.0 | 25.0 |
| | | 4 | 11 | 27.5 | 27.5 | 52.5 |
| | | 5 | 19 | 47.5 | 47.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R7

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 8 | 20.0 | 20.0 | 22.5 |
| | | 3 | 18 | 45.0 | 45.0 | 67.5 |
| | | 4 | 10 | 25.0 | 25.0 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 8 | 20.0 | 20.0 | 20.0 |
| | | 4 | 26 | 65.0 | 65.0 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R8

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|--|-----------|---------|---------------|--------------------|
| | | | | | | |

| | | | | | | |
|---|---------|--------|----|-------|-------|-------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 2 | 8 | 20.0 | 20.0 | 20.0 |
| | | 3 | 12 | 30.0 | 30.0 | 50.0 |
| | | 4 | 13 | 32.5 | 32.5 | 82.5 |
| | | 5 | 7 | 17.5 | 17.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 6 | 15.0 | 15.0 | 17.5 |
| | | 4 | 19 | 47.5 | 47.5 | 65.0 |
| | | 5 | 14 | 35.0 | 35.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R9

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 2 | 7 | 17.5 | 17.5 | 17.5 |
| | | 3 | 10 | 25.0 | 25.0 | 42.5 |
| | | 4 | 15 | 37.5 | 37.5 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 10 | 25.0 | 25.0 | 30.0 |
| | | 4 | 14 | 35.0 | 35.0 | 65.0 |
| | | 5 | 14 | 35.0 | 35.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R10

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 1 | 3 | 7.5 | 7.5 | 7.5 |
| | | 2 | 8 | 20.0 | 20.0 | 27.5 |
| | | 3 | 8 | 20.0 | 20.0 | 47.5 |
| | | 4 | 17 | 42.5 | 42.5 | 90.0 |
| | | 5 | 4 | 10.0 | 10.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 8 | 20.0 | 20.0 | 22.5 |
| | | 4 | 13 | 32.5 | 32.5 | 55.0 |
| | | 5 | 18 | 45.0 | 45.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R11

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 4 | 10.0 | 10.0 | 12.5 |
| | | 3 | 12 | 30.0 | 30.0 | 42.5 |
| | | 4 | 11 | 27.5 | 27.5 | 70.0 |
| | | 5 | 12 | 30.0 | 30.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 9 | 22.5 | 22.5 | 22.5 |
| | | 4 | 10 | 25.0 | 25.0 | 47.5 |
| | | 5 | 21 | 52.5 | 52.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R12

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Missing | System | 40 | 100.0 | | |
| 3 | Valid | 3 | 6 | 15.0 | 15.0 | 15.0 |
| | | 4 | 23 | 57.5 | 57.5 | 72.5 |
| | | 5 | 11 | 27.5 | 27.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R13

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|--|--|-----------|---------|---------------|--------------------|
|-------|--|--|-----------|---------|---------------|--------------------|

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 1 | Valid | 3 | 13 | 32.5 | 32.5 | 32.5 |
| | | 4 | 17 | 42.5 | 42.5 | 75.0 |
| | | 5 | 10 | 25.0 | 25.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 2 | 5.0 | 5.0 | 5.0 |
| | | 2 | 4 | 10.0 | 10.0 | 15.0 |
| | | 3 | 13 | 32.5 | 32.5 | 47.5 |
| | | 4 | 12 | 30.0 | 30.0 | 77.5 |
| | | 5 | 9 | 22.5 | 22.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 10 | 25.0 | 25.0 | 25.0 |
| | | 4 | 8 | 20.0 | 20.0 | 45.0 |
| | | 5 | 22 | 55.0 | 55.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R14

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 3 | 13 | 32.5 | 32.5 | 32.5 |
| | | 4 | 13 | 32.5 | 32.5 | 65.0 |
| | | 5 | 14 | 35.0 | 35.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 2 | 2 | 5.0 | 5.0 | 5.0 |
| | | 3 | 20 | 50.0 | 50.0 | 55.0 |
| | | 4 | 12 | 30.0 | 30.0 | 85.0 |
| | | 5 | 6 | 15.0 | 15.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 3 | 12 | 30.0 | 30.0 | 30.0 |
| | | 4 | 12 | 30.0 | 30.0 | 60.0 |
| | | 5 | 16 | 40.0 | 40.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R15

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|---|-----------|---------|---------------|--------------------|
| 1 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 10 | 25.0 | 25.0 | 27.5 |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| | | 4 | 17 | 42.5 | 42.5 | 70.0 |
| | | 5 | 12 | 30.0 | 30.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 4 | 10.0 | 10.0 | 12.5 |
| | | 3 | 20 | 50.0 | 50.0 | 62.5 |
| | | 4 | 12 | 30.0 | 30.0 | 92.5 |
| | | 5 | 3 | 7.5 | 7.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 5 | 12.5 | 12.5 | 15.0 |
| | | 4 | 21 | 52.5 | 52.5 | 67.5 |
| | | 5 | 13 | 32.5 | 32.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R16

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Missing | System | 40 | 100.0 | | |
| 3 | Valid | 3 | 9 | 22.5 | 22.5 | 22.5 |
| | | 4 | 13 | 32.5 | 32.5 | 55.0 |
| | | 5 | 18 | 45.0 | 45.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R17

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Missing | System | 40 | 100.0 | | |
| 3 | Valid | 2 | 3 | 7.5 | 7.5 | 7.5 |
| | | 3 | 16 | 40.0 | 40.0 | 47.5 |
| | | 4 | 13 | 32.5 | 32.5 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R18

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Missing | System | 40 | 100.0 | | |
| 3 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 10 | 25.0 | 25.0 | 27.5 |
| | | 4 | 12 | 30.0 | 30.0 | 57.5 |
| | | 5 | 17 | 42.5 | 42.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R19

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|---------|--------|-----------|---------|---------------|--------------------|
| 1 | Missing | System | 40 | 100.0 | | |
| 2 | Missing | System | 40 | 100.0 | | |
| 3 | Valid | 3 | 8 | 20.0 | 20.0 | 20.0 |
| | | 4 | 13 | 32.5 | 32.5 | 52.5 |
| | | 5 | 19 | 47.5 | 47.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

R20

| CLASS | | | Frequency | Percent | Valid Percent | Cumulative Percent |
|-------|-------|-------|-----------|---------|---------------|--------------------|
| 1 | Valid | 2 | 1 | 2.5 | 2.5 | 2.5 |
| | | 3 | 8 | 20.0 | 20.0 | 22.5 |
| | | 4 | 19 | 47.5 | 47.5 | 70.0 |
| | | 5 | 12 | 30.0 | 30.0 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |
| 2 | Valid | 1 | 1 | 2.5 | 2.5 | 2.5 |
| | | 2 | 4 | 10.0 | 10.0 | 12.5 |
| | | 3 | 18 | 45.0 | 45.0 | 57.5 |
| | | 4 | 9 | 22.5 | 22.5 | 80.0 |
| | | 5 | 8 | 20.0 | 20.0 | 100.0 |
| | Total | 40 | 100.0 | 100.0 | | |

| | | | | | | |
|---|-------|-------|----|-------|-------|-------|
| 3 | Valid | 3 | 7 | 17.5 | 17.5 | 17.5 |
| | | 4 | 18 | 45.0 | 45.0 | 62.5 |
| | | 5 | 15 | 37.5 | 37.5 | 100.0 |
| | | Total | 40 | 100.0 | 100.0 | |

| Descriptive Statistics | | | | | | |
|------------------------|--------------------|----|---------|---------|-------|----------------|
| CLASS | | N | Minimum | Maximum | Mean | Std. Deviation |
| 1 | R1 | 40 | 2 | 5 | 3.9 | 0.955416 |
| | R2 | 40 | 3 | 5 | 3.9 | 0.708918 |
| | R3 | 0 | | | | |
| | R4 | 0 | | | | |
| | R5 | 0 | | | | |
| | R6 | 0 | | | | |
| | R7 | 0 | | | | |
| | R8 | 0 | | | | |
| | R9 | 0 | | | | |
| | R10 | 0 | | | | |
| | R11 | 0 | | | | |
| | R12 | 0 | | | | |
| | R13 | 40 | 3 | 5 | 3.925 | 0.764182 |
| | R14 | 40 | 3 | 5 | 4.025 | 0.831665 |
| | R15 | 40 | 2 | 5 | 4 | 0.816497 |
| | R16 | 0 | | | | |
| | R17 | 0 | | | | |
| | R18 | 0 | | | | |
| | R19 | 0 | | | | |
| | R20 | 40 | 2 | 5 | 4.05 | 0.782829 |
| | Valid N (listwise) | 0 | | | | |
| 2 | R1 | 40 | 1 | 5 | 3.1 | 0.928191 |
| | R2 | 40 | 1 | 5 | 3.275 | 0.905468 |
| | R3 | 40 | 1 | 5 | 3.125 | 1.223436 |
| | R4 | 40 | 1 | 5 | 3.275 | 1.03744 |
| | R5 | 40 | 1 | 5 | 3.6 | 1.127739 |
| | R6 | 40 | 2 | 5 | 3.5 | 0.877058 |

| | | | | | | |
|---|--------------------|----|---|---|-------|----------|
| | R7 | 40 | 1 | 5 | 3.15 | 0.921259 |
| | R8 | 40 | 2 | 5 | 3.475 | 1.012423 |
| | R9 | 40 | 2 | 5 | 3.6 | 1.007663 |
| | R10 | 40 | 1 | 5 | 3.275 | 1.131994 |
| | R11 | 40 | 1 | 5 | 3.725 | 1.085747 |
| | R12 | 0 | | | | |
| | R13 | 40 | 1 | 5 | 3.55 | 1.108244 |
| | R14 | 40 | 2 | 5 | 3.55 | 0.814925 |
| | R15 | 40 | 1 | 5 | 3.3 | 0.853349 |
| | R16 | 0 | | | | |
| | R17 | 0 | | | | |
| | R18 | 0 | | | | |
| | R19 | 0 | | | | |
| | R20 | 40 | 1 | 5 | 3.475 | 1.012423 |
| | Valid N (listwise) | 0 | | | | |
| 3 | R1 | 40 | 2 | 5 | 3.775 | 0.733362 |
| | R2 | 40 | 2 | 5 | 4.275 | 0.816104 |
| | R3 | 40 | 2 | 5 | 3.975 | 0.861945 |
| | R4 | 40 | 3 | 5 | 4.15 | 0.699817 |
| | R5 | 40 | 2 | 5 | 4.275 | 0.876693 |
| | R6 | 40 | 2 | 5 | 4.175 | 0.930605 |
| | R7 | 40 | 3 | 5 | 3.95 | 0.597001 |
| | R8 | 40 | 2 | 5 | 4.15 | 0.769615 |
| | R9 | 40 | 2 | 5 | 4 | 0.905822 |
| | R10 | 40 | 2 | 5 | 4.2 | 0.853349 |
| | R11 | 40 | 3 | 5 | 4.3 | 0.822753 |
| | R12 | 40 | 3 | 5 | 4.125 | 0.647975 |
| | R13 | 40 | 3 | 5 | 4.3 | 0.853349 |
| | R14 | 40 | 3 | 5 | 4.1 | 0.841244 |
| | R15 | 40 | 2 | 5 | 4.15 | 0.735544 |
| | R16 | 40 | 3 | 5 | 4.225 | 0.80024 |
| | R17 | 40 | 2 | 5 | 3.65 | 0.892993 |
| | R18 | 40 | 2 | 5 | 4.125 | 0.882523 |
| | R19 | 40 | 3 | 5 | 4.275 | 0.784056 |
| | R20 | 40 | 3 | 5 | 4.2 | 0.723241 |
| | Valid N (listwise) | 40 | | | | |