

**IMPLEMENTING COOPERATIVE LEARNING
IN EFL TEACHING: PROCESS AND EFFECTS**

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IMPLEMENTING COOPERATIVE LEARNING IN EFL TEACHING: PROCESS AND EFFECTS

ABSTRACT

This study brings together the fields of cooperative learning, second language acquisition, as well as second/foreign language teaching to create optimal schooling experiences for junior high school students. Integrating cooperative learning with the theories from the second language acquisition, i.e. the comprehensible input, the comprehensible output, the interaction and context, and the affective domain of motivation, the researcher hopes that this empirical study can provide a close link between cooperative learning and the communicative language teaching and, at the same time, propose guidelines for EFL teachers who wish to implement cooperative learning to enhance their students' proficiency in English as well as motivation toward learning English.

The purpose of this quasi-experimental study was to investigate the effects of cooperative learning on EFL junior high school learners' language learning, motivation toward learning English as a foreign language, and the high- and low-achievers' academic achievements in a heterogeneous language proficiency group. A pretest-posttest group research design was used. The sample population was from two classes of the first year junior high school students in a rural town in central Taiwan. There were totally 70 students involved in this study. The experimental group was taught in cooperative learning for one semester with the methods of Three-Step-Interview, Learning Together, Talk Pair, Inside-Outside Circle, and Student-Teams-Achievement Division. The control group was taught in the traditional method of Grammar Translation with some of the Audio-Lingual approach.

This study collected data from two oral tasks, scores of monthly examinations, motivational questionnaires, student interview, and teacher interview to achieve methodological triangulation. The statistical tools of the Independent Samples Test and Paired Samples Test were used to determine whether there were significant inter- and intra-group differences. The results of the study showed that the experimental group outperformed the control group significantly ($p < .05$) in the measurement of oral communicative competence and the motivational questionnaire. The results of the students' scores on the school monthly examination showed that the academic achievements of the experimental group were comparable to those of the control group.

The major findings of this study suggested that cooperative learning helped significantly to enhance the junior high school learners' oral communicative competence and their motivation toward learning English. Based upon the conclusions drawn from the study, cooperative learning was thus recommended to be integrated into the junior high school English instruction as part of the Nine-Year Joint Curriculum, the current wave of education reform in Taiwan. Pedagogical implications for the application of cooperative learning in EFL teaching, especially suggestions for teacher development in cooperative learning, were proposed. Finally, suggestions for future research were recommended.

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CHAPTER ONE

INTRODUCTION

The application of cooperative learning to classroom teaching finds its root in the 1970s when Israel and the United States began to design and study cooperative learning models for classroom context (Kessler, 1992). Now cooperative learning is applied in almost all school content areas and, increasingly, in college and university contexts all over the world (Johnson & Johnson, 1989; Kessler, 1992), and is claimed to be an effective teaching method in foreign/second language education by scholars abroad (Johnson & Johnson, 1990; Kagan 1990; Slavin, 1985) and at home (Chang, 1995; Chen, 1999; Cheng, 1998; Cheng, 2000; Lai, 2002; Tsai, 1998; Wei, 1997; Yu, 1995). It is generally asserted that cooperative learning is the best option for all students because it emphasizes active interaction between students of diverse abilities and backgrounds (Nelson, Gallagher, & Coleman, 1993; Tsai, 1998; Wei, 1997; Yu, 1995) and demonstrates more positive student outcomes in academic achievement, social behavior, and affective development.

However, although most research findings point to the positive influence of cooperative learning on academic achievements, social behavior, and affective development, many English as a Foreign Language (EFL) junior high school teachers in Taiwan still find difficulty incorporating this system of instructional method in their classroom. In addition, little attention has been given to the investigation of the effects of cooperative learning on the EFL junior high school learners' verbal and non-verbal communicative competence, the EFL students' motivation toward learning English, and the high and low achievers studying together in heterogeneous classes.

Moreover, as suggested by Yu (1995), a teacher's familiarity with cooperative learning could affect the results of such teaching method. Lai (2002) also suggests that the teacher need prior training to obtain professional competence of cooperative learning.

Therefore, the aim of this thesis is to design a cooperative learning program including a two-year pre-study teacher development and then conduct a quasi-experimental study to test its validity and feasibility of implementation in junior high school English courses.

In what follows, the problems in EFL teaching in Taiwan will be explored. Then the purposes, along with the research questions, and the perspectives of this study will be discussed. Finally, the definitions of terms and a brief introduction of the organization of this dissertation will be stated.

1.1 Problems of EFL Teaching in Taiwan

In the past few decades, the communicative language teaching, or the communicative approach, has been overwhelmingly acknowledged as the main stream in ESL/EFL teaching (Celce-Murcia, Dörnyei & Thurrell, 1995; Huang, 1995; Lai, 2002; Wei, 1997). The focus of language teaching also expands from the teacher-centered manipulation of discrete grammatical structures to the student-centered acquisition of communicative competence (Celce-Murcia, Dörnyei & Thurrell, 1995). Experts in communicative approach suggest that contextualized and meaningful communication is the best possible practice that language learners can engage in (Savignon, 1983).

However, such approach has not established a foothold in the English education in Taiwan, though there has been a very high demand for oral fluency (Chen, 1997). In line with Chen's observation, Huang (1995) also claims that although the idea of

developing communicative competence as the ultimate goal of foreign language teaching has been around for nearly three decades (Huang, 1995), “there is little consensus in the existing literature as to how such skill can be developed in formal classroom settings, and whether this objective is attainable in places where the target language is not used for communication (p. 56).”

In spite of the call for communicative approach in EFL teaching, however, as many researchers noted (Lai, 2002, Tsai, 1998, Wei & Chen, 1993; Yu, 1995), the traditional teacher-centered Grammar Translation Method is still the dominant stream in English classrooms in Taiwan. In such a traditional classroom, as Tseng’s (1993) observation of junior high school English classrooms in Taiwan, the teacher “dominates the floor of speaking throughout the classroom session, and the students simply sit and listen. They [the students] seldom initiate talking (p. 136).”

Numerous studies and educational reports have pointed out that the solitary models of the traditional teaching method tend to make students overly passive and indifferent to what is being taught (Hamm & Adams, 1992; Liang, 1996; Wei, 1997). The traditional whole-class lecturing method is found to be one of the major causes of the generally low English proficiency and the declining interest of English learning in Taiwan (Tsai, 1998; Wei, 1997; Yu, 1995). According to Shih (1993), only few EFL college learners in Taiwan are able to master English, even after six years of studying the target language. Liang (1996) also states that after six years of learning English, most Taiwanese students are hardly able to communicate in English because there has been too much teaching and too little learning in a traditional classroom.

With the demand of such a student-centered communicative syllabus and curriculum, as suggested in the Guidelines of the Nine-Year Joint Curriculum (NYJC, henceforth), what would be the practical alternatives to replace the traditional method so that the students can achieve communicative competence?

In addition to the challenge of the paradigm shift of the teaching method, English teachers also have to face the problem of how to address the various needs of the mixed-level students in a big class. Before the implementation of the NYJC, most, if not all, Taiwanese students start their official English education in junior high school. In order to boost the English proficiency of our nationals, the Ministry of Education in Taiwan decided that all of the fifth-graders and sixth-grader at elementary school should receive official English education starting the school year 2001.

Based upon the decision made by the Ministry of Education, most Taiwanese students start official English education from the fifth grade. However, as Chang (2002) stated in her research, different elementary schools have different policies about when their pupils should start official English program. Some schools implement English education from the first grade, some from the third grade, and some from the fifth grade (Chang, 2002; Dai, 1998; Shih, et al, 2001). When these students with such diverse levels of English proficiency reach junior high school, to what level should their teachers address in a large class of more than 35 students?

1.2 Purposes of the Study

Concerning the educational problems mentioned above and based upon Brown's (1994) belief that "cooperative learning is embraced within a communicative language teaching framework (p.80)," this study features the task-based and activity-oriented techniques of cooperative learning in an English program, hoping to transform the traditional knowledge-based English class to a more communicative and humanistic learning context. The present study attempts to answer the following research questions:

1. What are the effects of cooperative learning on the improvement of the EFL learners' language learning in terms of oral communicative

competence and the school monthly achievement tests?

2. What are the effects of cooperative learning on the EFL learners' motivation toward learning English as a foreign language?
3. What are the effects of cooperative learning on the high/low achievers in a heterogeneous class?

1.3 Perspectives of the Study

This study brings together the fields of cooperative learning, second language acquisition, and second/foreign language teaching to create optimal schooling experiences for the EFL junior high school learners. The present research integrates cooperative learning with the theories from the second language acquisition, i.e. the comprehensible input (Krashen, 1985), the comprehensible output (Swain, 1985), and the interaction in context (Kagan, 1995), as well as the affective domain of motivation (Dörnyei, 1994; Gardner, 1985) during the process of implementation. It is hoped that this empirical study can provide a close link between cooperative learning and the communicative approach and, at the same time, propose guidelines for EFL teachers who wish to implement cooperative learning to enhance their students' language learning as well as development of motivation toward learning English as a foreign language.

By carrying out this study, the researcher hopes that cooperative learning can receive more attention and enjoy more popularity among EFL teachers at all grade levels, so that English education in Taiwan can actually equip our students with communicative competence. Educating nationals with adequate English communicative skills is important to our country, especially now, when Taiwan is striving to join the world by trying to be one of the members in this global village.

1.4 Definition of Terms

The terms defined in this section include (1) oral communicative competence, (2) cooperative learning, (3) traditional teaching, (4) Nine-Year Joint Curriculum, and (5) high- and low-achievers.

1.4.1 Communicative Competence

Communicative competence, according to Savignon (1983), applied to both written and spoken language. The present study examines only the oral aspects of communicative competence. The working definition of communicative competence here refers to oral communication abilities that include (1) linguistic competence which consists of five components: appropriateness, grammatical accuracy, intelligibility, fluency, and the adequacy of vocabulary for purpose, (2) discourse competence which includes cohesion markers and proper length of pause less than three seconds, (3) strategic competence that demonstrates how the students react to others' silence and how they fix their own silence, and (4) nonverbal features of communicative competence that include the ability to display eye contact, smile, and keeping appropriate conversational distance between 60 to 90 centimeters in face-to-face communication.

1.4.2 Cooperative Learning

Cooperative learning is defined as a system of concrete teaching and learning techniques, rather than an approach, in which students are active agents in the process of learning through small group structures so that students work together to maximize their own and each other's learning. There are five characteristics that feature cooperative learning in this study: (1) positive interdependence, (2) face-to-face interaction, (3) individual accountability, (4) interpersonal and small group skills, and (5) group processing.

1.4.3 Traditional Teaching

Traditional teaching, or traditional method of teaching, here refers to the method that incorporates lectures on grammatical rules and Chinese translation of grammatical terms and sentence structures in the teaching English as a foreign language.

1.4.4 Nine-Year Joint Curriculum

The Nine-Year Joint Curriculum (NYJC, henceforth), which integrates the curriculum of the elementary school (six years) with that of the junior high school (three years), enacted in Taiwan since 2001. It is especially significant to the EFL teaching because the official English course starts at the fifth grade in NYJC, instead of the first year at junior high school. The major teaching approach advocated in the English program of NYJC is communicative language teaching (CLT), or communicative approach. The Guidelines (MOE, 2000) of the NYJC also suggest teachers employ student-centered activities to replace teacher-centered lecturing.

1.4.5 High/Low Achievers

The high-achievers defined in this study are students who score over 90 in the school-wide monthly examination. The low-achievers are the students who score under 40 in the school monthly examination.

1.5 Organization of the Dissertation

This dissertation consists of five chapters. Followed by an overall introduction, the second chapter reviews relevant literature and provides a theoretical rationale for the present study. The third chapter is on methodology and the results ensued are presented in Chapter Four. The last chapter of this dissertation contains the discussions, conclusions, proposed guidelines of implementation of cooperative learning, implications of the present study, and the suggestions for further research.

CHAPTER TWO

LITERATURE REVIEW AND THEORETICAL FRAMEWORK

In this chapter, relevant literature and theoretical framework of this study are presented, which include (1) the communicative language teaching approach, (2) the development of communicative competence, (3) the distinction between cooperative learning and group learning, (4) the relationship between cooperative learning and language acquisition as well as communicative language teaching, (5) the theories, elements, methods, and limitations of cooperative learning, and (6) the research findings on cooperative learning in EFL teaching in Taiwan. The findings and suggestions yielded in the relevant literature rationalize the framework of the present study.

2.1 Communicative Approach Revisited in Education Reform

The communicative approach, or the communicative language teaching, has been the major teaching approach advocated in the English program of the NYJC, the current wave of educational reform enacted in Taiwan since 2001. The theme of communicative competence emerged as the foundation proposed in the Guidelines of English Curriculum (MOE, 2000). According to Celce-Murcia, Dörnyei & Thurrell (1995), the communicative approach should be based “implicitly or explicitly on some models of communicative competence” (p. 5). Therefore, the definitions and development of communicative competence would call for detailed discussion since communicative approach was based on some models of communicative competence.

2.1.1 Development of Communicative Competence

The discussion of communicative competence started as early as almost thirty years ago with Hymes' (1972) creation of the term *communicative competence* to challenge Chomsky's notion of language competence and performance¹ (Chomsky, 1965). Hymes pointed out that Chomsky's competence/performance model did not provide an explicit place for sociocultural features in human communication.

Likewise, Halliday (1970, 1978) also rejected the dichotomy of competence/performance because "meaning-potential" communication covered both knowing and doing.

Hymes (1972) stated that *communicative competence* referred to the ability to use speech *appropriately* rather than *correctly* in different social contexts (Savignon, 1983, 1990; Widdowson, 1978). Being able to produce grammatically correct sentences (Chomsky, 1963) did not necessarily ensure the acquisition of communicative competence. In similar vein, Widdowson (1978) suggested that an utterance with a well-formed grammatical structure might or might not have a sufficient value for communication in a given context. Whether an utterance had a sufficient communicative value or not was determined in discourse (Widdowson, 1978). As an addition to Widdowson's discourse competence, Munby (1978) highlighted the importance of sociocultural and sociosemantic orientation in communication.

2.1.1.2 Hymes' Contribution to Communicative Language Teaching

Hymes made two contributions essential to the foundation of communicative

¹ Chomsky extended his theory in *Aspects of a Theory of Syntax* (1965), where he formulated the "competence-performance distinction." *Competence* referred to the native speaker's knowledge of the grammatical rules used to create and understand utterances (Richards, Platt & Platt, 1992:68). *Performance* referred to how native speakers use that knowledge to produce and understand utterances (Richards, Platt & Platt, 1992:269).

language teaching (Hymes, 1979). First, Hymes made the critical shift away from Chomsky's abstract mental structures of language to its social and cultural aspects. Secondly, Hymes (1979) realized that just as culture allows us to make sense of experience, so did language itself: the communicative event was the metaphor, or perspective, basic to rendering experience intelligible (Hymes, 1979). Hymes referred to the combined aspects of communication and culture in language as *communicative competence*, which meant knowledge and ability with respect to:

- Whether (and to what degree) something was formally possible;
- Whether (and to what degree) something was feasible in virtue of the means of implementation available;
- Whether (and to what degree) something was appropriate (adequate, happy, successful) in relation to a context in which it was used and evaluated;
- Whether (and to what degree) something was in fact done, actually performed, and what its doing entails. (Hymes, 1979:19)

As the term spoke for itself, Hymes' original concept of communicative competence was primarily sociolinguistic and it emphasized language use in social context. Nonetheless, it also embraced Chomsky's psycholinguistic parameter of linguistic competence by including formal possibility along with feasibility for implementation, appropriateness to a context, and actual performance as defining components of communicative competence.

2.1.1.3 Canale & Swain's Model

Other theorists frequently cited for their views on the communicative nature of language were Canale & Swain (1980) and Canale (1983a). They identified four widely accepted dimensions of communicative competence: *grammatical competence*, *sociolinguistic competence*, *discourse competence*, and *strategic competence*.

Grammatical competence concerned with the mastery of the linguistic code itself. Discourse competence concerned with the combination of form and function to achieve a unified spoken or written text in different genres that consisted of cohesion and coherence. Sociolinguistic competence addressed the extent to which utterances were produced and understood appropriately in different sociolinguistic contexts depending on contextual factors. Strategic competence was composed of verbal and non-verbal communication strategies that might be called into action for two main reasons: (1) to compensate for communication breakdowns due to limiting conditions in actual communication or insufficient competence in one or more of the other areas of communicative competence; and (2) to enhance the effectiveness of communication (Canale, 1983a).

2.1.1.4 Savignon's Definition

Along similar vein, Savignon (1972), who introduced the idea of communicative competence to foreign language teaching, originally defined communicative competence as the “ability to function in a dynamic exchange in which linguistic competence must adapt itself to the total informational input, both linguistic and paralinguistic, of one or more interlocutors” (p. 8). She included the use of gestures and facial expression in her interpretation and later refined her definition of communicative competence to comprise of the following qualifications (Savignon, 1983):

- Communicative competence was a dynamic interpersonal trait that depends on the negotiation of meaning between two or more persons who share some knowledge of a language.
- Communicative competence applies to both written and spoken language.
- Communicative competence was context-specific. A

communicatively competent language user knows how to make appropriate choices in register and style to fit the situation in which communication occurs.

- Competence was what one knows. Performance was what one did. Only performance was observable, however, it was only through performance that competence could be developed, maintained, and evaluated.
- Communicative competence was relative and depends on the cooperation of those people involved.

Savignon's principles about communicative competence might not be used directly in this study. However, many of the ideas were applicable in the development of the working model particularly designed for the participants involved in this study.

2.1.2 Pedagogical Implications of Communicative Approach

With the documentation of communicative competence, a number of theories and models were developed and expanded in the field of applied linguistics, second/foreign language acquisition, and syllabus development (Shih, 2001). The concept of communicative competence then became *robust* (Sung, 1998) and eventually led to the production of so-called communicative language teaching (CLT) practices, which entailed the following pedagogical concerns: (1) appropriateness vs. grammaticality, (2) fluency vs. accuracy, and (3) active participation vs. passive reception. Each of these issues would be discussed in the following sections.

2.1.2.1 *Appropriateness vs. Grammaticality*

The development of the evolving models on communicative competence played a vital role in the teaching of foreign language and thus challenged the pedagogical practice of many language teachers. Before Hymes' invention of the term

communicative competence, most of the language teachers tended to focus on micro-manipulation of vocabulary, syntax, and discrete grammatical rules in language teaching. The so-called *competence* was therefore restricted only to a syntactic level (cf. Chomsky's "grammatically correct sentences").

This microteaching on syntax in foreign language education resulted in producing learners without adequate competence to communicate successfully. What Hymes tried to illustrate was that communicative competence should definitely go beyond grammatical level (Chomsky, 1963) and encompass discourse, context, and speech acts, as discussed and developed later by Canale & Swain (1980) and other researchers (Canale, 1983b; Celce-Murcia, Dörnyei, & Thurrell, 1995).

The goals of the language class should include all of the components of communicative competence like grammatical, discourse, sociolinguistic, and strategic competence (Canale & Swain, 1980) and not restricted to grammatical or linguistic competence only. Form was not the primary framework for organizing and sequencing lessons. Function was the framework through which forms were taught, as proposed in the notional-functional syllabus (Wilkins, 1976; Berns, 1984).

The observation that many students failed to acquire communicative competence in the target language despite years of language learning prompted researchers and teachers to question the effectiveness of the long existing grammar-based instruction (Taylor, 1987; Wei, 1997; Yu, 1995). Therefore, the focus of language teaching had shifted from form-focused instruction of discrete grammatical structures to meaning-oriented interaction (Celce-Murcia, Dörnyei & Thurrell, 1995; Kern, & Warschauer, 2000).

As a reaction to the deductive teaching of grammar translation which focused on the analysis of isolated elements of language instead of the holistic function of meaningful communication, Celce-Murcia, Dörnyei, and Thurrell (1995) stated that

communicative language teaching should highlight the primary goal of language instruction, namely, to go beyond the teaching of the discrete elements, rules, and patterns of the target language and to develop the learners' ability to take part in spontaneous and meaningful communication in different contexts, with different people, on different topics, for different purposes. These assumptions about language teaching corresponded to the guidelines of English curriculum in the current move of education reform in Taiwan (MOE, 2000).

2.1.2.2 *Fluency vs. Accuracy*

In addition to the highlight on appropriateness, communicative language teaching also outweighed fluency over accuracy in the process of language teaching and learning. As a contrast to *accuracy*, which referred to the ability to produce grammatically correct sentences, *fluency* signified the basic ability to produce continuous speech without causing comprehension difficulties or communication breakdowns. Sometimes being able to produce perfect sentences did not necessarily lead to effective communication.

The fluency/accuracy argument corresponded to Krashen's acquisition/learning hypothesis in second/foreign language learning (Krashen, 1985). According to Krashen (1985), there were two independent systems of second language performance: the acquired system and the learned system. The acquired system or acquisition was the product of a subconscious process very similar to the process children undergo when they acquired their first language. It required meaningful interaction in the target language - natural communication - in which speakers were concentrated not in the form of their utterances, but in the communicative act. On the other hand, the learned system or learning was the product of formal instruction and it comprised a conscious process, which resulted in conscious knowledge about the language, for example, knowledge of grammatical rules (Krashen, 1985).

Krashen (1985) thought that *learning* (accuracy) was less important than *acquisition* (fluency). The Monitor Hypothesis encapsulated the relationship between acquisition and learning and defined the role of grammar. Krashen (1985) argued that it was *acquisition* that was responsible for fluency in second language performance, while the *learning* system performed the role of the *monitor* or the *editor*. It appeared that the role of conscious learning was somewhat limited in second language performance. According to Krashen (1985), the role of the Monitor was minor, used only to correct deviations from “normal” speech and to give speech a more polished appearance (Schütz, 2002).

It is a pity that in most teacher-centered language classrooms, teachers now still sacrifice fluency for the sake of accuracy. Mistakes in oral and written output are hardly tolerated in most traditional classrooms. Without being aware that the quality of expression could be developed through large quantity of practice and meaning negotiation, most teachers pursued perfect linguistic form at the expense of fluency. Gradually, students tend to be afraid to express in the target language for fear of making mistakes because making mistakes and being corrected by the teacher were face threatening (Tusi, 1995). In the long run, both accuracy and fluency became unattainable.

It was certainly understandable that there was a reaction against the heavy emphasis on linguistic forms and accuracy at the expense of linguistic function and fluency. Though as a reaction against explicit deductive teaching of grammar, communicative language teaching did not intend to remove the teaching of grammatical forms completely from the language curriculum as many secondary teachers misinterpreted (Shih, 1999; Thompson, 1996). The point lied in *how* grammar should be taught (Liang, 2000). Instead of deductive instruction on grammatical rules, communicative language teaching emphasized inductive or

“retrospective” approach to grammar (Liang, 2000; Thompson, 1996). As Ellis (1985) argued that looking explicitly at grammar might not lead immediately to learning, it would facilitate learning at a later stage when the learner was ready to internalize the new information about the language.

Taken together, the above arguments suggested that language was best acquired when it was not studied in a direct or explicit way; it was most effectively acquired when it was used as a vehicle for doing something else (Krashen, 1985).

2.1.2.3 Active Participation vs. Passive Reception

In order to equip students with adequate communicative competence, the prevalent philosophy of foreign language teaching since early 1970s had undergone a paradigm shift from a transition model to a communication model (Weir, 1990), which meant that students no longer received, memorized, or repeated after the tape or the teacher. Instead, students had to actively engage in classroom activities for real communication and learning.

In communicative language teaching, students were the central roles in the classroom. They assumed active, negotiative, and contributive roles (Nunan, 1989). In the communicative classroom, teachers attended to the input, interaction, and output in the target language. That was, students ultimately had to use the target language, productively and receptively, in unrehearsed contexts (Kagan, 1995).

Teachers were facilitators of students’ learning instead of authoritative knowledge giver. They brought learners to a certain proficiency level with autonomy, so that they could adapt their knowledge to cope adequately with the demands of new situations.

2.1.3 Communicative Language Teaching and Cooperative Learning

Different researchers might define cooperative learning in different ways. The working definition of cooperative learning in this dissertation entailed the following

features: cooperative learning was a system of teaching and learning techniques in which students were active agents in the process of learning instead of passive receivers of the product of any given knowledge. This system could increase students' academic learning as well as personal growth because (1) it reduced learning anxiety, (2) it increased the amount of student participation and student talk in the target language, (3) it built supportive and less threatening learning environment, and (4) it helped the rate of learning retention.

The embodiment of communicative language teaching through cooperative learning was not new. Richards, Platt & Platt (1992) pointed out that cooperative learning activities were often used in communicative language teaching. Kagan (1995) also claimed that communicative language teaching and cooperative learning was natural match in foreign language teaching. According to Kagan (1995), the two major components of communicative language teaching, i.e. (1) socially oriented lessons and (2) small group interaction, also corresponded to the essence of cooperative learning. With so many similarities in essence, cooperative learning was used as a set of teaching methods or techniques to embody the spirit of communicative language teaching in this study.

With the increasing interest in cooperative learning, there were some misconceptions about cooperative learning and group learning that needed to be clarified before further examinations on cooperative learning. Therefore, the following sections would review relevant literature regarding the differences between cooperative learning and group learning.

2.1.4 Cooperative Learning vs. Group Learning

At this point, some teachers might argue that they had used cooperative learning in their class, but the effects were not as positive as the literature demonstrated. The secret lied in the distinguishing features between cooperative learning and group

learning. What were the differences between these two? Taken from the outcome, cooperative learning succeeded while group learning usually perished. In principle, cooperative learning stuck to the following five elements, i.e. (1) positive interdependence, (2) individual accountability, (3) quality group processing, (4) explicit teaching of small group skills, and (5) teaching of social skills.

On the other hand, group learning simply put students to sit and work in groups without further assistance or careful structure to make group work become teamwork. In practice, the differences between cooperative learning and traditional group learning were illustrated in the following table.

Table 2.1 Differences Between Cooperative Learning and Group Learning

Cooperative Learning	Group Learning
1. Positive interdependence with structured goals	No positive interdependence
2. A clear accountability for individual's share of the group's work through role assignment and regular rotation of the assigned role	No accountability for individual share of the group's work through role assignment and regular rotation of the assigned role
3. Heterogeneous ability grouping	Homogeneous ability grouping
4. Sharing of leadership roles	Few being appointed or put in charge of the group
5. Sharing of the appointed learning task(s)	Each learner seldom responsible for others' learning
6. Aiming to maximize each member's learning	Focusing on accomplishing the assignments
7. Maintaining good working relationship, process-oriented	Frequent neglect of good working relationship, product-oriented
8. Teaching of collaborative skills	Assuming that students already have the required skills
9. Teacher observation of students interaction	Little, if any at all, teacher observation
10. Structuring of the procedures and time for the processing	Rare structuring of procedures and time for the processing

(Adapted from Johnson & Johnson, 1986c)

As a matter of fact, another reason for cooperative learning to be successful in the classroom was because it maximized the learner's learning, which would be better explained through the Learning Pyramid.

2.1.5 Learning Pyramid

The notions of maximizing learning through cooperating with other partners

mentioned above were congruent with the Learning Pyramid. The pyramid was the result of the research undertaken in Maine, USA and made available by Professor Tim Brighouse at the University of Keele. It quantified retention in relation to the teaching method.

As Howden (1995) stated that there was a strong correlation between the ways we learned and the retention of the material learned. As illustrated in Figure 2.1, the move down the pyramid from “lecture” at the top to “teaching others” at the bottom paralleled the move from passive observation to active participation and a corresponding increase in retention (Andrini & Kagan, 1990).

The message was clear: higher involvement in the learning process yields higher retention of the material learned. The implication was that teachers should coordinate and facilitate, but the students should by all means do the work themselves.

According to this Learning Pyramid, retention rates increased with the amount of student involvement. The rates were the highest with teamwork which included (a) discussion groups: 50%, (b) practice by doing: 75%, and (c) teaching others/immediate use of learning: 90%. As a sharp contrast, the retention rate of the traditional ways of individual and passive learning like lecturing (5%), reading (10%), and demonstration (30%) lasted no more than 30 percent. In contrast, the retention rate of the long existing method of lecturing was as low as only five percent.

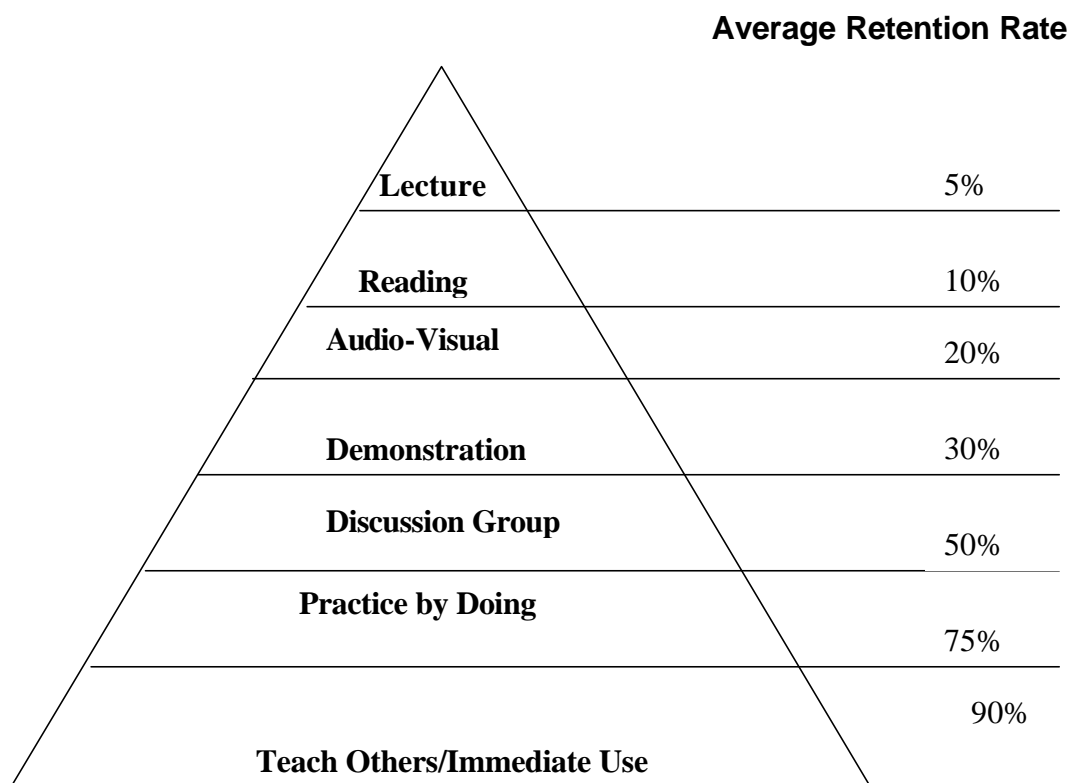


Figure 2.1 Learning Pyramid

With such low retention rate under five percent, the long existing method of lecturing was indeed in need of more effective teaching methods that involved higher student participation like cooperative learning. From the illustration of the learning pyramid, we could see that the implementation of cooperative learning was not just an alternative to the teacher-centered lecturing method of EFL teaching at junior high school, but a must if Taiwan was aiming at quality English education in the current wave of education reform.

2.2 Cooperative Learning and Language Acquisition

In addition to the resemblances of cooperative learning and communicative language teaching as illustrated above, cooperative learning as an effective teaching method in foreign/second language education was claimed by scholars abroad and at home.

Further examinations on cooperative learning and language acquisition could be

inspected through three vital variables of *input*, *output*, and *context*, which contributed to language acquisition to a great extent (Krashen, 1985; Kagan, 1995). An investigation revealed that cooperative learning had a dramatic positive impact on almost all of the factors critical to language acquisition (Kagan, 1995).

2.2.1 Input

Language acquisition was fostered by input that was comprehensible (Krashen, 1985), developmentally appropriate, redundant, and accurate (Kagan, 1995). To facilitate language acquisition, input must be comprehended (Krashen, 1985).

Students working in cooperative learning needed to make themselves understood, so they naturally adjust their input to make it comprehensible. As Kagan (1995) suggested, the small group setting allowed a far higher proportion of comprehensible input, because the speaker had the luxury of adjusting speech to the level appropriate to the listener to negotiate meaning—luxury unavailable to the teacher speaking to a whole class.

However, simply learning with comprehensible input was not enough (Kagan, 1995). Even if the language were comprehended, it would not stimulate the next step in language acquisition if it were not in the zone of proximal development (cf. 2.4.1 on Vygotsky). The developmental level of any student was what he or she could do alone; the proximal level was what he/she could do with supportive collaboration (Vygotsky, 1978). The difference between the developmental and proximal levels was called the zone of proximal development (Vygotsky, 1978). The nature of a cooperative group focused input in the zone of proximal development, stimulating development to the next stage of language development (Vygotsky, 1978; Kagan, 1995).

Furthermore, Kagan (1995) claimed that a student might receive comprehensible input in the zone of proximal development, but that would not ensure language

acquisition unless the input was received repeatedly from a variety of sources. The cooperative learning group was a natural source of redundant communication (Kagan, 1995).

McGroarty (1989) also found evidence that students gained both in comprehension and production of the second/foreign language through cooperative learning. She found that tasks used in cooperative learning foster many different types of verbal exchange. There were more possibilities for fluent speakers to tailor speech and interactions so that they could be understood by the less proficient speaker. Even when all the students in a group lacked fluency in English, the students would correct each other and attempt to fill in the gaps of their understanding by repairing and rephrasing what their partners say in order to come to agreement (McGroarty, 1989).

2.2.2 Output

Many researchers in second language acquisition argued that successful language learning did not only require comprehensible input, but also comprehensible output. But, student output was limited in a traditional classroom due to the dominance of teacher talk. With cooperative learning, students' language output could be enhanced while decreasing the amount of teacher talk.

Research in language classrooms showed that teacher talk dominated in the classroom and, as a result, learners had limited opportunities to speak in the target language in most traditional classrooms (Chaudron, 1998, Mickan, 1995 and 1998, Tusi, 1995). Yu (1995) reported in his classroom observation of EFL teaching in Kaohsiung² city and surprisingly found out that 90 percent of class instruction time was spent on the teacher's explanation of linguistic structures and grammatical forms;

² The biggest harbor city in Southern Taiwan.

only 10 percent of the class time was devoted to students' active use of English in communication. A class like this was a waste of time since, according to Cohen (1984), only 25-50 percent of the students might actually listen when the teacher was lecturing.

Particular areas of concern were not only the quantity of teacher talk, but also the quality of such talk. Most teacher-talk related to discrete analysis of linguistic elements, translation in the mother tongue, classroom management, organization of learning, instructions on homework and assignment. What's more, if the teacher and the students shared a common first language, code switching and translation often occurred (Mickan, 1999), which would limit the input in the target language for the learners. To make matters worse, if the teacher's English proficiency was not high, the shared first language was probably used for most classroom communication, such as content or homework explanation (Mickan, 1999).

Adequate amount of teacher talk in the target language could be a source of comprehensible input for the learners. However, too much teacher talk would deprive the learners not only of their opportunities and access to output in the target language, but also their attention and finally their motivation.

The single greatest advantage of cooperative learning over traditional classroom organization for the acquisition of language was the amount of language output allowed per student (Kagan, 1995). The amount of student talk could be maximized through activities that involve pair work (Talk-Pair) and group work (Inside-Outside Circle), as these would engage all the students in speaking. Further interaction occurred in group discussion and peer checking of worksheets, since students exchange ideas and make corrections or improvements in collaboration instead of individual learning. Language acquisition was fostered by output that was functional and communicative (Swain, 1985), frequent, redundant, and consistent with the

identity of the speaker.

The more opportunities for the students to employ the target language to negotiate meaning, the more they were expected to acquire communicative competence (Huang, 1995; Liang, 1996; Liang, 2000; Lin, 1995; Liu, 1997; Lai, 2002; Nunan, 1989). As many researchers noted that most learners achieve communicative competence by subconsciously acquiring the language through active participation in real communication that was of interest to those learners (Krashen, 1977, 1979). Therefore, it was fair to state that output was just as important as input since most people learn how to speak a foreign language by actually speaking that language (Kagan, 1995; Swain, 1985).

Students became fluent if they had the opportunity to speak repeatedly on the same topic. Many cooperative learning structures, such as *Three-Step Interview*, *Talk-Pair* and *Inside-Outside Circle* were explicitly designed to provide redundancy of output opportunities (Kagan, 1995). The three methods of Three-Step Interview, Talk-Pair, and Inside-Outside Circle mentioned above would be explained in more details later in the discussions on cooperative learning methods. Even informal cooperative learning discussion provided redundancy as students discuss a topic with each of their teammates. There was not enough time in the traditional classroom to call on each student to talk more than once on a topic. As Yu (1995) noted that the active use of language such as comprehending a discourse or producing a discourse involved complexity of communication and use of language. In conclusion, Yu (1995) claimed that a cooperative learning class was an ideal place for such language development.

2.2.3 Context

In addition to the variables of *input* and *output* discussed above, language acquisition was fostered if it occurred in a context that was supportive, friendly,

motivating, communicative, developmentally appropriate, and feedback rich (Kagan, 1995). Kagan (1995) argued that the traditional classroom was far from supportive as students were easily labeled “right” or “wrong” after they answered questions before the whole class (Chen & Feng, 2000; Lai, 2002; Wei & Chen, 1993)

The advocate of supportive and feedback rich context for language acquisition corresponded in part to the Affective Filter Hypothesis (Dulay, Burt & Krashen, 1982), which stated that if learners were anxious, on the defensive, or not motivated, they might understand the input, but the input would not necessarily enter the *language acquisition device*, and would not, of course, produce output.

The Affective Filter Hypothesis, though a hypothesis in need of further experimental support, was not hard to detect in most traditional classrooms. It was often the case that some students were not ready to give a speech to a whole class but were quite at ease talking to their group members. Speech to a whole class was often a threatening experience to most students. We, teachers in Taiwan, usually experience *silence* when we ask our students: “Do you have any questions?” Even some of the students were still confused and were in need of further explanation, they tend to choose silence when given the opportunity to clarify their confusion (Wei, 1997b). Another reason for the silence in class, according to Huang (1995), was the feeling of anxiety that students brought to a language classroom. The emotions of discomfort and apprehension would be aggravated with the fear of losing face when using the target language incorrectly, which, in turn, inhibited the EFL learners from speaking up in class (Huang, 1995).

As the examination on how cooperative learning transformed input, output, and context variables in the direction of facilitating language acquisition, it was not hard to draw the conclusion that communicative language teaching could be best enacted in EFL classroom through cooperative learning (Kagan, 1995). Put it in Kagan’s (1995)

words: cooperative learning and communicative language teaching was natural match.

2.3 Theories Underlying Cooperative Learning

The theories related to the rationale of this study came from at least three nations: Vygotsky from Russia, Piaget from France, and Albert Bandura from the USA. As I mentioned before, cooperative learning could be dated as far back as the first century. And now, the span of cooperative learning extended over three countries. Viewing from time and space in human history, cooperative learning deserved better recognition.

2.3.1 The Vygotskian Perspective

The Vygotskian perspective related to cooperative learning was the Zone of Proximal Development and the ensued affect on Krashen's Input Hypothesis.

According to Vygotsky (1978), all good learning was that which was in advance of development and involved the acquisition of skills just beyond the student's grasp. Such learning occurred through interaction within the student's *zone of proximal development*. Vygotsky defined the *zone of proximal development* as the discrepancy between the student's actual developmental level (i.e., independent achievement) and his/her potential level (achievement with help from a more competent partner).

Vygotsky's zone of proximal development had many implications for those in the educational milieu. One of them was the idea that human learning presupposed a specific social nature and was part of a process by which children grew into the intellectual life of those around them (Vygotsky, 1978). According to Vygotsky (1978), an essential feature of learning was that it awakens a variety of internal developmental processes that were able to operate only when the child was in the action of interacting with people in his environment and in cooperation with his peers.

Therefore, when it came to language learning, the authenticity of the environment and the affinity between its participants were essential elements to make the learner feel part of this environment. Unfortunately, these elements were rarely present in conventional classrooms.

By explaining human language development and cognitive development, Vygotsky's theory served as a strong foundation for the modern trends in applied linguistics. It lent support to less structured and more natural, communicative, and experiential approaches and pointed to the importance of early real-world human interaction in foreign language learning (Vygotsky, 1978).

2.3.2 The Piagetian Perspective

In contrast to Vygotskian perspective that learning which resulted from social interaction leads cognitive development, Piaget's theory suggested that cognitive development leads to learning. A central component of Piaget's developmental theory of learning and thinking was that both involve the participation of the learner. Knowledge was not merely transmitted verbally but must be constructed and reconstructed by the learner. Piaget asserted that for a child to know and construct knowledge of the world, the child must act on objects and it was this action that provided knowledge of those objects (Sigel, 1977); the mind organized reality and acted upon it. The learner must be active; he was not a vessel to be filled with facts.

Piaget's approach to learning was a readiness approach. Readiness approaches in developmental psychology emphasize that children cannot learn something until maturation gives them certain prerequisites (Brainerd, 1978).

The ability to learn any cognitive content was always related to their stage of intellectual development. Children who were at a certain stage cannot be taught the concepts of a higher stage. Piaget promoted *active* discovery learning environments at schools. Intelligence grew through the twin processes of assimilation and

accommodation; therefore, experiences should be planned to allow opportunities for assimilation and accommodation.

Piaget thought that teachers should be able to assess the students' present cognitive level, strengths, and weaknesses. Instruction should be individualized as much as possible and students should have opportunities to communicate with one another, to argue and debate issues. He saw teachers as facilitators of knowledge - they were there to guide and stimulate the students, also allowing students to make and learn from mistakes. Learning was much more meaningful if the students were allowed to experiment on their own rather than listening to the teacher lecture. The teacher should present students with materials and situations and occasions that allowed them to discover new learning. In active learning, the teacher must have confidence in the student's ability to learn on his own.

The independent theories of Vygotsky and Piaget complimented each other. The former advocated social interaction in learning while the latter promoted active learning of the learners. Both were essential elements in the realization of cooperative learning in real life classroom. Neither theory alone was able to provide a complete explanation for the implementation of cooperative learning.

2.3.3 Bandura's Social Learning Theory

The social learning theory of Bandura (1971) emphasized the importance of observing and modeling the behaviors, attitudes, and emotional reactions of others. Social learning theory explained human behavior in terms of continuous reciprocal interaction between cognitive, behavioral, and environmental influences. The component processes underlying observational learning included: (1) attention, including modeled events (distinctiveness, affective valence, complexity, prevalence, functional value) and observer characteristics (sensory capacities, arousal level, perceptual set, past reinforcement), (2) retention, including symbolic coding,

cognitive organization, symbolic rehearsal, motor rehearsal, (3) motor reproduction, including physical capabilities, self-observation of reproduction, accuracy of feedback, and (4) motivation, including external, vicarious and self reinforcement.

Because the social learning theory encompassed attention, memory, and motivation, it covered both cognitive and behavioral frameworks. The connection between Bandura's theory and the practice of cooperative learning would be discussed later in the elaboration on the Student-Team Achievement Division.

2.3.4 Constructivism

Being student-centered by nature, cooperative learning owed much credit to constructivism. To date, a focus on student-centered learning might well be the most important contribution of constructivism (Cheek, 1992; Yager, 1991).

Constructivism, or constructivist approach, was not a brand new theory but a holistic approach to the teaching and learning process developed by incorporating concepts from Piaget, Vygotsky, and Bandura, as discussed in the previous sections.

Like cooperative learning, constructivism was not a new concept. It had its roots in philosophy and had been applied to sociology and anthropology, as well as cognitive psychology and education (Brunner, 1973, 1986, Yager, 1991). Perhaps the first constructivist philosopher, Giambattista Vico (Yager, 1991) commented in a treatise in 1710 that one only knew something if one could explain it (Yager, 1991). Immanuel Kant (Yager, 1991) further elaborated this idea by asserting that human beings were not passive recipients of information (Yager, 1991). Learners actively constructed knowledge, connected it to previously assimilated knowledge, and made it theirs by constructing their own interpretation (Brooks & Brooks, 1999; Cheek, 1992).

A major theme in constructivism was that learning was an active process in

which learners constructed new ideas or concepts based upon their current/past knowledge (Bruner, 1966, 1973). The learner selected and transformed information, constructed hypotheses, and made decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provided meaning and organization to experiences and allowed the individual to go beyond the information given to them (Bruner, 1973, 1990).

As far as instruction was concerned, the instructor should try and encourage students to discover principles by themselves (Bruner, 1966). Curriculum should be organized in a spiral manner so that the student continually built upon what they had already learned (Bruner, 1966). The concept of spiral learning was also advocated in the Nine-Year Joint Curriculum in Taiwan (MOE, 2000).

Bruner (1966) stated that a theory of instruction should address four major aspects: (1) predisposition towards learning, (2) the ways in which a body of knowledge structured so that it could be most readily grasped by the learner, (3) the most effective sequences in which to present material, and (4) the nature and pacing of rewards and punishments. These four aspects of instruction were compatible with the principles of cooperative learning.

2.4 Elements of Cooperative Learning

As we could see clearly from the above literature, active participation instead of passive listening in class distinguished cooperative learning from traditional lecturing. Sharan (1980) referred to this as decentralization of authority and classroom focus. However, it did not imply that the teachers switch their roles with their students: the students as active participant and teachers become passive recipients. It was very important for the teacher to plan and structure the strategy in the classroom. That was, the teachers besides mastering the content knowledge of the discipline they teach,

they should also know and put into practice the main features that lead to the success of cooperative learning (Cosio, 1998).

In general, there were five major factors that define cooperative learning and to make cooperative learning successful: (1) positive interdependence, (2) individual accountability, (3) quality of group processing, (4) teaching of cooperative skills, and (5) teaching of social skills. Each of these five elements would be discussed in the following sections.

2.4.1 Positive Interdependence

Positive interdependence was creating the sense that “we sink or swim together” (Johnson et al). It was a sense of working together for a common goal and caring about each other’s learning. Within cooperative learning situations, students have two responsibilities: 1) learn the assigned material, and 2) ensure that all members of the group learn the assigned material. The technical term for that dual responsibility was positive interdependence (Sharan, 1980). When positive interdependence was clearly understood, it establishes that: (1) Each group member’s efforts were required and indispensable for group success (no “free-riders”); (2) Each group member had a unique contribution to make to the joint effort because of his or her resources and/or role and task responsibilities (Johnson & Johnson, 1994).

There were a number of ways of structuring positive interdependence within a learning group:

- Positive goal interdependence: Students perceive that they could achieve their learning goals if and only if all the members of their group also attain their goals. The group was united around a common goal—a concrete reason for being. Positive goal interdependence might be structured by informing group members they were responsible for: (1) all members scoring above a specified

criterion when tested individually, (2) the overall group score being above a specified criterion, (3) one product successfully completed by the group (Johnson & Johnson, 1994).

- Role interdependence was structured when each member was assigned complementary and interconnected roles (such as reader, recorder, checker of understanding, encourager of participation, and elaborator of knowledge) that specify responsibilities that the group needs in order to complete the joint task.
- Resource interdependence was structured when each member had only a portion of the information, materials, or resources necessary for the task to be completed and members' resources have to be combined in order for the group to achieve its goal.

There were a number of ways of structuring positive interdependence. One way was to have a single group product; another was to assign roles for each student; providing a group reward also fosters positive interdependence. Without positive interdependence, students sometimes fall into the trap of “hitchhiking,” where they let one student do all the work for them, or of being “off task” (Cohen, 1994b).

2.4.2 Individual Accountability

Individual accountability was the element, which provided for each student believing that it was important for him/her to learn the material. Each team member feels in charge of their own and their teammates' learning and makes an active contribution to the group. Thus there was no ‘hitchhiking’ or ‘freeloading’ for anyone in a team—everyone contributes (Kagan, 1990).

The teacher must have a way of determining what each individual had learned, as well as what the group had accomplished. There were a number of ways of accomplishing individual accountability; random selection of student papers if each

student was doing work within the group, random oral quizzes of students, or written quizzes or examinations at the culmination of the work (Kagan, 1989).

2.4.3 Quality of Group Interaction Process

To provide abundant verbal, face-to-face interaction, where learners explain, argue, elaborate, and link current material with what they have learned previously was important in cooperative learning. Face-to-face verbal interaction referred to the physical set up of the group. Students needed to be clustered together in a tight group, facing each other, in order to have the kind of interchange necessary to accomplish the task. Johnson and Johnson (1989) proposed that groups should begin small, when students were just beginning to work together and develop their skills.

The quality of interaction would depend on a number of factors such as: the grade and frequency in which the students cooperated among themselves in their academic tasks, giving feedback between each other in their learning activities, sharing learning experiences and life experiences, and supporting and engaging among themselves in their feelings and educational expectations. Under this perspective, Johnson & Johnson (1990) and Slavin (1987) stated that placing students in groups to work together, even under the name of cooperative learning or task structure, did not ensure that they would engage in the kinds of positive interactions that promote learning.

In addition, a positive classroom environment was also associated with the quality of group interaction. The implementation of an appropriate interaction process constitutes a major component that helped to improve the student outcome in many academic and behavioral problems, and helped to establish a greater academic environment in the classroom (Aschettino, 1993).

2.4.4 Teaching Interpersonal and Small Group Skills

The teaching of cooperative skills was essential. Placing socially unskilled

students in a group and telling them to cooperate did not guarantee that they have the ability to do so effectively (Johnson & Johnson, 1994). Students must learn the task and maintenance skills for the groups to run smoothly. Students might not intuitively know those social skills; therefore, they must be taught explicitly how to cooperate with others. Johnson et al (1990) suggest that the interpersonal and small group skills could be taught through a number of means; first of all, setting a social skills goal along with the academic goal lets students know it's important to the teacher. Secondly, it could be established through role playing, modeling, and discussing the components of particular social skills (Cohen & Tellez, 1994).

The teacher's role in this teaching method was not that of someone who measures the capacities of the students in terms of a final product but in terms of the process. That was, someone who acted a friend, as a coordinator, as a director who guided his/her actors how to perform, and as an advisor in the academic tasks and in the psychosocial and cognitive development of the students (Cowe, Smith, Boulton, & Laver, 1994).

2.4.5 Teaching of the Social Skills

It was very important for students to have sufficient social skills, involving an explicit teaching of appropriate leadership, communication, trust and conflict resolution skills so that they could cooperate effectively. Schultz (1999) stated that social skills should be explicitly taught to the students so that students could work among themselves, not only in terms of cooperation but also without hostility and without the teacher's authority. Under this logic, the scholar said that each student was motivated internally by need for freedom, love, and fun (Schultz, 1999).

Johnson and Johnson (1990) also stated that students must be taught these skills and be motivated to use them. If group members lack the interpersonal and small-group skills to cooperate effectively, cooperative learning would not be

productive (Johnson & Johnson, 1990, p. 26).

2.5 Cooperative Learning Methods

According to Johnson, Johnson, and Stanne (2000), cooperative learning was actually a generic term that refers to numerous methods for organizing and conducting classroom instruction. Almost any teacher could find a way to use cooperative learning that was congruent with his or her philosophies and practices. So many teachers use cooperative learning in so many different ways that the list of methods was impossibly exhaustive in this literature review.

Out of the many methods that different teachers or researchers have developed, as Johnson, Johnson and Stanne (2000) stated, the following ten had received the most attention, as shown in Table 2.2.

Table 2.2 Modern Methods of Cooperative Learning

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

(Adapted from Johnson, Johnson, & Stanne, 2000)

The methods used in the experimental group in this study included Three-Step Interview (Kagan, 1993), Talk-Pair (adapted from Think-Pair-Share, Kagan, 1993), Inside-Outside Circle (adapted from Kagan, 1989), Learning Together (Johnson & Johnson, 1970s), and Students Teams-Achievement Divisions (Slavin, 1977). Each

of these methods employed in this study would be discussed in the following sections.

2.5.1 Three-Step Interview

Three-step interviews (Kagan, 1993) could be used as an icebreaker for team members to get to know one another or can be used to get to know concepts in depth, by assigning roles to students. In Three-Step Interview, student A would interview B for the specified number of minutes, listening attentively and asking probing questions (Kagan, 1993). At a signal, students reversed roles and then B interviewed A for the same number of minutes. At another signal, each pair turned to another pair, forming a group of four. Each member of the group introduced his or her partner, highlighting the most interesting points.

In Three-Step Interview, students interviewed each other in pairs, first one way, and then they switched their roles as interviewers and interviewees. Students could share with the interviews about information they had learned. The Three-Step Interview was used in this study as means to help students gain competence in language skills of speaking, listening, and summarizing.

2.5.2 Inside-Outside Circle

The Inside-Outside Circle, first developed by Spencer Kagan (1989), helped students review information while they got to know their classmates. It was particularly useful for review and for mastering new vocabulary and sentence patterns.

To form an Inside-Outside Circle, students worked in groups of four or six. Students stood in pairs in two concentric circles, with the inside circle facing out and the outside circle facing in. Students could use flash cards or respond to teacher questions as they rotate to each new partner. It could be a good strategy for checking understanding, reviewing, processing, practicing dialogues in the textbooks, and meeting classmates.

The Inside-Outside Circle used in this study was mainly for group practice of the dialogues in the textbooks. It was a powerful strategy for the redundant input and output, which were necessary in the acquisition of a foreign language. Besides, the practice was done in a group of students forming circles, students were endowed with the opportunities to interact with different partners each time they stepped one or two steps to their right, or to their left, depending on the teacher's instruction. With the frequent encounter of new partners, the students' social perspective taking as well as paralinguistic competence could gradually develop.

2.5.3 Learning Together

Learning Together was based on the social psychology (Deutsch, 1949; Johnson & Johnson, 1994). The key concept was "interdependence." This was investigated by Deutsch (1949), a mentor of David and Roger Johnsons who developed Learning Together. Interdependence concerned people's perceptions of how they affected and were affected by what happened to others (Deutsch, 1949). Deutsch divided interdependence into two types: positive and negative, with a third possibility being that no interdependence existed between people in a given situation. In his research, Deutsch (1949) found that positive interdependence led to superior performance on objective and subjective measures.

The explicit emphasis that Learning Together placed on improving group functioning was one important way that this method differed from STAD. Without using the term interdependence, another social psychologist, Allport (1954), described related concepts in his classic work *The Nature of Prejudice*. Allport (1954) stated that in order for contact between different groups to lead to a reduction of prejudice, it must be between people of equal status, sanctioned by institutional supports, be in pursuit of common ends, and lead "to the perception of common interests and common humanity" (p. 281). Allport (1954) contended that simply by contact with

group members did not promote goodwill unless there was a shared goal.

2.5.4 Student-Team Achievement Division

Based on a review of the research on cooperative learning, Slavin (1987) argued that group contingencies are essential if small-group structures are to enhance achievement. By group contingencies, Slavin meant that, “the behavior of one or more group members brings rewards to a group” (Slavin, 1987, p. 30). Group contingencies worked in two steps. First, the teacher offered rewards or punishments to the groups. Then, the group members applied rewards or punishments to each other.

Group contingencies motivated students to hope their teammates do well. In contrast, Slavin (1990) believed that practices in conventional education, such as having students study alone and grading on a curve, create a climate in which students hoped their classmates would fail.

Another important behaviorist concept behind STAD was vicarious reinforcement (Bandura, 1971), which meant that students learned not only by being rewarded or punished themselves, but also by seeing other people receive rewards or punishments. Cooperative learning, especially when students were heterogeneously grouped, offered many opportunities for students to experience positive models who were rewarded for their efforts.

There were two types of motivation involved in STAD: (1) intrinsic motivation which flowed from within a person, and (2) extrinsic motivation that came from outside the person (Slavin, 1987). While not denying the importance of intrinsic motivation, Slavin (1987) believed that extrinsic motivation had to be used.

“Students receive about 900 hours of instruction every year. It is unrealistic to expect that intrinsic interest and internal motivation will keep them enthusiastically working day in and day out” (Slavin, 1987, p. 30). Slavin saw cooperative learning

as a more efficient way of delivering extrinsic motivators.

The method of STAD was utilized in the first and the second phase of this study. It served as a strong enticement to enhance the participants' motivation, as the discussion on the results showed in Chapter Five. Therefore, STAD would be explained in more details.

In STAD, the teacher first lectured on the topic. Then, students were assigned to heterogeneous teams in which they studied the learning material provided by the teacher in preparation for a quiz. Each student's grade was based on his or her own score on the quiz. But, at the same time, each student could contribute to a group score by making improvements. Each student's contribution to their group's score was based on how well they did on the quiz compared to their own average score on past quizzes. Thus, a relatively low achiever can contribute as much to their team as a high achiever without doing as well on the quiz as their higher-achieving teammate. The group score was used to determine which groups receive rewards, such as certificates and recognition in newsletters.

The message that students got from the positive reinforcement of STAD conformed Slavin's (1987) view on the humanistic perspectives on cooperative learning. While Slavin (1987) stressed the importance of group contingencies, he also saw the appeal of cooperative learning to those with a humanistic perspective, which focused on the affective benefits of cooperative learning, e.g., increases in self-esteem, improved ethnic relations. Slavin's review of the research found that group contingencies were not necessary for achieving these goals. Humanists were attracted to cooperative learning for its other essential ingredient: group interaction. Slavin's conclusion is that "Cooperative learning represents an odd but happy marriage between behavioral and humanistic approaches to classroom motivation" (Slavin, 1987, p. 35).

2.6 Limitations of Cooperative Learning

Though cooperative learning had been widely accepted and recommended for language teaching and learning, as discussed in the previous sections, it was by no means a panacea that could solve all the educational problems. There were, like all other teaching methods, limitations in cooperative learning.

Most of the limitations of cooperative learning came from not being able to implement the cooperative structure carefully. If the teachers just put the students into groups to learn and didn't structure the positive interdependence and individual accountability, then it would not be unusual to find groups where one person did most (or all) of the work and the others signed off as if they had learned it or had done the work. Or it might be easy to have a "bossy" student who didn't allow the others to take part; or other group dynamic problems that might come from not setting the ground rules for behavior and carefully crafting the group dynamics (Kagan, 1995).

It was also considered time-consuming to teach materials in a cooperative way, although more students might have learned and retained better of the material, as suggested in the Learning Pyramid. This might be true, especially in the beginning when cooperative learning was new to the teacher and to the students.

Another concern, according to Turco and Elliott (1990), was that the educational rationale for cooperative learning techniques tended to have been developed more from socialization needs than from achievement needs. Several possible disadvantages might emerge from this perspective. First of all, there was an inherent danger for low-achievers to be belittled by high-achievers if they had nothing or little to contribute (Slavin et al, 1985). Secondly, some of the cooperative learning strategies, like STAD, TGT, and Jigsaw, seemed to ignore the importance of individual education (Turco & Elliott, 1990). Thirdly, as Pigot, Pantuzzo, and

Clement (1986) pointed out, the group contingencies might cause peer pressures that could be either facilitative or detrimental (Axelrod, 1973).

In similar vein, Carroll (1994) also reported in a one-year study of an 11th grade English class that there were a significant number of students with negative responses to cooperative learning. Many of the students were reluctant to talk over personal ideas with their peers for fear that other students might think little of their opinions. Moreover, McClure (1990) also reported his unsuccessful experience in group-work in secondary English class. In his class, the students felt uncomfortable being judged by their peers.

Another limitation of cooperative learning lied in the differences of opinion regarding encouraging conflict or achieving consensus among group members (Tsai, 1998). There was an underlying establishment in cooperative learning to encourage consensus and thereby arousing unnecessary peer pressure to suppress individual differences and comply with the decisions of the group (Dipardo & Freeman, 1988).

Some teachers might experience frustration and open hostility from their students. For example, bright students complained about being held back by their slower teammates; weaker or less assertive students complained about being discounted or ignored in group sessions, and resentments build when some team members failed to pull their weight. Instructors with sufficient patience generally found ways to deal with these problems, but others became discouraged and reverted to the traditional teacher-centered instructional paradigm, which was a loss both for them and for their students (Kagan, 1991, Sapon-Shevin, 1991).

The above-mentioned limitations of cooperative learning could be reduced to a great extent or even avoided completely if the teachers had undergone solid teacher development before the implementation of cooperative learning (Cheng, 2000; Yu, 1995; Lai, 2002).

2.7 Research Findings on Cooperative Learning in EFL Teaching in Taiwan

In spite of the limitations of cooperative learning mentioned above, a growing number of local researchers were interested in investigating the effects of cooperative learning in EFL teaching in Taiwan (e.g. Chane & Kao, 1995; Chen, 1998; Chen & Feng, 2002; Cheng, 1998; Lin, 1997; Tsai, 1998; Wei, 1997; Wei & Chen, 1993; Wei & Fang, 1997; Yu, 1995). Due to the generally positive research findings discovered by these scholars, the application of cooperative learning to different levels of education began to receive more attention. Being researched for at least 10 years in Taiwan, cooperative learning was proved to be very effective in increasing language proficiency, enhancing social maturity, and improving affective growth.

2.7.1 Language Development

The research findings on cooperative learning and language development were found through experimental studies and questionnaire surveys. For experimental study, Chang (1995) compared traditional whole-class method and cooperative learning in an English reading class in college. The participants were given a general test and a summarization test for each method. The results showed that the average scores of students in cooperative learning were about two points higher than that of the students in traditional teacher-oriented class. In similar vein, Chen (1999) also conducted an experiment to examine and compare traditional method and cooperative learning in terms of the English development of students in junior colleges. The results revealed that the students taught in cooperative learning achieved significantly higher scores ($p < .05$) on the overall test and the cloze test than those in the control group. Chen (1999) attributed the achievement gains to the reward structures of cooperative learning and the carefully structured interaction that the experimental group enjoyed in a cooperative learning context. In another

quasi-experiment conducted by Tsai (1998), two classes of senior high school students, one class as the experimental group and the other as the control group, were compared on their improvement in the four language skills including speaking, listening, reading, and writing. The instrument Tsai employed to measure listening ability was the Michigan English Language Listening Comprehension Test with 45 items, which were either of the question type or statement type. In measuring the participants' reading ability, four cloze tests were used in Tsai's experiment. The students' speaking ability was measured through the descriptions of four related pictures. And their writing ability was evaluated through writing a narrative story based on four related pictures. The results in Tsai's (1998) study showed that cooperative learning was very helpful in improving senior high school students' four language skills. Du (1998), in his experiment of two groups of adult learners in an EFL course, indicated that the academic achievement of the experimental group was not significantly higher than that of the control group ($p > .05$), but the experimental group demonstrated more progress in the intra-group analysis on academic achievement.

In addition to the experimental studies on the language development in EFL teaching, Kao (1992) conducted a questionnaire survey to analyze 32 college students' perceptions of cooperative learning. The results indicated that 78 percent of the participants considered the cooperative learning method of peer review helpful to their writing. Through questionnaire survey, Wei (1993) found that cooperative learning had a positive and significant influence on the college students' reading comprehension. Likewise, Wei & Chen (1993) conducted a questionnaire survey to investigate 263 college students' perception of cooperative learning. The results of the questionnaire showed that cooperative learning offered students more opportunities to practice four language skills and increase vocabulary retention. More than 50 percent of the participants felt that their four language skills improved

to a great extent and about 65 percent of the students considered that their vocabulary skills were enhanced. Another questionnaire survey was conducted by Wei (1997) to investigate 80 undergraduates' reflections upon one of the cooperative learning methods of Jigsaw. The results showed that more than 50 percent of the college students thought that Jigsaw helped improve their general English language proficiency. Another method of cooperative learning, the STAD, was under investigation by Chen (1998) using questionnaire survey on 143 freshman students in college. Through open-ended interviews, 12 students with different levels of English proficiency pointed out that cooperative learning was helpful to their development of four language skills in English. In addition, Lai (2002) also reported in her survey that cooperative learning could enhance junior high school students' English development.

2.7.2 Social Development

In order to investigate the effects of cooperative learning, Yu (1995) conducted an experimental study in an EFL junior high school class to test the effectiveness of cooperative learning on the learners' language proficiency and personality. Unlike other experiments that used cooperative learning within regular English curriculum, Yu's (1995) study was different in that extra teaching hours were set and special English teaching materials were designed for the participants. The teaching materials in Yu's (1995) study were adopted from the stories written for beginning learners. The experimental group was taught in cooperative learning and the control group in the traditional method on the same teaching materials for one academic year. The same English achievement tests and the Guilford Personality Tests were given before and after the experiment. The achievement test consisted of listening comprehension, vocabulary and structure, and cloze test. Speaking was not included in the test. Though no significant difference was identified in the students' language

proficiency between the experimental and the control groups, the results showed that cooperative learning had an effect on changing the students' personality and behavior and on increasing the students' ability to interact and work with other students toward common goals. Yu (1995) suspected that the insignificant difference in academic achievement might be due to the teacher's unfamiliarity with cooperative learning, or the teacher's inexperienced teaching.

In addition to the experimental study by Yu (1995), Chu (1996) conducted a questionnaire survey on 118 freshman college students to examine the effects of one cooperative learning activity, Jigsaw. The results indicated that over 90 percent of the students perceived that cooperative learning helped build an intimate learning and social atmosphere in the classroom. Wei & Fang (1997) adopted the cooperative project of role-play and found out that cooperative learning helped the participants realize the importance of communication, sharing, and respecting each other. In a survey study conducted by Yi (1997), 27 student writers participated in cooperative learning contexts. The results revealed the participants' positive attitudes toward cooperative learning because it helped foster their pro-social attitude. Du (1998) indicated that the participants in the experimental group demonstrated more cooperation, willingness to help each other, and better social relationship than those in the control group. In Chen's (1998) study, the results also illustrated that the students were eager to help, accountable for their own learning, and showing respect for fellow students, which resulted in better social relationships among peers.

2.7.3 Affective Development

In a survey study, Chu (1996) investigated the effects of Jigsaw on 118 college freshmen. The results showed that more than 85 percent of the college students agreed that they were less afraid of expressing their opinions in a cooperative learning class. Moreover, over 90 percent of the college students thought that learning

English in groups was more fun than in a teacher-centered class because cooperative learning promoted a positive affective climate in the classroom. Tsai (1998) also indicated that cooperative learning helped boost the students' self-esteem. Applying project work in a reading class, Lin (1997) found that cooperative learning helped increase the amount of student participation in class because cooperative learning was less threatening. Liang (1999), in his qualitative study examining why Taiwanese students were reluctant to speak openly in the English classroom, identified the benefit of group work, which reduced not only the college students' timidity and discomfort in trying out their newly acquired knowledge of English, but also helped them increase their motivation to learn.

In addition to the research findings discussed above, some researchers began to notice the importance of grouping strategies based on learning styles (Chen & Feng, 2000). The learning tendencies of the field dependence (FD) and field independence (FI) were considered the grouping strategy in the cooperative learning task of role-play at a university setting. The findings of such study did not show a positive attitude toward choosing learners' FD/FI tendencies as a grouping criterion in an ESL conversation classroom in college. Therefore, the researchers (Chen & Feng, 2000) suggested other factors as the grouping criteria. Based upon their suggestions, the grouping strategy employed in the present study included (1) the students' academic achievements, (2) different learning styles other than the FD/FI tendencies, and (3) different gender. Instead of putting students of the same learning styles together in the same group as Chen & Feng (2000) did, each group in the experimental class of this study consisted of students of different academic achievements, learning styles (e.g. visual learners, kinesthetic learners, tactile learners, etc.), and gender.

To sum up, either by experimental study or questionnaire survey, the researchers in Taiwan reported that cooperative learning helped enhance the EFL learners'

language development, social development, and affective development at all levels of education.

2.8 Rationale of the Present Study

The present study on the effects of cooperative learning continues the line of investigation initiated by the above researchers. Based upon the relevant literature in communicative approach and cooperative learning, as well as the local research findings on cooperative learning in EFL teaching in Taiwan, this section further discusses the rationale for the present study.

2.8.1 Teacher Development

As mentioned in Chapter One, the aim of this dissertation is to design a quasi-experimental study to test the validity and feasibility of cooperative learning in a junior high school English course, with a two-year pre-study teacher development in cooperative learning.

The reason for including the teacher development in cooperative learning two years before the present study was to validate the implications made by previous researchers. As suggested by Cheng (2000) and Yu (1995), a teacher's familiarity with cooperative learning could affect the results of such a teaching method. In order to make cooperative learning well implemented in the EFL classroom, Lai (2002) also suggested that the teacher needed prior training to obtain professional competence of cooperative learning. Although many researchers (Cheng, 2000; Lai, 2002; Yu, 1995) recognized the importance of teacher development, the inclusion of teacher training was hardly documented in the previous studies on cooperative learning in EFL teaching in Taiwan. Therefore, based upon the valuable suggestions mentioned by previous researchers, this study included a two-year pre-study teacher training before investigating the validity and feasibility of implementing cooperative

learning in junior high school English courses.

2.8.2 Communicative Competence

Furthermore, little attention has been given in the existing studies in Taiwan to examine the effects of cooperative learning on the EFL learners' acquisition of communicative competence, especially oral competence. As Chiu (1997) noted, oral skills have been considered more and more important in recent years, and yet difficulties in testing speaking skills often lead EFL teachers into inadequate oral tests or even not testing speaking skills at all. Although Tsai (1998) tested the participants' speaking ability by asking them to describe pictures, there were limitations of this type of oral test. According to Chiu (1997), describing pictures could test certain organizations such as description or narration, or certain verb tenses, but "in general, this [describing pictures] barely reflects the testees' communicative competence (p.73)." McNamara (1996) also implied that "the weakness of current models [of speaking test] is that they focus too much on the individual candidate rather than the candidate in interaction (p. 86)." For the reasons stated above, two interaction-based oral tasks were designed to investigate the EFL learners' verbal and non-verbal features of communicative competence. The design of the oral task in this study complied with Browns' (2001) notion of best tests of oral proficiency, which included "live performance (as opposed to taped), a careful specification of tasks to be accomplished during the test, and a scoring rubric that was truly descriptive of ability (p.395)."

According to Savignon (1983), communicative competence was relative and context specific. That is, the definition of communicative competence would vary according to the language proficiency of the speakers involved. With this notion in mind, the model of communicative competence proposed by Canale's (1983a) was

adapted and altered to fit the language proficiency of the participants involved in this study. The sociolinguistic competence included in Canale's (1983a) model was replaced with the non-verbal features of communicative competence. Rationale of such replacement would be shortly discussed in later paragraphs.

2.8.2.1 Verbal Features of Communicative Competence

The verbal aspects of communicative competence under investigation in this study then consisted of (1) linguistic competence, (2) discourse competence, and (3) strategic competence.

The linguistic competence, or the grammatical competence, referred to the knowledge of lexical items and of rules of morphology, syntax, sentence-grammar semantics, and phonology (Canale, 1983a). In assessing the students' linguistic competence through the oral performance, the rating scale was of great importance. As Chiu (1997) noted, the use of an appropriate rating scale and sufficient training for raters appeared to be the key points in reducing the rater effect when assessing oral performance. In order to measure more integrated language use, the scoring rubric developed by Weir (1990) was adopted as the grading criteria, which included (1) appropriateness, (2) grammatical accuracy, (3) intelligibility, (4) fluency, and (5) the adequacy of vocabulary for purpose (Weir, 1990). Such grading criteria could possibly achieve the maximal balance between grammaticality and appropriateness, as well as accuracy and fluency, as discussed in section 2.1.2.1 and 2.1.2.2.

As for the discourse competence, the most common definition was the ability to produce unified spoken discourse that showed coherence and cohesion (Canale, 1980). However, with such entry level as the participants in this study, the scope of the discourse competence was altered to be (1) the knowledge and ability to utilize discourse markers of opening, pre-closing, and closing in conversation to achieve the

coherence as well as cohesion and (2) the length of pause between turn-takings. How the students opened their conversation, what kind of pre-closing signals, and what kind of closing strategies they used to end their conversation were closely related to the cohesion and coherence of their discourse. And the pause between turns was also related to the cohesion and coherence in speaking.

From the observation of most EFL learners' oral performance in the pilot study done by the researcher, the most common pause between turn takings was less than three seconds. Therefore, pausing less than three seconds would be considered normal or acceptable in this study. With limited language proficiency, these students tended to pause longer than native speakers in normal conversation³. If they paused too long, the effect of coherence and cohesion would certainly be reduced. Accordingly, Newman (1982) also found that inserting pauses of four to seven seconds into natural conversations resulted in higher discomfort ratings. Therefore, any pause longer than seven seconds would be considered silence, one of the major signs of communication breakdown, in the present study.

How the students repaired their own silence as well as how they fixed others' silence would be reckoned as the strategic competence, which was referred to the possession of coping strategies in actual performance. Strategic competence, as defined by Canale (1983a), was composed of verbal and non-verbal communication strategies that might be called into action (1) to compensate for communication breakdowns due to limiting conditions in actual communication or insufficient competence in one or more of the other areas of communicative competence; and (2) to enhance the effectiveness of communication (Canale, 1983a).

³ According to the researcher's observation of native speaker's conversation, the most common pause between turn takings would be 0.5 seconds.

To most EFL learners, especially learners with limited proficiency, communication breakdown might happen very often due to the lack of repertoire of vocabulary or cultural miscues. Therefore, the ability to fix or repair when communication breakdown inevitably occurred was particularly important in terms of strategic competence. Silence without a justified cause could be annoying and irritating during face-to-face communication and was considered one of the most common phenomena of communication breakdown. Without appropriate dealing, the effects of communication could be reduced to a great extent. How one responded to communication breakdown either caused by the addressee or the speaker was an important sign of communicative competence.

2.8.2.2 Non-verbal Features of Communicative Competence

Furthermore, the investigation of the non-verbal aspects of communicative competence including smile, eye contact, and conversational distance also distinguished the present study from previous domestic research that hardly addressed the issues of non-verbal aspects of communication. The non-verbal features, according to Upshur (1979), could reduce or enhance the effects of verbal communication. Upshur (1979) discussed a hypothetical test of two non-native speakers of English, whose task was to court an American teenager. One was successful; but the other failed. There was no difference in the candidates' language proficiency; it was just that the successful suitor encouraged and allowed the girl to talk with smile and sincere look on his face. Upshur (1979) then suggested that sensitivity of this kind be measured in a second language performance assessment. The examination of the non-verbal features of communicative competence was to avoid "the danger that non-linguistic variables in performance will mask the manifestations of competence (Carroll, 1968, p.50)." As Carroll (1968) argued, the

actual manifestation of language performance was affected by a large number of non-linguistic variables.

In a study on the influence of peer feedback on self- and peer-assessment of oral skills, Patri (2002) also included eye contact and pleasant facial expressions in his marking criteria of the participants' performance. But conversational distance was not measured in Patri's (2002) criterion of non-verbal communication. As far as the researcher is concerned, the investigation of conversational distance in EFL learners' oral performance was not available in literature published to date.

The appropriate conversational distance varies from culture to culture. According to Morrison & Conaway (2000), businesspeople usually stood close enough to shake hands, about 60 to 90 centimeters (two to three feet) apart in North America and Northern Europe. In parts of Southern Europe and most of Latin America, the distance tended to be closer. In the Middle East, it was closer yet, sometimes under 30 centimeters (Morrison & Conaway, 2000). According to the orientation pamphlet prepared for international students studying at New Jersey Institute of Technology to get accustomed to American culture, the authors⁴ stated that Americans, on average, preferred a distance of about 60 centimeters (two feet) between themselves and the person they were talking to. Within or beyond this distance would be considered too close or too far.

In addition to being cultural specific, conversational distance also varied with different situations: intimate conversational distance was 60-90 centimeters, like the one in a cocktail party; social, informal conversational distance was 180 to 300 centimeters (6-10 feet), like the one in the living room; formal, persuasive

⁴ This guide was created by Shonell Bacon, David Kary, and Kevin Ryan. All three were graduate students at New Jersey Institute of Technology.

conversational distance was 450-600 centimeters (15-20 feet) or more, like talk given in an auditorium (Karlson, 2002). Since the interaction-based oral task in this study belonged to the intimate conversation between good friends, the proper conversational distance defined in this study was between 60 to 90 centimeters.

2.8.3 Motivation

In addition to addressing the effects of cooperative learning on the learners' acquisition of communicative competence, the present study also studied the learners' motivational change. There is no denying that achievements and motivation are closely correlated. According to Chou (1989), the correlation between motivation and English achievement for senior high school students was very high ($p < .01$). Hsu (1998) also argued that there was a high correlation between motivation and final grades for junior high school students. In similar vein, Huang (1990) pointed out that students with high motivation tended to have a better English achievement than students with low motivation. Since motivation and academic achievement were so closely related, it was worth investigating if cooperative learning could enhance the learners' motivation. In order to investigate further into the effects of cooperative learning on EFL learners' motivation toward learning English as a foreign language, a Likert-type questionnaire was designed to evaluate such important factor in language learning.

There were scanty reports on the use of researcher-designed motivational questionnaires to examine the EFL learners' motivational change before and after a given study in cooperative learning. As Tsai (1998) suggested, further studies on cooperative learning might examine and compare the students' motivation before and after the intervention of cooperative learning because she only compared the participants' perception of cooperative learning after the study. Therefore, the

researcher-designed motivational questionnaires were administered twice in the present study, one in the beginning of the study as the pre-test, and the other at the end of the study as the post-test.

2.8.4 High vs. Low Achievers

Moreover, as mentioned in the current problems of EFL teaching in Taiwan, especially after the enactment of the NYJC, addressing the various needs of students with diverse levels of language proficiency would be very challenging to most junior high school teachers. Therefore, the effects of cooperative learning on the high- and low- achievers' language development were also examined in the present study.

2.9 Conclusion

Taken together, the rationale of the present study was based on many of the important suggestions and results yielded in the fields of cooperative learning, second language acquisition, as well as second language teaching. The implementation of this study attempted to tackle some issues that were important to the current wave of educational reform, but not yet fully addressed in the relevant literature discussed in this chapter. As Yu (1995) reckoned, cooperative learning was an easy and perfect teaching model for EFL teachers in Taiwan. Kagan (1995) also claimed that cooperative learning could effectively accomplish communicative objectives. It is hoped that, with more empirical evidence yielded in the current study, cooperative learning could and would enjoy more popularity and receive more attention in EFL teaching in Taiwan.

CHAPTER THREE

METHODOLOGY

As discussed in the rationale for the present research, the aim of this study is to tackle some issues that are not yet fully addressed in the implementation of cooperative learning in EFL teaching in Taiwan. For such purpose, a quasi-experimental study is designed to answer the research questions as follows:

1. What are the effects of cooperative learning on the improvement of the EFL learners' language development in terms of the oral communicative competence and the school monthly achievement tests?
2. What are the effects of cooperative learning on the EFL learners' motivation toward learning English as a foreign language?
3. What are the effects of cooperative learning on the high/low achievers in heterogeneous classes?

For a complete design to answer the research questions stated above, the methodology includes (1) the selection of the participants, (2) the instructional design, (3) the process of data collection, and (4) the data analysis.

3.1 Selection of Participants

The selection of the participants included (1) the selection of one teacher, Ms. Lee, who had gone through a 40-hour workshop in cooperative learning and (2) two classes of EFL first year junior high school students taught by Ms. Lee.

3.1.1 Selection of Teacher

Teacher readiness in cooperative learning could be a vital variable that might affect the outcome of a given study examining the effects of cooperative learning on

students, as Yu (1995) and Chu (1996) claimed in their studies. For this reason, the researcher started to offer a 40-hour workshop for 12 English teachers at Sunny Junior High School⁵ from September 1999 to June 2000, before investigating the effects of cooperative learning on EFL learners' language learning in 2001.

All of the 12 participants in the training were female English teachers teaching at Sunny Junior High School who were interested in cooperative learning. The training consisted of twenty sessions (Appendix A) of meeting scheduled on every other Wednesday afternoons from the beginning of the fall semester 1999 to the end of the spring semester of 2000. Each session lasted for two hours. The training took place in the meeting room at Sunny Junior High School.

Following the 40-hour workshop, the researcher paid weekly visit to Sunny Junior High School to observe the participants' teaching in real life classroom setting for one semester. The time and date of the classroom observation were arranged in advance so that all of the teachers from the workshop could join the researcher to observe their colleagues' teaching. Followed by each classroom observation, there was a one-hour discussion for all of the teachers and the researcher to reflect and comment on the teaching observed in the previous hour.

Because Ms. Lee demonstrated higher achievement using cooperative learning in peer teaching during the workshop, the participants wanted to observe more of her classroom teaching in her class. Therefore, Ms. Lee was scheduled for classroom observation for five times during that semester. The class we observed in Ms. Lee's teaching was a third year class at Sunny Junior High School, whom most teachers considered difficult to teach. According to the researcher evaluation, the peer evaluation, and the discussion after the classroom observation, Ms. Lee was identified

⁵ Sunny Junior High School was the pseudo name given to the junior high school where this study was carried out by the researcher.

as the most successful teacher for the following reasons:

1. The first reason was her ability to integrate cooperative learning with the teaching of the four language skills. She used cooperative learning in the teaching of the four language skills in listening, speaking, reading, and writing throughout the semester after completing the 40-hour workshop in cooperative learning. The other participants confessed that they used cooperative learning only selectively in some activities, like the teaching of listening or the teaching of reading only. Ms. Lee was the one that was able to incorporate the principles of cooperative learning in all aspects of her teaching⁶.
2. The second reason was for the amount of teacher talk and student talk measured in her class. The students in her class were observed to be highly motivated in the learning task and were eager to talk in English in class. According to the measurement done during the classroom observation, the participants and the researcher agreed that Ms. Lee talked for about 15 to 18 minutes in her class, while most of the other teachers still dominated the floor by lecturing for more than 30 minutes. In turn, the time allowed for the students' practice in the target language in Ms. Lee's class was about 25 to 30 minutes, while the time in other classes taught by other participants was still less than 16 minutes.
3. The third reason was because of Ms. Lee's problem solving ability. During the discussion following the observation, Ms. Lee was able to

⁶ Ms. Lee even used some of the cooperative learning techniques in the class meeting.

provide some practical solutions to the problems her colleagues proposed. In addition to being able to solve many unexpected problems that might occur during the actual implementation, Ms. Lee also designed many innovative worksheets⁷ for different purposes.

The researcher and the other participants all agreed that Ms. Lee was the most eligible person to carry out cooperative learning for this study.

3.1.2 Selection of Students

Two classes of the first year students that Ms. Lee taught at Sunny Junior High School in the spring semester of 2001 were selected to be the participants, one class as the experimental group and the other as the control group. The total number in each class was 35, with 20 boys and 15 girls in the experimental group; 19 boys and 16 girls in the control group. Sunny Junior High School is a mid-sized rural school with about 1,600 students. There were totally 15 first year classes. In comparison with the other 14 first year classes on the average English grades they got from the previous semester, the experimental class ranked the fifth and the control group the fourth at Sunny Junior High School.

According to a survey administered to understand the students' background before the study, the results showed that there were six students in the experimental group and seven in the control group that had studied English for two years before entering junior high school. Two students in the experimental group and five in the control group had learned English since they were the third-graders in elementary school. There were 20 students in the experimental group and 23 in the control group that learned the alphabets and some phonetic symbols for two months during

⁷ The worksheets designed by Ms. Lee included (1) the worksheet for the group leader to check on each member's learning on the vocabulary, (2) the worksheet for the preparation and discussion of the school-wide written examinations, (3) the worksheet for pairs to practice dialogues, (4) the worksheets on the teaching of vocabulary, dialogue, and sentence structures.

the summer vacation after they graduated from elementary school. The rest of the students reported that they never encountered English before entering junior high school.

According to the students' grade reports from the previous semester, there were 12 high-achievers whose average scores in the subject of English exceeded 90 in the experimental group and 13 in the control group. There were nine under-achievers who scored below 40 in the experimental group and nine in the control group.

3.2 Instructional Design

The instructional design of cooperative learning in the experimental group was integrated within the students' regular English curriculum. The teaching materials that the students studied were mainly from the junior high school textbook, Book II, for both groups. The instructional design presented in this section included the teaching procedures in the control group and those in the experimental group. The teaching procedures and activities in the control group belonged to the traditional method, which involved mainly the Grammar Translation and some of the Audio-lingual method. The integration of these two methods, according to Yu (1995), "was the most popular teaching methods used in EFL classes all over the island [Taiwan](p. 80)." In addition to the use of Grammar Translation with a little Audio-lingual method, the *traditional* teaching method in this study also included isolated learning context, as opposed to that of the cooperative leaning in the experimental group (Wei, & Chen, 1993). As Tsai (1998) and Yu (1995) assumed that most people were familiar with the features and procedures of the grammar-translation and audio-lingual methods, the descriptions of the instructional design in the control group were not as detailed and lengthy as those in the experimental group.

3.2.1 Control Group

There were three major sections in the junior high school textbook, Book II, that Ms. Lee needed to teach in each lesson: (1) vocabulary, (2) dialogue, and (3) sentence structure. The method of teaching each of the three components would be described in the subsequent sections.

3.2.1.1 Vocabulary

A typical way to start a new lesson in the textbook was by introducing the vocabulary first. The common way for Ms. Lee to introduce the vocabulary was to write the words on the blackboard and ask the students to repeat after her. Then, Ms. Lee explained the part of speech, grammatical functions, collocation, and word usage by means of definition, description, and translation. Students spent most of the class time listening to the teacher's analysis of the grammar, Chinese translation, and sometimes practicing making sentences. Once in a while, two or three students were assigned to answer some of the questions Ms. Lee asked during her lecture.

3.2.1.2 Dialogue

As for the dialogue, Ms. Lee explained the meaning of the content first in Chinese and then asked the students to repeat after her. Sometimes they listened to the cassette and repeated after the tape for two or three times, as the Audio-lingual method suggested. Then, two or more students were randomly appointed to role-play the dialogue on the stage while the rest of the class watched and listened to their performance. There were two or three pairs at most selected to practice the dialogue in front of the class during one class period. Most of the students listened passively and quietly while the chosen pairs were practicing on the stage.

3.2.1.3 Sentence Structure

The part on sentence structure was mainly taught through the explanation of grammatical terms translated into Chinese. The sentence structure in each lesson

was usually broken into discrete elements of grammatical function, such as nouns, verb-to-be, adjectives, gerund, infinitive, pronoun, etc. and then the relationship between the grammatical elements was analyzed. In such a traditional learning context, students listened passively to their teacher's lecture without much student-student interaction for maximal practice of the target language.

In sum, the traditional method used in the control group incorporated the following features: (1) texts translation from L2 (English) to L1 (Chinese), (2) explanation of grammatical rules, (3) vocabulary explanation from bilingual word lists, (4) analyses of sentence structure, (5) mother tongue of Chinese used as the medium of instruction, (6) listening to and repeating after the tape or the teacher.

3.2.2 Experimental Group

The intervention in the experimental group included two major phases, one before the first monthly examination (Phase One) as warm-up for cooperative learning, and the other after (Phase Two) as shown in Table 3.1.

Table 3.1 Intervention of Experimental Group

Phase One: beginning of the semester till the 1 st monthly examination	
Teambuilding	Heterogeneous grouping Three-Step Interview Ten Commitments Ten Commandments
Role assignments	Leader Reporter Recorder Checker Timer Quiet Captain
Talk-pair	Teammates facing each other as talk pairs
Positive reinforcements	Mountain Climbing Chart Thank-you notes
Phase Two: after the 1 st monthly examination	
Vocabulary	Flashcard designed by assigned groups Oral presentation by assigned groups Worksheet prepared by assigned groups
Dialogue	Role-play by assigned groups Talk-pair Inside-Outside Circle
Sentence structure	Flashcard prepared by assigned groups Oral presentation by assigned groups Worksheet designed by assigned group
Teacher's lecture	Feedback & comments on group presentation

Corrections & modeling
Positive reinforcement
Rewards & encouragement
Coordinating & inspiring

During the first phase, time and effort were spent on getting the students familiarized with the cooperative learning structures through teambuilding activities such as the Three-Step-Interview, Ten Commandments, Ten Commitments, role assignment, the positive reinforcement through Mountain Climbing Chart and the writing of thank-you notes at the end of each class.

After the first monthly examination, the students entered the second phase of cooperative learning. At such stage, the students needed to rotate to take charge of the teaching and learning responsibilities. As the Learning Pyramid mentioned in Chapter Two, the retention rate of learning could be maximized to 90 percent if the students were able to teach others. For the purpose of the maximal learning effect, the participants in the experimental group were scheduled to be in charge of certain activities.

The role of the teacher during the first phase of implementing cooperative learning was to turn the traditional classroom into a cooperative learning context. One of the major turning points from traditional classroom to a cooperative learning one was the careful design of the learning climate. A few techniques needed to be implemented. First of all, the teacher had to set the climate for cooperative learning by dividing the students into six heterogeneous groups based on (1) the average English grades from the previous semester, (2) different types of learning styles, and (3) gender. According to the results of learning style preference questionnaire administered in the experimental group, there were four visual learners, five auditory learners, six tactile learners, 10 kinesthetic learners, four individual learners, and six group learners. The principle of heterogeneous grouping in this study was to ensure that each group was composed of students with different gender, different learning

styles, and different academic achievements. The seating arrangement was also changed in the classroom. Instead of sitting in rows facing each other's back, the students sat face-to-face with their group members.

However, simply putting the students to sit and work together does not ensure the feat of cooperative learning. They needed the process of teambuilding to turn a group of students sitting together into a caring and working team.

3.2.2.1 Teambuilding

Rather than just putting the students in groups, teambuilding is the process of building teams. It meant turning a group of students with different backgrounds and experiences into a cooperative and caring team. To begin with, the students got acquainted with one another through the Three-Step Interview (adapted from Kagan, 1992). Then, the students discussed and named their own groups. They could name their groups after their favorite singers, animals, or anything they liked. After about ten minutes of discussion, the six groups in the experimental group were named Tiger, Rainbow, Yo-Yo, Lion, F4, and Mayday. Each group was referred to by their group identities instead of group numbers henceforth.

In order to facilitate self-control, learner autonomy, and democracy in the management of groups, there were two kinds of rules that needed to be taken care of: (1) the Ten Commitments and (2) the Ten Commandments. There were differences between these two sets of laws. The former refers to one's commitment to the whole class while the latter one's engagement to his/her own group. The Ten Commitments prescribed *what to do* in class while the Ten Commandments advised *what not to do*.

Generally speaking, the Ten Commitments were employed based on the principles of positive reinforcement and were meant for the whole class. The rules were worked out and observed by the whole class. They were spelled out in positive

encouragement instead of threatening disciplines. The Ten Commitments that the experimental group worked out for the whole class to follow were illustrated in Table 3.2.

Table 3.2 The Ten Commitments⁸

I promise to do my share of work with pleasure and delight.
I will be brave to express myself in my group. My opinions do count.
I will be sensitive to my learning. If I find any problem or difficulty, I will turn to my teammates for help immediately.
When my classmates are doing their presentation, I will encourage them with my big smile and attentive eyes.
I am willing to help my classmates and teammates when they need me.
I will write “thank-you” note to one of my classmates and teammates after each class.
I will learn how to show my appreciation in words and in deeds to anyone who helps me in or after class.
I will learn how to catch my classmates while they are doing something good.
I will respect the differences between my classmates and me.
I promise to enjoy every minute of our English class by smiling happily all the time.

On the other hand, the Ten Commandments were like regulations on self-control for what they should not do in their teams. Each group might have different regulations regarding the Ten Commandments. A typical Ten Commandments made by one of the groups was provided as an example in Table 3.3.

Table 3.3 The Ten Commandments

I will not be late to turn in my homework.
I will not laugh at my teammates when they make mistakes.
I will not sleep in class.
I will not chat with teammates during group discussion.
I will not shout at my teammates when I am talking to them.
I will not take things from other teammates’ desk without permission.
I will not kick others’ feet under the table.
I will not eat garlic when we have English class.
I will not stay up late the night before English class.
I will not swing my chair while seated.

After the students worked out their Ten Commitments as well as the Ten Commandments, Ms. Lee then put all of the group vows on the bulletin board in the classroom. In the beginning of the first few lessons, Ms. Lee would ask the

⁸ The original rules were spelled out in Chinese by the students and was translated into English by the researcher.

students to repeat their rules loudly before they started their English class. The purpose of repeating all the rules and vows was for habit formation of self-control, discipline, and learner autonomy. When students got accustomed to this student-centered learning climate, the oral repetition of the rules could be omitted.

3.2.2.2 Role Assignments

After the formation of six heterogeneous groups and the process of teambuilding, each member in the group was given a particular role to play. Role assignment for each group member in cooperative learning context is another major feature that distinguishes cooperative learning from regular group learning. The designation and rotation of role assignment for each student can avoid the occurrence of *free riders* or potential complaint of overloading from some above-achievers. The job description of each role was explained clearly and explicitly to the students. Adapted from Kagan (1989), the responsibility of each role was explained in detail in Table 3.4.

Table 3.4 Role Assignments and Job Description

Role	Job Description
Leader	The leader is the chairperson who hosts the group discussion and makes sure that each member is on task by participating in the discussion or any given task.
Recorder	The recorder needs to take notes during the discussion. The written report will be given to the reporter.
Reporter	The reporter is responsible for reporting the summary of his/her group's discussion to the class on behalf of his/her team.
Timer	The timer controls the time given to their group and makes sure that the assigned task is completed in time. If time is not enough to complete the task, the timer has to request more time from the teacher.
Checker	The checker makes sure that each one in the group finishes the worksheet or assigned task in class. If someone in the group has problem completing the individual worksheet, the checker reports to the leader who decides what kind of help will be given to that member.
Quiet Captain	The quiet captain sees to it that the group does not disturb other groups.

Each student had to rotate the roles every two weeks. The rotation was to

ensure that each student had equal chance to experience all the roles and to share different kinds of responsibility. Besides rotating each of the roles mentioned above, the students were also paired within the group. The pairs were available whenever the teacher needed to use the technique of Talk-Pair. One thing to note about the seat arrangement of the Talk-Pair was that the pair had to sit face to face, allowing sufficient eye contact during pair interaction. Allowing eye contact during face-to-face interaction was important to the acquisition of cooperative skills as well as the development of communicative competence.

In each lesson during the experimental span, Ms. Lee gave them enough time for group interactions. Depending on the nature of the learning task, the group interactions sometimes took the form of oral summary after one learning activity or Ms. Lee's lecture, with fellow members giving and receiving feedback or giving explanations to each other. The oral summary could be done in the group with any appointed member (mostly the recorder) to share his or her class notes. After the group summary on the notes, the reporter from each group made a summary of their notes to the whole class. Ms. Lee would check to see if the students had any misunderstanding in the learning process or learning materials presented. To pause once in a while for group reflections upon the content helped students on task and concentrate to a great extent. Many of the misconceptions were clarified in time during the group summary time.

Sometimes the students practiced the dialogues in their textbooks with their pairs until they could memorize the subject matter and role-play without reading their books. More often than not, the students were asked to exchange their workbooks, worksheets, or textbooks with their partners for the purpose of peer editing and peer correction.

3.2.2.3 Positive Reinforcement

During the experimental time span, the students were encouraged through methods of positive reinforcement with (1) the *Mountain Climbing Chart* during each class and (2) the writing of “thank-you notes” at the end of each class.

The *Mountain Climbing Chart* (Appendix C) was put on the upper right hand side of the blackboard each time Ms. Lee walked into the classroom. There were six group names on top of it and six yellow magnetic balls at the very bottom. There was also a column of scores starting from 60 to 100, with five points between each interval.

Whenever a desirable behavior occurred in any group, the score of that group will be added. For example, when someone volunteered to read or to answer a question in class, Ms. Lee would move the ball upward from the group that student belonged to. And sometimes Ms. Lee moved the ball upward when one group was attentive on task to solve the problems on worksheets. More often than not, Ms. Lee shifted the position of the magnetic ball by moving one step upward when one group was reading English together loudly.

The swift movement of her body and the climbing of the balls became a big stimulus to get students’ attention to observe closely what their classmates were doing and to reflect upon their own behavior in class. The scores were calculated at the end of each class, which weighed 20 percent of the students’ average. This chart was always there on the upper right hand side of the blackboard during the experimental time span. Later on when students assumed more learning responsibility, the group in charge of the presentation was also entitled to award their classmates by moving the magnetic ball upwards.

Another method of positive reinforcement was the writing of “thank-you notes” at the end of each class. The participants had to acknowledge one of their group

members by writing specific thank-you notes in the last column of the worksheets given to them for each activity.

Most students did not know how to appreciate others in the beginning of the study. They could not think of anyone or anything to thank for. Therefore, Ms. Lee had to model how to thank someone specifically. For example, she thanked Mary for helping her carry the tape recorder to the classroom in the first period. In the second period, Shimin was acknowledged for reading English out loud. Gradually, the participants started to learn the skills of appreciating others, no matter how minor their contribution or strength might be. Ms. Lee would assign three to five students to read their thank-you-notes in the last ten minutes of the class. The rest of the thank-you-notes would be posted in the bulletin board of the classroom.

3.2.2.4 Learning Together (LT)

The most common form of LT in this class occurred in the form of group summary. Usually right after one activity, the teacher would ask the students to recall what they just learned in their groups. Allowing time for students to work with someone else every twenty minutes or so during class period would help keep students on task. Besides, talking about what they had learned to their group members helped a lot in their comprehension and retention of the materials learned. Most important, through the retelling, Ms. Lee was able to pinpoint and correct students' misunderstandings and misconceptions that were otherwise difficult to detect in teacher-centered whole class instruction.

The LT method was well organized and controlled so that each of the group members had the chance to talk and to explore the cooperative skills. Before they started, Ms. Lee reminded them of the following principles to enforce positive interdependence and individual accountability:

- When disagreeing with someone in the group, react in a

non-judgmental and polite way. Use expressions⁹ like “In my opinion, I happen to see things differently. You are welcome to correct me if I am wrong” before bringing up disagreement.

- When reacting to someone’s disagreement, try to show gratitude by saying “Thank you very much for your precious opinion. I will reconsider mine again carefully.”
- When appealing to someone’s idea, do not hesitate to show appreciation by saying, “This idea is fantastic! Marvelous! I love it!”
- Try to learn something from others’ differences. If not, at least respect their rights to be different.

After explaining these principles, Ms. Lee gave one situation of disagreement and asked the students to practice those expressions with their Talk-Pairs until they got the feelings and were used to saying them without feeling embarrassed¹⁰. During this exercise, Ms. Lee also reminded them of other non-verbal techniques of communication like smile, eye contact, nodding head to show approval and other body postures to express attentive listening.

In almost every LT activity, the leader from each group was authorized to appoint any student from the same group to share his/her class notes or answers on any given worksheet orally. The checker double-checked if the assigned student’s understanding was correct. If any disagreement occurred, other members would join the discussion. If the group members could not reach an agreement on their own, the

⁹ Ms. Lee taught the students these sentences in English first, making them part of the classroom English. Other than the expressions, the rest of the principles were delivered in Chinese.

¹⁰ Some of the teenagers were not used to saying things nicely to their classmates. They expressed almost everything in negative ways. Therefore, they needed to practice with their Talk-Pairs until they got used to these expressions.

leader would assign a representative to ask for help from other groups. The teacher only intervened when all the students had tried but failed to solve the problems. In the long run, students began to assume their responsibility as active learners as well as problem solvers instead of passive recipients of knowledge.

The LT method sometimes could be an aid to foster active and attentive listening skills when Ms. Lee played the cassette of the dialogues in the textbooks. Most of the teachers in traditional classroom would simply ask their students to repeat after the tape individually while reading the dialogue, if they played the tape at all. However, in a cooperative learning context, even a simple task like playing the cassette is carefully structured to achieve the maximal learning effect.

Ms. Lee usually started a new lesson by playing the audiotape first. She would ask the students to close their eyes and their books while listening to the tape and imagine what happened. After they heard it for the first time, they told their Talk-Pair what they had heard. Interaction with their peers after listening helped a lot to increase their comprehension and attention on the listening task. If the teacher just asked the students to listen without any interaction, sometimes the activity would end up being passive listening with little comprehension.

Before playing the tape for the second time, each of the students would get a worksheet on cloze prepared by Ms. Lee. The blanks on the worksheet were not deleted at random. They were all words students learned before. This was a good warm up activity because the new information was based on old information.

When the students got the worksheets, they tried to guess the answers and double checked with their partners. The cloze was a powerful tool to encourage students to guess and anticipate what would normally appear in a given context. If they were used to predicting or expecting, their ability in listening and reading would be greatly enhanced.

When all groups were ready, Ms. Lee then played the tape for the second time with pause on words that were missing in the worksheet. After listening to the tape for the second time, the students started to correct their guessing from the first listening. Then they had three minutes to discuss their answers and checked the spellings in groups. Confusions and all kinds of different answers would surface.

After the group discussion, Ms. Lee would play the tape again for the third time, also with pause on the missing words as a device to attract attention. After the third time, Ms. Lee asked each group to send a representative to write the answers on the blackboard. Ms. Lee checked if students got all the correct answers.

Depending on the nature of a learning task, the LT method sometimes appeared in the form of group song making. As a way to review and mastery learning of the materials learned, Ms. Lee would give the students the melody and asked each group to find lyrics for the assigned melody. They could pick up any sentences from the book or make up their own to complete the song. After 10 to 15 minutes, each group came to the front and sang the song they just created, based on the words or sentences they had learned in class.

Through the method of Learning Together, the students in the experimental group got themselves familiarized with the necessary skills that were vital to successful cooperative learning: listening, paraphrasing, active participation, attention on task, willingness to share, giving and responding to disagreements politely, and exploring and learning in a non-threatening context of their own groups.

3.2.2.5 Student Teams-Achievement Divisions (STAD)

As a way to enhance the interdependence and individual accountability of all the students, the Student Teams-Achievement Divisions (STAD) was introduced to measure students' academic achievement. The participants were given a weekly quiz by way of STAD, which was a method to account for individual achievement and

group contingency at the same time.

In order to be able to grade the quiz quickly and recognize the team accomplishments, the weekly quizzes were short and limited to one language skill at a time. A typical procedure for STAD was the group preparation for the quiz first and then individual quiz taking. Before taking the quiz individually, Ms. Lee gave all the students some worksheets to work on. They had to tutor each other until all the team members knew how to solve the problems and got the correct answers or spelling. Then, the students took the quiz individually.

Each student's grade was based on his or her own score on the quiz. But, at the same time, they also contributed to their group score by being better than their own previous scores. In other words, each student's contribution to their group's score was based on how well they did on the quiz compared to their own average score on past quizzes. Thus, a relatively low achiever could contribute as much to their team as a high achiever without doing as well on the quiz. How well one did on the quiz would affect their group score. Therefore, they had to study hard for themselves as well as for their group members.

The difference between this individual quiz taking and a traditional individual test lied in the way that one's individual score could contribute to his or her group scores. Students could earn points for their teams based on the degree to which their quiz scores exceeded their first base scores.

The first base score for each of them was derived from their previous semester's final grades. The second base scores were from the first quiz, the third base scores from the second quiz, and so forth. This humanistic way of quiz taking and personal contribution to team points emphasized individual accountability and respect for individual uniqueness at the same time. The way to calculate the improvement points in this study was adapted from Slavin (1995), as shown in Table 3.5.

Table 3.5 Conversion Tables of Improvement Points

Individual Gain	Group Gain
1. More than 5 points above base score	5 improvement points
2. More than 10 points above base score	10 improvement points
3. More than 15 points above base score	15 improvement points
4. More than 20 points above base score	20 improvement points
5. More than 30 points above base score	25 improvement points

(Adapted from Slavin, 1995)

For example, one student scored 30 in his previous test, then, his base score would be 30. If he scored 60 in the next test, then the improvement points he earned for his group would be 25 because he scored more than 30 points above his own base score, as shown in Table 3.7.

The team score would be the total of each member's improvement points rather than the raw quiz scores. This way, the students were all encouraged to study hard and also see to it that their teammates were progressing as well. The *spirit de corps* was therefore enhanced. The under-achievers were not jealous of their teammates' high scores as they might in a traditional classroom. Instead, they began to hope that all of their group members could get more and more scores.

After the participants were familiarized with the structure and organization of the cooperative groups, they began to share more teaching and learning responsibilities in class after the first monthly examination. Starting from Lesson Five, the focus of the classroom teaching shifted to be more task-oriented. When the students were accustomed to helping and getting help from their peers instead of relying totally on their teacher in the learning process, they began to assume more learning responsibilities.

A syllabus containing the lessons and job descriptions for each group was given to each of the students in the experimental group. The syllabus informed the participants of what to prepare and what to expect in the few lessons. The main items in their textbooks included three parts: (1) vocabulary, (2) dialogue, and (3)

sentence structure. Each group rotated to take charge of each of the three parts in different lessons. For example, Group Rainbow was in charge of the vocabulary in Lesson Five, but their task shifted to the dialogue in Lesson Six. And they were responsible for the teaching of the structure (part one) in Lesson Seven. The other groups also rotated their responsibilities according to the arrangement of the syllabus. How each of the tasks was achieved would be explained shortly in the next few sections.

3.2.2.6 Vocabulary

Instead of listening passively to the teacher's bilingual explanation of the vocabulary as the control group did, the experimental group learned the vocabulary in a student-centered manner, which required plenty of students' active involvement, participation, and responsibility. As a contrast to the teacher-centered method in the control group, the students shared the teaching and learning responsibility in the following methods.

During the first four lessons, the participants familiarized themselves with this student-centered learning climate through the team-building activities. After the first monthly examination, they began to share more and more learning responsibility by group presentations on the introduction of vocabulary, demonstration of dialogues, and explanation of sentence structure.

The responsibility of the students was teaching the vocabulary to their classmates through group presentation and the creation of flash cards. In other words, Ms. Lee was no longer the only primary source for students to learn about the vocabulary after the second monthly examination. Instead, the students turned out to be the primary source of learning in this section. They had to teach their classmates the new words in any way they could conceive or imagine. Two groups of students shared the responsibility of presenting the vocabulary in one lesson to their classmates. One

group took care of the first half of the vocabulary, and the other group the second half.

Before the presentation of the first group, Ms. Lee told them a few basics about how to prepare the flash cards for their presentation. The first instruction was on the size of the card, which should not be smaller than 30 cm x 30 cm. Secondly, they should draw at least one picture for each word. The third instruction was that they should provide phonics practice in the cards they made. Another reminder was that the Chinese translation should be at the back of the cards. Most important of all, the group needed to design the worksheets for their presentations.

Two days before group presentation, each group had to turn in their design of the worksheet to Ms. Lee for photocopying. Each of their classmates got one piece of the worksheet during the assigned group's oral presentation in class. The purpose of the worksheets was to help students grasp and follow the main idea of the oral presentations. Worksheets also helped students engage on task while their fellow students were presenting on stage. A sample worksheet was given to each of them as a model. But they were strongly encouraged to create their own, if they could. The criteria of evaluation included the above-mentioned requirements plus how well they cooperated in their presentation.

From Lesson Five on, half of the class time was spent on group presentation. The groups in charge had to find the pronunciation, the stress, the meaning, and a sample sentence before they could draw a picture to make a flash card. The group in charge was the expert teaching other groups in class. Ms. Lee made it clear that the job had to be shared by ALL group members. That is to say, the task was divided into smaller unit so that each of the group members got at least one word to take care of.

After each group presentation, Ms. Lee gave them her feedback immediately. She commented on their strength, weakness and most important of all, their group

grade. And their final grades consisted of twenty percent of their group grades.

3.2.2.7 Dialogue

As scheduled in the syllabus, the participants in the experimental group were assigned to present the dialogue in each lesson. For a complete presentation, they also needed to design a worksheet to accompany their oral production.

Most of the groups would perform the dialogue three times, with different persons playing the two different roles in the dialogue. The group performing the dialogues did not give out the worksheet for the first performance. The worksheets containing the dialogues they were acting were given to the whole class before the second role-play. Each student had to work on the worksheet while watching the role-play. During the second time, the performers would “freeze” on the blanks that they wanted their classmates to fill in for about three seconds. The role-play became very interesting and many students laughed to see their classmates acting like robots freezing on the blanks where they wanted their classmates fill in. After the second show, the group in charge would go to check on each student’s worksheet in each group. They would give each group three minutes to discuss their answers on the worksheet before performing for the third time.

After the discussions on the answers, the group in charge assigned the recorders from each group to write answers on the blackboard. Then, they role-played the dialogue for the third time and corrected the answers on the blackboard for their classmates. After that, the students exchanged their worksheets with their talk-pair partners for further corrections.

After the group in charge finished their presentation of the dialogue and returned to their seats, Ms. Lee would make some comments on their performance or corrections, if necessary. Then, she would ask the class to open their books and practice the dialogue they just learned with their talk pairs. Then some students

were called upon to form Inside-Outside Circle to practice the dialogues without reading their books.

The size of the circle depended on the space and time allowed in each class period. The chosen students in the circle started talking to each other until Ms. Lee said, “Stop.” Then, the outside circle moved one step to the right and faced a new partner, as directed by Ms. Lee. Then they started their conversation again. Every time they faced a new partner, Ms. Lee would remind them to adjust their standing distance.

Sometimes the students would design interactive worksheets containing their favorite comic figures for their classmates to practice dialogue. The interactive worksheets (Appendix D) that the participants designed were more interesting and interactive because of the drawing of comic figures and bubbles for their fellow students to complete the sentences in the dialogue.

3.2.2.8 Sentence Structure

As indicated in the syllabus that Ms. Lee distributed to each of the students after the first monthly examination, there were also two groups of students in charge of the sentence structure. Some of the groups would role-play the dialogues with poster of each word holding in their hands. In other words, their classmates could visualize the sentence moving instead of static written words printed in the textbooks.

As mentioned before in the descriptions on the teaching of vocabulary and dialogue, the groups in charge also needed to prepare worksheets as an aid to their oral presentation. The worksheets they prepared would be given to their classmates as supplements to their oral demonstration.

3.3 Data Collection

Data collected in this study included (1) the questionnaire of learning style

preference, (2) two oral tasks, (3) the motivational questionnaire, (4) the teacher interview, (5) the student interview, and (6) the scores of the 1st and 2nd monthly examination.

3.3.1 Perceptual Learning Style Preference Questionnaire

In order to understand the learning style preferences of the students for the purpose of heterogeneous grouping in the experimental group, questionnaires (Appendix B) adopted from Reid¹¹ (1984) and translated into Chinese were given to both groups of students before the study. The original English version was translated into Chinese by the researcher and crosschecked for content validity by two English teachers from Junior High School. The questionnaires were given to four first-grade students at Sunny Junior High School to check if there were any confusing words or expressions that might affect their understanding of the questionnaires. The result collected from this questionnaire was used as part of the criteria for heterogeneous grouping in the experimental group. The grouping strategy for the experimental group was that each group should have members of different learning styles, instead of putting students of the same learning styles together in the same group.

3.3.2 Oral Tasks

Two oral tasks involving paired dialogues were designed to test the participants' oral communicative competence regarding four aspects: (1) the linguistic features, (2) the non-verbal features, (3) the discourse features, and (4) the strategic features. The oral tasks designed in this study were interaction-based tests, which usually involved agenda management¹² and turn-takings (Weir, 1995). The reasons for including

¹¹ The original questionnaires were adapted by Joy Reid from the C.I.T.E. Learning Styles Instrument, Murdoch Teacher Center, Wichita, Kansas 67208. A written permission from Dr. Joy Reid was granted via e-mail to the researcher for translating and using the questionnaire for the purpose of this study.

¹² Agenda management, according to Weir (1995), concerned with control over the content and involved the participants' right to choose the topic, or introduce topics. It also covered the question of

paired oral task as measurement of communicative competence were that, according to Weir (1995), “we want candidates to perform relevant language tasks and adapt their speech to the circumstances, making decisions under time pressure, implementing them fluently, and making any necessary adjustments as unexpected problems arise (p.31).”

The first task was administered in the beginning of the semester as the pre-test and the second one toward the end of the semester as the post-test. The first oral task was *show and tell*. The students in both groups were paired to perform dialogues in front of the whole class, showing and talking about photos of their families. The students brought photos of their family members to class and talked about the persons in the pictures with their partners. The students had one week to prepare before they presented in class. And each pair was given five minutes to perform their dialogue.

There were 35 students that were paired to perform the oral task in each group, consisting of 18 pairs in the experimental group and 18 pairs in the control group, with some students repeating the same roles with other partners. There were some students absent on the day they performed the oral task. Therefore, the total number of pairs was not equal in both groups. For the convenience of comparing, those pairs with repeated roles of the same students were not included in the data. As a result, only 15 pairs were selected for data analysis.

The grading of the linguistic competence was based upon five criteria: (1) appropriateness (20%), (2) adequacy of vocabulary for purpose (20%), (3) grammatical accuracy (20%), (4) intelligibility (20%), and (5) fluency (20%). A scoring rubric (Appendix E) adapted from Weir (1990) was developed along with the

control over the development or duration of the topic.

actual scoring sheet for the purpose of grading.

There were eight English teachers who had attended the 40-hour workshop from Sunny Junior High School invited as the raters. They all majored in English in teachers' college in Taiwan. Five of them had taught English in junior high school for more than five years and three of them more than ten years.

The second oral task that the students performed as the post-test was asking about their partners' favorite food.

3.3.3 Motivational Questionnaire

In order to understand the students' motivation toward learning English before and after the study, a questionnaire containing 18 items was developed by the researcher, adapted from the Motivational Intensity Questionnaire (MIQ) outlined by Gardner (1985). There were ten multiple-choice items in the original MIQ (Gardner, 1985). According to the results of previous research, this questionnaire contained moderate reliability value of .75 (Hsiao, 1997) and .78 (Liao, 2000). In order to achieve higher reliability, the researcher expanded the 10 items of the MIQ to 18 statements in the questionnaires used in the present study.

The 18 items were developed into a Likert-type questionnaire in Chinese, with five answers to circle in each statement. The English and Chinese versions of the questionnaire were presented in Appendix F. The five answers were listed according to the order of frequency: (1) always (5 points), (2) often (4 points), (3) sometimes (3 points), (4) seldom (2 points), and never (1 point). Most of the questions were asked from the positive point of view (e.g. I enjoy learning English), and such questions would score 5 points, 4 points, 3 points, 2 points, 1 point corresponding to the answers of *always*, *often*, *sometimes*, *seldom*, and *never*. However, there were some questions asked from the negative point of view (e.g. I hate English) and questions like these would score 1, 2, 3, 4, 5 corresponding to the answers of *always*, *often*,

sometimes, seldom, and never.

A pilot test was administered to 70 randomly selected first-grade students at Sunny Junior High School (40 females and 30 males) to make sure that there were no ambiguous words or confusing statements that might affect the content validity. The internal-consistency reliability of .89 was obtained by the Cronbach alpha strategy.

The same questionnaire was given to the students in both groups twice, the first time before the study as the pre-test, and the second time after the study as the post-test. There were 35 copies of the questionnaire given to each group of the students. After checking with the answers that the participants marked on the questions designed for cross-validation, there was no invalid response. Therefore, the total number of valid questionnaires collected and analyzed was 35 in each group.

3.3.4 Teacher Interview

The teacher interview in this study referred to (1) the interview with the eight raters of the oral task, and (2) the teacher, Ms. Lee, implementing cooperative learning in the experimental group. In order to elicit data of greater depth than was possible with the above-mentioned measurements of the students' language learning, the eight raters were interviewed after they turned in the grading sheets of the oral post-test. The interviews were done on a face-to-face, one-on-one base. Each interview lasted about 10 to 15 minutes. Each rater was interviewed in Chinese individually by the researcher. The interview was recorded with tape recorder with the consent of the interviewees.

Ms. Lee was also interviewed at the end of the semester for her reflection upon the students' language learning and the students' motivation toward learning English as a foreign language. The semi-structured interview was tape-recorded with the permission of the interviewee. The questions for the semi-structured interview were attached in Appendix G.

3.3.5 Student Interview

Four high-achievers and four low-achievers in the experimental group were interviewed individually in Chinese about their feelings and comments on cooperative learning. The protocol of the interview for the students was attached in Appendix H. One of the student teachers practicing at Sunny Junior High School conducted the semi-structured interview with these eight students individually. The interview was recorded with the permission of the interviewees.

3.3.6 School-Wide Monthly Examinations

The last instrument in this study included the scores from the first, the second, and the third monthly examinations held school-wide at Sunny Junior High School, gathered in the beginning, middle, and end of the semester. The major reason for including the scores of the school-wide monthly examination was to examine whether cooperative learning, as many junior high school teachers worried, would reduce the students' scores on academic achievement because they spent much time doing group activities of speaking, listening, reading, and writing, instead of focusing on the preparation for structure-based written examinations.

This study was carried out in the beginning of the spring semester 2001. The students were required to study the mandated Junior High School English Textbook II, published by the National Institute of Compilation and Translation (Sung et al, 2001). The first monthly examination tested the students on the materials from Lesson one to Lesson Three. And the content of the second monthly examination covered from Lesson Four to Lesson Seven, and that of the third monthly examination was from Lesson Eight to Lesson Ten. The test designers of these three school-wide monthly examinations were English teachers teaching in the middle schools of the Changhua District.

The test items in the school monthly examinations consisted of listening

comprehension (30%), vocabulary (10%), grammar (20%), reading comprehension multiple choice (10%), alphabet writing (10%), translation into English (10%), and sentence completion (10%). There were three language skills, i.e. listening, reading, and writing, tested in the monthly examinations. But speaking was not included in this kind of achievement test.

3.4 Data Analysis

The data collected for analysis to examine the effects of cooperative learning in this study included (1) the scores of the two oral task, (2) the transcription of the videotape of the oral tasks, (3) the grades of the three monthly examinations, (4) the results of the motivational questionnaire, (5) the teacher interview, and (6) the student interview.

For the measurement of the linguistic competence, the scores collected from the two oral tasks were computed using the Statistical Package for Social Sciences (SPSS) version 8.0 for Windows to compare the inter- and intra-group differences. The inter-group comparisons were analyzed by the Independent Samples Test and the intra-group comparisons by the Paired Samples Statistics. The results of the t-tests were used for the analysis of the linguistic competence.

In addition to the analysis of the linguistic competence measured and analyzed by statistical tool, the performance of the oral tasks was also videotaped and transcribed for further analysis on the discourse, strategic and non-verbal features of communicative competence that were difficult to identify through the scoring rubric.

The transcription of the videotape on the students' performance was transcribed verbatim for the analysis of discourse competence with regard to the utilization of cohesion markers and the length of pause. The length of each pause was measured and compared. The non-verbal features of smile, eye contact, conversational

distance, and the students' reactions to silence were coded and categorized by the researcher and Ms. Lee together. There was a high percentage (about 95%) of agreement between the two transcribers' categorizations of the items. When there was disagreement, the tape was replayed until full agreement was reached. The transcription and classification of the students' oral performance were reviewed by another English teacher at Sunny Junior High School who was also one of the raters of the oral task to crosscheck the content validity and to ensure the inter-rater reliability.

The Independent Samples Test was utilized to check if there was any significant difference in their scores of the three monthly examinations between the two groups. The scores of the high- and low-achievers in each group were computed using SPSS version 8.0 for Windows to compare the inter-group differences.

As for the analysis of the motivational questionnaires, each student's responses to the 18 statements were scored with the help of the computer software of SPSS for Windows version 8.0. The statistical results of the questionnaire were compared for the inter- and intra-group analysis. The Independent Samples Test was utilized for the inter-group analysis and the Paired Samples Test for the intra-group analysis.

The results of the teacher interview were transcribed verbatim in Chinese by the researcher and crosschecked with the interviewees for content validity. The cited entries of the interview were translated into English by the researcher. The translation of the cited interview was crosschecked with Ms. Lee for content validity.

The student interviews were transcribed verbatim in Chinese by the student teacher that performed the student interview and checked with the informants on the credibility and accuracy of the transcription. The cited interview was translated into English by the researcher. The English translation of the interview was reviewed by Ms. Lee for content validity.

CHAPTER FOUR

RESULTS AND FINDINGS

This study attempts to examine the outcome of using cooperative learning in EFL teaching in a junior high school context with regard to: (1) the effects of cooperative learning on the improvement of the EFL learners' language learning in terms of communicative competence and the school monthly achievement tests, (2) the effects of cooperative learning on the EFL learners' motivation toward learning English as a foreign language, and (3) the effects of cooperative learning on the high/low achievers in a heterogeneous class.

Due to the abundant results yielded in this study, the findings were presented according to the sequence of the research questions stated above.

4.1 Effects of Cooperative Learning and Language Learning

In this section, the results of the four aspects of oral communicative competence (the linguistic, discourse, strategic, and the non-verbal features) as well as the three monthly achievement tests were presented to examine the effects of cooperative learning on the EFL learners' language learning.

Before investigating the results on the scores of the oral task, the inter-reliability was achieved through the Pearson Correlation Coefficient. Since there were eight raters, the total score that each student received from each rater were computed for the inter-rater reliability. The inter-rater reliability among the eight independent raters was calculated through the Pearson Correlation Coefficient. The results of the coefficient between each pair of the raters were illustrated in Table 4.1.

Table 4.1 Pearson Correlation Coefficient of Inter-rater Reliability

R	R1	R2	R3	R4	R5	R6	R7	R8
R1	1.000							
R2	.818	1.000						
R3	.905	.881	1.000					
R4	.881	.821	.866	1.000				
R5	.931	.791	.848	.894	1.000			
R6	.892	.845	.917	.935	.886	1.000		
R7	.910	.838	.867	.828	.895	.838	1.000	
R8	.868	.711	.796	.890	.879	.832	.862	1.000

As shown in Table 4.1, the reliability was between .711 and .935.

4.1.1 Linguistic Competence

For the measurement of the students' linguistic competence, two oral tasks were performed by the students, one as the pre-test, and the other as the post-test. The result of the pre-test of the oral task indicated that the two classes obtained similar scores on the pre-test. The mean score of the control group was 70.40 and 68.73 in the experimental group, as shown in Table 4.2. There was no statistical significance ($p = .43$) found between the pre-test scores in both groups, as indicated in Table 4.2.

Table 4.2 Inter-Group Statistics of Pre-test Oral Task (N=60)

Pre-test	M	SD	t	P
Control	70.40	5.90	.78	.43
Experimental	68.73	5.71		

After running the t-test through SPSS, the results in the post test of the oral task indicated that the experimental group scored significantly higher than the control group, with the mean score of 76.80 against 69.53 of the control group as shown in Table 4.3. The experimental group gained 7.26 more than the control group on the post-test of oral performance. Such a mean difference was statistically significant because the *p-value* was as low as .009, as the last column of Table 4.3 displayed.

Table 4.3 Inter-Group t-test of Post-Oral Performance (N=60)

	n	M	MD ¹³	SD	T	p
Control	30	69.53	7.26	8.33	2.78	.009**
Experimental	30	76.80		5.70		

** p < .01

In addition to the inter-group analysis presented above, the results of the intra-group comparison were also presented as follows. The first intra-group analysis was made on the experimental group. As shown in Table 4.4, the experimental group gained 8.07 in the post-test, comparing with the scores they got from the pre-test. Such gain was statistically significant since the p-value was as low as .00.

Table 4.4 Results of t-test on Oral Task in Experimental Group (N=60)

	M	n	SD	MD (Post-Pre)	t	p
Pre	68.73	30	5.71	8.07	3.76	.00**
Post	76.80	30	5.70			

** p < .01

In contrast to the significant improvement of the experimental group in the oral task, the control group, instead of making progress in the post-test oral performance, scored lower than their own pre-test performance. As shown in Table 4.5, the mean score of the pre-test in the control group was 70.50, but the score of the post-test was 69.53, slightly lower than the pre-test. In other words, unlike the significant progress in the experimental group's oral performance, the control group's scores on oral performance dropped 0.97 as illustrated in Table 4.5. The difference between the score of the pre-test and that of the post test was not statistically significant (p = .76), as shown in Table 4.5.

Table 4.5 Results of t-test on Oral Performance in Control Group (N=60)

	M	n	SD	MD(Post-Pre)	T	p
Pre	70.50	30	5.90	-.97	.311	.76
Post	69.53	30	8.33			

¹³ MD here stands for Mean Difference between the experimental and control groups. The MD was reached with the mean of the experimental group minus that of the control group.

In addition to comparing the total scores of the two groups, the intra- and inter-group analysis of the five items of grading criteria (Appendix E) based on which the students were graded were also investigated for further analysis. The five items included: (1) appropriateness (20%), (2) vocabulary (20%), (3) grammar (20%), (4) intelligibility (20%), and (5) fluency (20%). The results of each of the five items were presented in the following tables.

The first analysis of the five grading items was on the intra-group difference in the experimental group.

Table 4.6 Paired Samples Test of 5 Individual Grading Criteria of Experimental Group (N=30)

Items	Pre	Post	M	SD	t	p
Appropriateness	13.33	15.33	2.00	1.60	4.83	.00**
Vocabulary	14.60	15.86	1.26	1.70	2.86	.01**
Grammar	13.66	15.53	1.86	1.50	4.80	.00**
Intelligibility	12.93	15.53	2.60	.98	10.21	.00**
Fluency	12.86	15.20	2.34	1.58	5.68	.00**

** p < .01

As shown in Table 4.6, the experimental group made significant improvement in all of the five items of the grading criteria, with all the five p-values lower than .01. That is, the experimental group progressed in all of the five areas of linguistic competence measured through the two oral tasks.

Table 4.7 Paired Samples Test of 5 Individual Grading Criteria of Control Group (N=30)

Items	Pre	Post	M	SD	t	p
Appropriateness	13.00	13.80	.80	1.85	1.66	.11
Vocabulary	12.66	13.06	.40	1.99	.77	.45
Grammar	12.00	14.26	2.26	1.83	4.75	.00**
Intelligibility	12.60	13.33	.73	1.66	1.70	.11
Fluency	13.60	15.05	1.46	1.80	3.14	.00**

** p < .01

As a sharp contrast to the significant gains in all of the five items in the experimental group, as shown in Table 4.6, there were only two items that gained significantly in the control group. As Table 4.7 indicated, the control group progressed significantly in terms of grammar and fluency.

The Independent Samples Test was used to compare the inter-group difference in

the scoring of the five items. The first comparison was on the result of the pre-test of oral performance between the two groups.

Table 4.8 Independent Samples Test of Pre-Oral Task (N=60)

Items	Exp	Control	MD	SD	t	p
Appropriateness	13.33	13.00	.33	.81	.40	.68
Vocabulary	14.60	12.66	1.93	.85	2.26	.03
Grammar	13.66	12.00	1.66	1.83	.57	.00**
Intelligibility	12.93	12.60	.33	.77	.43	.66
Fluency	12.86	13.60	.73	.87	.83	.41

According to Table 4.8, there was only one item (grammar) that displayed statistical significance in the pre-test between the two groups. The mean score of the experimental group was 13.66 while that of the control group was 12.00 in their scores on grammar. The mean difference was 1.66, which was statistically significant because the p-value was as low as .00. The other four items did not show any significant difference between the two groups.

The next section examined the inter-group difference in the post-test oral task. As shown in Table 4.9, the experimental group outperformed the control group significantly on four items with the p-value lower than .05: (1) the appropriateness ($p < .01$), (2) vocabulary ($p < .01$), (3) grammar ($p < .05$), and (4) intelligibility ($p < .01$). The only item that did not show any statistical significance on the post-test oral task between the two groups was *fluency* ($p = .84$).

Table 4.9 Independent Samples Test of the Post Oral Task (N=60)

Items	Exp	Control	MD	SD	t	p
Appropriateness	15.33	13.80	1.53	.54	2.82	.00**
Vocabulary	15.86	13.06	2.80	.60	4.63	.00**
Grammar	15.53	14.26	1.26	.58	2.18	.03*
Intelligibility	15.53	13.33	2.20	.64	3.41	.00**
Fluency	15.20	15.06	.13	.68	.19	.84

** $p < .01$, * $p < .05$

4.1.2 Discourse Competence

After analyzing the inter- and intra-group statistical results on the scores of the two oral tasks, the findings of discourse competence in terms of the following aspects were examined: (1) cohesion markers of opening, transition, pre-closing, as well as

closing, and (2) the length of each pause.

4.1.2.1 Cohesion Markers

As shown in Table 4.10, there was no difference in how the students ended their conversation between the two groups. Though no difference was found on the closing, the experimental group did outperform the control group in terms of the other three cohesion markers: opening, transition, and pre-closing, as shown in Table 4.10.

Table 4.10 Inter-group Comparisons of Cohesion Markers (N=60)

Discourse competence I: cohesion markers		
Types of cohesion markers	Control	Experimental
1. Opening	10	20
2. Transition	1	16
3. Pre-Closing	5	11
D. Closing	30	30

As shown in Table 4.10, 20 students in the experimental group employed greetings “hi,” “hello,” “hey,” and “good afternoon” to open their conversation while only ten students in the control group used opening markers to start their dialogues. The majority of the participants in the control group cut right into the topic without any opening at all. Without any opening strategies, their conversation sound rather abrupt. Here are some of the examples of the first sentence without proper opening in the control group:

1. What is your favorite food? (Subject C5¹⁴)
2. I like fish. How about you? (Subject C18)
3. What are you doing?¹⁵ (Subject C 25)
4. Do you like fish? (Subject C 31)
5. Which do you like? (Subject C7)

Without openings, these dialogues sounded more like pattern drills than real-life conversation. As a contrast, the opening excerpts from the experimental groups

¹⁴ C 5 referred to Student Number Five in Control Group.

¹⁵ There is an interesting cultural difference in the expression of “what are you doing?” In Chinese, it could serve as one way of greeting. But in English, it becomes very awkward to ask this question as an opening.

displayed more smoothness and naturalness to start a conversation.

1. Hi. How are you doing? (Subject E 6¹⁶)
2. Hi, David. (Subject E 10)
3. Oh, hi. How are you? (Subject E 12)
4. Hello, Lily. (Subject E 31)
5. Long time no see. (Subject E 35)
6. Hey! (Subject E 21)
7. Hi! (Subject E 16)

When it comes to the transition point in the conversation, the contrast was even bigger between the two groups of participants. Table 4.10 showed that 16 participants in the experimental group used transitions like “hey,” “oh,” “yes,” “hum,” “I am sorry,” or addressed their partners as signals of transition to change the topic. Unfortunately, only one in the control group used transition marker during their conversation, a very slight one (*hum*) though. The only one occurrence of transition identified in the control group was identified in the dialogue performed by Subject C 3 and Subject C 17: (transitions underlined)

- C 3: Hi, Mark.
- C 17: Hi, Andy.
- C 3: Which do you like, pork or fish?
- C 17: I like fish.
- C 3: I like pork. HUM. I have to go now.
- C 17: Good-bye.
- C 3: Good-bye.

In comparison with the control group, there were not only more occurrences of transition markers in the experimental group, but also more varieties of the transition

¹⁶ E 6 referred to Student Number Six in Experimental Group.

markers. Here are some examples of the transitions in the experimental group:
(transitions underlined)

- E 8: Oh, I have English class at six o' clock. Good-bye.
- E 14: Hey, Susan, I have to go now.
- E 17: Hum, I have to go home now.
- E 23: I am sorry. I need to go now.

Sixteen participants in the experimental group used at least five strategies (*hey, oh, hum, I am sorry, Susan*) to signal the transition of topic during their conversation, as illustrated in the above examples, but only one person used the transition marker of *hum* in the control group.

In addition to the transition markers discussed above, another item under examination here was the signal of pre-closing. The cohesion markers of pre-closing that foreshadowed the end of the conversation seemed relatively difficult to both groups. However, some significant differences could still be traced between the two groups as shown in Table 4.10. Eleven participants in the experimental group informed their partners of their future activities (like English class, piano class, going to the restaurant, call my father, go home, etc.) as signs of pre-closing to excuse themselves. But, only five students employed the pre-closing markers before they ended their conversations. Without the proper signals of pre-closing, the endings appeared out of harmony and, sometimes, even rude.

A typical conversation without opening, transition, and pre-closing performed by Subject C 5 and C 18 was identified in the control group:

- C5: What do you like, fish or pork?
- C18: I like fish.
- C5: How about your mother?
- C18: My mother likes fish, too.

- C5: OK, Good-bye.
- C18: Good-bye.

Subject C5 asked C18 directly about his favorite food without any prelude or greeting like “Hi,” or “Hello.” And there was no transition, nor signs of pre-closing before the end of their conversation.

As a contrast, a demonstrative pattern with opening, transition, pre-closing and closing performed by E 9 and E25 was pinpointed in the experimental group:

(transitions underlined)

- E9: Good morning, John.
- E25: Good morning, Peter.
- E9: Where are you going?
- E25: I am going to the restaurant.
- E9: Oh, what is your favorite food?
- E25: I like fish. Hey, I am sorry, *I have English class at six.* I have to go now.
- E9: Good-bye.
- E25: Good-bye.

Figure 4.1 illustrated the comparisons of the cohesion markers between the two groups discussed above.

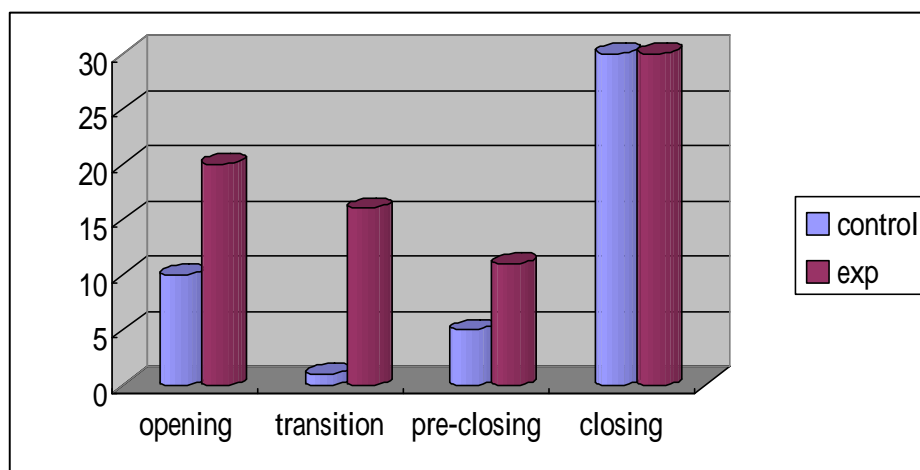


Figure 4.1 Comparisons of Cohesion Markers

4.1.2.2 Length of Pause

In addition to the investigation on the cohesion markers as presented above, the length of pause was examined for further analysis of the participants' discourse competence. As defined in Chapter Two, the proper length of pause for the participants in this study was pausing less than three seconds. It could be between one to two seconds, or between two to three seconds.

The analysis of the length of pauses was relatively more difficult to compare between the two groups because of the different total number of turn-takings in each group. There were more turn-takings in the experimental group than those in the control group. Therefore, the comparisons on the length of pauses between the two groups were made upon percentage of the overall profile of the pause these participants demonstrated, as shown in Table 4.11.

Table 4.11 Inter-group Comparisons on Pause

Discourse Competence II		
Pause between turn taking	Control	Experimental
Less than 3 seconds	34%	51%
3-5 seconds	23%	13%
5-7 seconds	10%	8%
More than 7 seconds ¹⁷	33%	20%

¹⁷ When students paused more than seven seconds, they usually forgot their lines. Therefore, in the coding of this part, it is considered as *silence* rather than *pause*.

As mentioned in the rationale of the present study in Chapter Two, a regular or normal pause in native conversation (both English and Chinese) is about half second. Since the participants were entry-level EFL learners, they tended to pause longer than native speakers. The overall assumption in the counting of the pause was that the shorter the pause, the better the cohesion effect. What was compared would be the desired pause between one to three seconds. As shown in Table 4.11, the percentage of proper pause less than three seconds in the control group was 34 %, while in the experimental group it was 51 %.

4.1.3 Strategic Competence

The strategic competence in this study referred to one's ability to deal with communication breakdown, either caused by partner's silence or one's own silence. Silence was defined by pausing longer than seven seconds, as discussed in the rationale of the present study in section 2.8. When the participants paused longer than seven seconds, they usually remained silent thereafter. Therefore, the strategic competence examined in this section was based on counting the number of the participants who paused longer than seven seconds. There were ten students (33%) in the control group and eight (20%) in the experimental group that caused silence during the oral task.

The reacting strategies to communication breakdown like silence could be an important indicator of communicative competence. With appropriate tactics, one could reduce the embarrassment to a certain degree. In this study, some of the students signaled to their partners so that their dialogue could continue. Others would go on with their own lines despite of their partners' unresponsiveness. The worst situation was that the students gave up the rest of the task without any endeavor to recover at all. In the following sections, the participants' reactions to their partner's silence as well as how they reacted to their own silence were analyzed.

4.1.3.1 Reactions to Partners' Silence

During the performance of the oral task, there were many occurrences of communication breakdown because some students were too nervous to talk in front of the whole class. The most common event of communication breakdown was forgetting what to say. Table 4.12 showed that five students out of eight in the experimental group tried hard to remind their partners of their lines so that they could complete the task together. But there was only one student in the control group that demonstrated this cooperative behavior.

Table 4.12 Reactions to Others' Silence

Strategic Competence I (unit: person)		
Reactions to partners' silence	Control (Total 10 persons)	Experimental (Total 8 persons)
A. Trying to remind	1	5
B. Finishing one's lines despite of partner's silence	3	2
C. Giving up the task	6	1

As a sharp contrast to the cooperative behavior in the experimental group, there was a high tendency to give up the task in the control group. As shown in Table 4.12, there were six students who simply gave up the rest of the task whenever there was a communication breakdown—but only one student gave up the task in the experimental group. The ratio of trying to remind and attempting to complete the task between the two groups pointed to one conclusion: the experimental group demonstrated more positive social skills and were thus more competent in managing communication breakdown as shown in Figure 4.2.

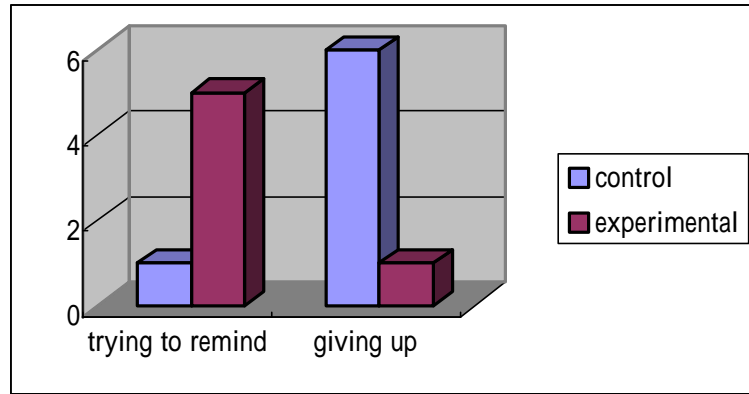


Figure 4.2 Reactions to Others' Silence

.1.3.2 Reactions to One's Own Silence

In addition to the analysis of the students' reactions to their partners' silence, qualitative examinations on how students reacted to their own silence were also performed. The ability to fix the communication breakdown caused by one's own silence is considered important in real life communication. Communication breakdown might happen very often when EFL learners are actually talking to foreigners due to the lack of vocabulary or problems in listening comprehension. Therefore, in the evaluation of the participants' strategic competence, this reaction strategy was taken as another important indicator of the acquisition of communicative competence.

The analysis of this section was based on the students who paused longer than seven seconds, with 10 students in the control group and eight students in the experimental group.

The comparisons of the strategic competence with regard to how one responded to one's own silence were illustrated in Table 4.13.

Table 4.13 Reactions to One's Own Silence

Strategic competence II (unit: person)		
Reactions to one's own silence	Control(n= 10)	Experimental(n= 8)
A. Smiling and saying "I am sorry"	1	6
B. Smiling without saying anything	0	1
C. Looking nervously at their partner and saying nothing	3	1
D. Looking at one's feet without saying anything	6	0

These four reactions were listed according to their appropriateness and the degree of effort to maintain the conversation. The best choice for these EFL learners at such beginning level seemed to be smiling and saying "I am sorry." The second best choice was a simple smile as a sign of begging for forgiveness. The third alternative was looking at the partners without saying anything. The least desirable reaction was complete avoidance by lowering one's head without saying anything.

The first three reactions still showed some signs of effort to maintain the communication. They varied in the degree of their appropriateness. The last one was a sign of total resignation to fix the conversation. The door of communication was entirely shut with the last reaction.

In the analysis of the eight students in the experimental group who caused communication breakdown during their conversation with their partners, Table 4.13 showed that six of them said, "I am sorry," to their partners with smiles. As a sharp contrast, there was only one student out of ten that managed to say, "I am sorry" in the control group. Three students looked at their partners nervously without saying anything. And six of them simply lowered their heads silently. These six students' partners were the same six persons listed in Table 4.12 who gave up their task due to their partners' silence.

Figure 4.3 showed the comparisons of the control group and the experimental group's reactions to their own silence.

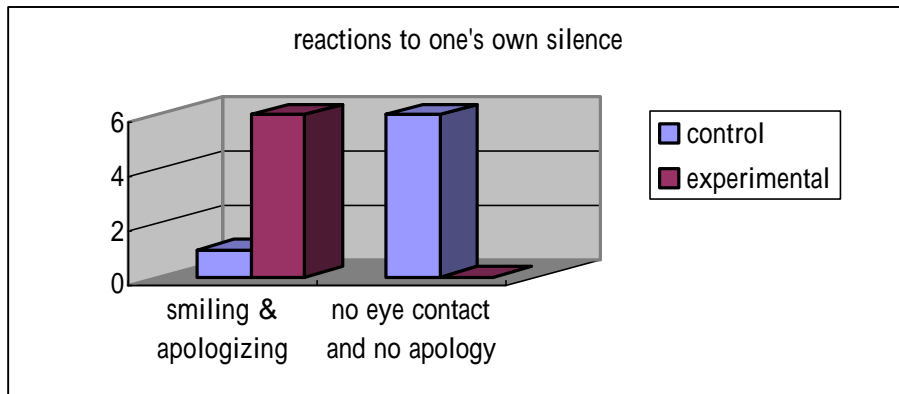


Figure 4.3 Reactions to One's Own Silence

4.1.4 Non-verbal Communicative Competence

The students' oral performance was analyzed to check if the non-verbal language behavior showed any difference between the two groups of students after the intervention of cooperative learning. The items examined in this section included (1) eye contact, (2) smile, and (3) conversational distance with partners. The results were presented in Table 4.14.

Table 4.14 Comparisons of Non-verbal Communicative Competence¹⁸

Items	Control group	Experimental group
1. Eye contact	7	15
2. Smile	1	10
3. Conversational Distance		
a. Beyond 90 cm	7	1
b. Appropriate: 60-90 cm	7	13
c. Less than 50 cm	1	1

As shown in Table 4.14, 15 out of 15 total pairs of the students displayed natural eye contact while performing the oral task. On the contrary, only half of the students (7 out of a total of 15 total pairs) looked at their partners while performing the oral task in the control group. In other words, almost half of the students in the control group either looked at their feet or looked around the classroom.

Besides the display of eye contact, another important facial expression of smile that was also helpful to face-to-face communication was under investigation.

¹⁸ The units of frequency in this table are based on occurrence appeared in each pair. For example, if there is one occurrence of eye contact in Pair One/Control Group, it will be marked "1." If there is more than one occurrence of eye contact in the same pair, the frequency is still "1."

Though the students were very nervous while performing the dialogue in front of the whole class, there were still 10 pairs out of a total of 15 pairs in the experimental group who did not forget to smile at their conversation partners. On the other hand, there was only one pair in the control group that smiled while presenting their dialogues. Without the facial expression of smiling, most of the dialogues in the control group seemed rather rigid and unfriendly.

The last item scrutinized was the distance the participants kept while talking to their partners. There were 13 pairs in the experimental group that kept appropriate distance within 60 to 90 centimeters, but only seven pairs in the control group stood within such distance. Figure 4.4 was a summary of comparison on the three non-verbal aspects of communicative competence between the experimental and the control groups.

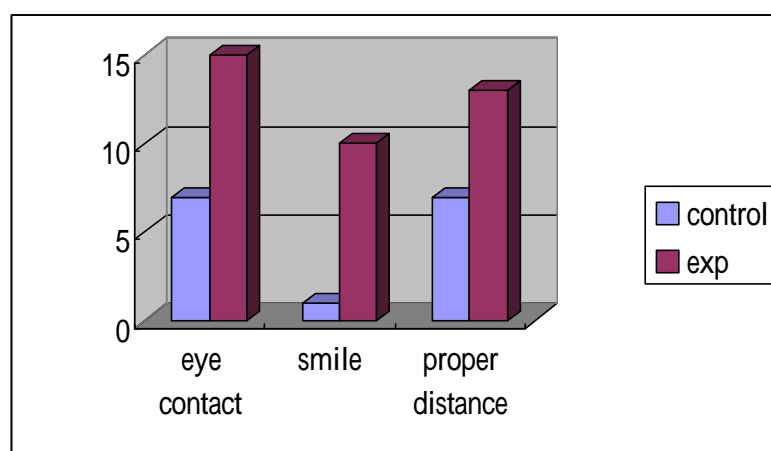


Figure 4.4 Inter-group Comparisons of Non-verbal Communicative Competence

4.1.5 Results of the Monthly Achievement Tests

The scores of the three school-wide monthly examinations were analyzed through the Independent Samples Test to compare the inter-group differences.

Table 4.15 Independent Samples Test of 3 Monthly Achievement Tests

Monthly Examinations	Exp	Control	MD	n	t	p
1 st	63.28	60.71	2.57	35	.29	.77
2 nd	74.42	72.62	1.80	35	.26	.79
3 rd	71.28	63.37	7.91	35	1.16	.24

As shown in Table 4.15, the control group did not perform significantly better than the experimental group on the structure-based achievement tests throughout the three school monthly examinations ($p > .05$). Actually, the mean score of the experimental group was higher than the control group on the first and the third examination. The mean differences of the first and the second monthly examinations between the two groups were less than three points (2.57 on the first monthly examination and 1.80 on the second one). But the experimental group scored 7.91 more than the control group on the third monthly examination. That is to say, the experimental group performed as well as the control group on the structure-based written achievement tests.

4.1.6 Results of Rater Interview

For the purpose of *triangulation*, the eight raters who evaluated the oral performance in this study were interviewed individually for their opinions about the inter- and intra-group comparisons of the two groups. Right after they turned in the scoring sheets of the oral performance on the post-test, the eight raters were interviewed individually for their comments and comparisons on the students' oral performance. There were two major categories that these raters reflected upon. The first category fell into the observation of the non-verbal features that the students displayed. The second category belonged to the students' reaction to communication breakdown.

4.1.6.1 *Non-verbal Oral Communicative Competence*

The results from the rater interview were presented from the raters' comments on the control group first. There were two major concerns about the control group. The first one was about the non-verbal aspects of communicative competence, which included eye contact, smile, and appropriate conversational distance. The raters thought that the students' performance tended to be rather rigid and unfriendly due to

lack of smile, eye contact, and appropriate conversational distance. Here are some of the excerpts¹⁹ of their recollection:

- They [control group] were definitely worse than their pre-test performance. I liked their pre-test performance much better than this one. They were able to smile spontaneously last time [pre-test]. Why did they become so nervous this time? It seemed to me that they were not talking to their friends, but to their enemies. Why didn't they at least show some smiles to their partners? (Ms. Wang)
- They were more lively and spontaneous in the pre-test. How come they became so rigid and they looked like they were reciting rather than talking to someone? They hardly looked at their partners. It seemed to me that they were talking to their feet instead of talking to human beings. (Ms. Cheng)
- They gave me the feeling that they were very, very nervous. Even more nervous than when they were in their pre-test. There was hardly any eye contact during their performance in the post-test. (Ms. Chuang)
- I am very surprised to see that they were so tense and unnatural while talking to their partners. They were not this nervous last time [pre-test]. Their nervousness made me very uneasy. (Ms. Lee)
- Why did they stand so far away from each other? Why? Did their classmates bite? (Ms. Hsu)

¹⁹ The interview was done in Chinese. The excerpts were translated into English by the researcher.

- They stood so far away as if they were eager to say good-bye to their partners. It seemed to me that they did not want to talk at all.
(Ms. Tsai)
- Where did their smiles and feelings go? I felt that there was hardly any feeling in their voices and facial expressions. (Ms. Chu)

As a sharp contrast to the dissatisfaction the raters expressed about the control group, they were excited about the display of the non-verbal features of the oral communicative competence that included eye contact, smile, and proper distance identified in the experimental group:

- Their conversation was like real-life dialogue. Their facial expressions were so real and natural. Besides, the distance they kept from each other seemed more natural to me, not too far and not too close. If my memory served me well, I think they stood farther away from each other during the pre-test oral task. But this time, it seemed more natural to me. (Ms. Hsu)
- They seemed to be more fluent and natural than last time. They looked at each other and smiled at each other like they were really talking to good friends. I like this kind of feelings. (Ms. Cheng)
- Their conversation was full of life and emotion on the post-test.
(Ms. Wang)

4.1.6.2 Strategic Competence

Another category of comments they made on the experimental group belonged to the strategic competence, as defined in Chapter One. First of all, many of the raters were surprised at the students' resigning attitude in the control group:

- I was wondering how come so many students simply gave up the

whole task of oral performance whenever their partners forgot what to say? Why didn't they at least try to give their partners some cues or some hints? Or at least they could have finished the task by themselves without their partners' line. They just stood there and did nothing. The long silence during the oral performance really made me uncomfortable. I felt nervous for them. (Ms. Wang)

- Wow! They just gave up like that? Did they care or not? (Ms. Chuang)

In addition to the two quotes from Ms. Wang and Ms. Chuang, the other six raters also expressed the similar comments. These raters' recollections on the performance of the control group were similar to the findings from the analyses presented in sections 4.1.3 and 4.1.4.

As a contrast, most of the raters were impressed with the students' efforts to maintain the dialogues in spite of the uncomfortable silence:

- I saw them trying hard to rescue their partners who forgot what to say. They either murmured some lines for their partners, or even asked questions to remind their partners. I was impressed with their ability to solve problems whenever there was any during their performance. (Ms. Lee)
- I was touched when I saw some students who apologized when they forgot what to say. I think they must have learned some communication skills in the past two months. (Ms. Tsai)
- I felt that these students were more persistent to complete their task. Whenever there was trouble, I could see their efforts to maintain their talk. They did not give in to communication breakdown easily. (Ms. Cheng)

4.2 Effects of Cooperative Learning and Motivation

In addition to the examination of the effects of cooperative learning on the students' language learning in terms of the four aspects of communicative competence and the results of the school monthly achievement tests presented above, the effects of cooperative learning on the students' motivational change toward learning English as a foreign language before and after the study were also examined in this section. Like the investigation of the students' language learning analyzed above, the examination of the students' motivational change was also made with the inter- and the intra-group comparisons.

4.2.1 Results of Motivational Questionnaire

The first comparison of motivational change was on the intra-group analysis in the experimental group. As shown in Table 4.16, the experimental group gained significant improvement in their motivation toward learning English after the intervention of cooperative learning for one semester.

As a contrast to the significant gain in the experimental group ($p < .01$), there was no significant difference identified in the control group in terms of motivational change ($p > .05$), as shown in Table 4.16.

Table 4.16 Paired Samples Test of Motivational Change in Both Groups (N=70)

	Pre	Post	n	MD	t	p
Experimental	60.95	65.00	35	4.05	2.27	.00**
Control	57.12	58.14	35	1.02	.363	.719

** $p < .01$

The Independent Samples Test was performed to compare the inter-group differences in the students' motivation toward learning English. As Table 4.17 indicated, there was no significant difference between the two groups of students in their motivation toward learning English in the pre-test of the motivational questionnaire. But there was a significant difference between the two groups in the

post-test questionnaires on their motivation toward learning English.

Table 4.17 Independent Samples Test of Motivational Change (N=70)

	Exp	Control	n	MD	t	p
Pre	60.95	57.12	35	3.82	1.21	.22
Post	65.00	58.14	35	6.86	2.15	.03*

* $p < .05$

According to Table 4.17, the score of the pre-test of the motivational questionnaire of the experimental group was 60.95 and that of the control group was 57.12. The mean difference between the two groups was not statistically significant ($p = .22$). After the intervention of cooperative learning for one semester, the mean difference between the two groups in the post-test was 6.86, as shown in Table 4.17. Such a mean difference was statistically significant ($p = .03$).

In sum, the results of the inter- and the intra-group comparisons of the motivational questionnaire indicated that the experimental group gained significantly in terms of their motivation toward learning English as a foreign language.

4.2.2 Results of Teacher Interview on Students' Motivation

Part of the rater interview was related to the students' motivation toward learning, especially the raters' observation about the experimental group that was not identified in the control group. The raters' recollection responded to the quantitative findings of the motivational questionnaire presented above. Some of the raters mentioned something valuable that they did not find in the control group: the application of previous knowledge that the students demonstrated in the experimental group. As English teachers, they were particular delighted to find some students using expressions or words they learned from previous lessons or from other learning materials than their textbooks. As Ms. Tsai mentioned, the students in the experimental group applied what they learned in the previous lessons to their dialogues on the post-test, like "long time no see," the names of animals, seasons, and

food. She was very happy to see that some of the students were able to apply the expressions learned from previous lessons or from *Let's talk in English*.

- I saw the application of what they learned outside the classroom to their performance this time. I felt that they really liked English. Some students used the words from the menu of the McDonald's, like 'nuggets' and 'milk shake' in their dialogues. It seemed to me that they were keen on English—even after class. I see real motivation here. (Ms. Chu)

4.2.3 Ms. Lee's Reflections

Ms. Lee was also interviewed about her reflections upon the experimental group. Some of her reflection helped to explain the statistical gain of the motivational questionnaire of the experimental group.

First of all, she thought that cooperative learning helped her students to be attentive in class. She enjoyed this class because almost all of the students were attentive and engaged in class. She said:

- I felt more relaxed and encouraged to teach this class [experimental group]. I did not have to spend a lot of time on classroom management. Because we had so many group activities going on in each class, the students became more and more creative, spontaneous, and most of all, attentive. Almost all of the students were on-task and engaged in class. There was hardly any students falling asleep, dozing off, or being absent-minded. I guess the group activities and the well-defined role assignment for each of them kept them very busy. They did not have time to "fool around" in class. (Ms. Lee's oral reflection made on June 01, 2001)

Ms. Lee also mentioned that she learned a lot from the experimental group

because of the execution of group presentation and group designing of vocabulary cards. During the time frame for the experiment, each group was to share some of the learning responsibilities in class that used to be solely the teacher's job. Because the students were supposed to share the learning responsibilities, they got the opportunities to exhibit their sub-culture in the classroom. Ms. Lee said that she learned a lot from her students' presentations:

- I never realized that teaching could be so enlightening and relaxing when my students started to share the learning and teaching responsibilities by drawing the vocabulary cards, working out group presentations, and most of all, the role play of the dialogue. I never realized that students could do so much on their own. Sometimes I learned a lot from the way they presented the teaching materials designed by them. I was thinking that I might never be as creative as they were. They were more sensitive to the blind spots or learning difficulties of their classmates' than me. And they could use their own language to solve those problems for their classmates. For example, they drew their favorite comic figures in the worksheet to practice the dialogue. I never thought of that before. I did not know the magic power of those comic figures. The worksheets I designed were not as attractive as theirs. And the vocabulary cards they drew were so funny and full of their own sub-culture They proved that they had more potential than I expected. (Ms. Lee's oral reflection made on June 01, 2001)

As for the comments on the control group, her observations explained why the control group did not perform as well as the experimental group. She felt drained in the class because she was the only one to shoulder all teaching/learning

responsibilities in this class. She had to do all the work by herself: trying hard to elicit student talk by appointing some students to talk and trying hard to maintain students' attention. She said:

- About two thirds of the students were afraid to talk in class. I had to try very hard to elicit their talk, sometimes by appointing someone to answer the questions. They were very passive and quiet. Maybe it was because they sat individually facing each other's back and that made them feel uneasy or insecure to talk. They were more anxious about making mistakes in front of the whole class. The role-play of the dialogue was therefore more mechanic and rigid. There was hardly any student-student interaction in and after class in this traditional learning context . . . In such traditional classroom, I felt separated from my students . . . I needed to call so many students' names to get their attention back to class. Many of them fell asleep or started daydreaming in the middle of class while I was lecturing. (Ms. Lee's oral reflection made on June 01, 2001)

Ms. Lee's impressions about the students' passivity and difficulty of paying attention in class in the control group might serve as a good explanation of why the control group did not gain significant difference in the motivational questionnaire.

4.3 Effects of Cooperative Learning on High/Low Achievers

The effects of cooperative learning on the high- and low-achievers were examined from four angles: (1) grades of the three monthly examinations, (2) scores of the oral task, (3) Ms. Lee's observation, and (4) the student interview.

4.3.1 Results of Three Monthly Examinations

According to the students' grade reports from the previous semester, there were 12 students whose average scores in the subject of English exceeded 90 in the experimental group and 13 in the control group. As defined in Chapter One, high-achievers were the students who scored over 90 in English. For the convenience of comparison, 12 high achievers in the control group were randomly selected to compare with the 12 high-achievers in the experimental group. There were nine under-achievers who scored below 40 in the experimental group and nine in the control group. In order to examine if cooperative learning would reduce the high-achievers' academic achievements, as many teachers worried, Independent Samples Test were utilized to compare the scores of the three monthly examinations of the high- and low-achievers in both groups. The results were illustrated in Table 4.18.

Table 4.18 Independent Samples Test of High-Achievers' Achievement Tests

Monthly Exams	High/Exp	High/Control	MD	n	t	p
1 st	95.66	95.75	-0.09	12	-.069	.946
2 nd	97.50	95.83	1.67	12	.974	.341
3 rd	86.41	88.41	-2	12	-.405	.689

As shown in Table 4.18, the high-achievers in the control group did not perform significantly better than those in the experimental group in the structure-based school monthly examinations ($p > .05$).

The scores of the three monthly examinations of the nine low-achievers in both groups were also computed through the Independent Samples Test to compare the inter-group differences. The results, as shown in Table 4.19, indicated that the low-achievers in the control group did not achieve significantly better than those in the experimental group.

Table 4.19 Independent Samples Test of Low-Achievers' Achievement Tests

Monthly Exams	Low/Exp	Low/Control	MD	n	t	p
1 st	18.33	8.44	9.88	9	2.05	.054

2 nd	43.91	33.44	10.47	9	1.04	.300
3 rd	43.25	23.55	19.69	9	2.02	.057

Both the high- and low-achievers in the control group did not perform significantly better than those in the experimental group, as shown in Tables 4.18 and 4.19.

4.3.2 Results of Oral Task

In order to investigate the inter-group differences in the students' oral performance, the average of each of the five grading items, i.e. appropriateness (20%), vocabulary (20%), grammar (20%), intelligibility (20%), and fluency (20%) was computed and compared. The results were shown in Table 4.20.

Table 4.20 Independent Samples Test of High-Achievers' Oral Performance

Oral Task	Experimental	Control	MD	n	t	p
Pre-test	13.77	14.33	-.56	30	-1.06	.29
Post-test	17.16	15.00	2.16	30	7.13	.00**

** p < .01

According to Table 4.20, the high achievers in the experimental group scored slightly less than those in the control group in the pre-test. The high-achievers in the experimental group scored 13.77 while those in the control group scored 14.33 on the average of the five grading criteria in the pre-test. The difference was not significant (p= .29). But the high-achievers scored significantly higher (p= .00) than those in the control group in the post-test. The score of the post oral task in the experimental group was 17.16, while that of the control group was 15.00. The mean difference of 2.16 was statistically significant (p < .05).

Likewise, the average of the five grading criteria was also computed using the Independent Samples Test to compare the inter-group differences of the low-achievers' oral performance in both groups, as shown in Table 4.21.

Table 4.21 Independent Samples Test of Low-Achievers' Oral Performance

Oral Task	Experimental	Control	MD	n	t	P
Pre-test	8.78	9.00	-.21	20	-.41	.67
Post-test	13.47	9.26	4.2	20	9.15	.00**

** p < .01

According to Table 4.21, the low-achievers in the experimental group scored slightly lower than those in the control group on the pre-test, with the mean difference of -0.21, and the p-value of .67. But the low-achievers in the experimental group scored significantly higher than those in the control group ($p = .00$) on the post-test. In other words, both the high- and low-achievers' oral proficiency in the experimental group improved significantly after the intervention of cooperative learning, while those in the experimental group remained almost the same.

In addition to comparing the average scores of the oral task between the two groups, the Paired Samples Test was computed to examine the intra-group improvement on each of the five grading items. As shown in Table 4.22, the high-achievers in the experimental group gained significantly ($p < .00$) in the post-test oral task on all of the five items of the grading criteria. In other words, the high-achievers made statistically significant improvement on the appropriateness, vocabulary, grammar, intelligibility, and fluency.

Table 4.22 Paired Samples Statistics of High Achievers in Experimental Group

N=12	Pre	Post	M	SD	t	p
Appropriateness	13.66	16.83	3.16	.93	11.70	.00**
Vocabulary	14.66	18.00	3.33	2.67	4.31	.00**
Grammar	12.83	17.66	4.83	2.12	7.88	.00**
Intelligibility	13.16	16.83	3.66	1.15	11.00	.00**
Fluency	14.50	16.50	2.00	1.90	3.63	.00**

As a sharp contrast, the high achievers in the control group gained significantly only on the item of grammar, as shown in Table 4.23. The score of the pre-test was 13.00 and that of the post-test was 15.33. The p-value was .00. However, the other four items, i.e., appropriateness, vocabulary, intelligibility, and fluency, did not show any sign of significant improvement on the post-test.

Table 4.23 Paired Sample Statistics of High Achievers in Control Group

N=12	Pre	Post	M	SD	t	p
Appropriateness	14.83	14.66	-.16	1.85	-.312	.76
Vocabulary	14.33	14.50	.16	1.40	.41	.68
Grammar	13.00	15.33	2.33	2.22	3.62	.00**
Intelligibility	14.50	13.50	1.00	2.89	1.19	.25
Fluency	16.00	16.00	.00	2.08	.00	1.00

The low-achievers, like the high-achievers, in the experimental group also gained significantly ($p < .00$) on all of the five items on the grading criteria of the oral task, as shown in Table 4.24.

Table 4.24 Paired Sample Statistics of Low Achievers in Experimental Group

N=8	Pre	Post	M	SD	t	p
Appropriateness	10.50	13.75	3.25	.88	10.37	.00**
Vocabulary	7.75	13.50	5.75	1.16	13.96	.00**
Grammar	8.50	14.00	5.50	1.19	13.01	.00**
Intelligibility	8.50	12.50	4.00	1.30	8.64	.00**
Fluency	8.50	13.25	4.75	1.98	6.78	.00**

As a sharp contrast to the significant gains on all of the five criteria made by the low achievers in the experimental group, the low-achievers in the control group did not make any progress in terms of their oral performance, as illustrated in Table 4.25. Without making any significant progress, the score on fluency was even reduced significantly in the post-test, as shown in Table 4.25. The low-achievers in the control group scored 11.00 on the item of fluency in the pre-test, but dropped to 8.00 in the post-test. The mean difference between the pre-test and the post-test was a statistically significant ($p < .00$) drop.

Table 4.25 Paired Sample Statistics of Low Achievers in Control Group

N=8	Pre	Post	M	SD	t	P
Appropriateness	7.75	8.50	.75	2.31	.917	.39
Vocabulary	9.25	8.50	-.75	1.90	-1.11	.30
Grammar	10.25	10.25	.00	.75	.00	1.00
Intelligibility	8.50	8.50	.00	1.06	.00	1.00
Fluency	11.00	8.00	-3.00	2.26	-3.74	.00**

4.3.3 Ms. Lee' s Reflection

In order to triangulate the statistical findings presented in the oral test scores and the school monthly examinations, Ms. Lee was interviewed for her observation of the high- and low- achievers in the experimental class. Ms. Lee' s reflection complimented the positive statistical results presented in the previous sections.

Ms. Lee also noticed some positive effects of academic achievements and motivation on the low-achievers as well as the high-achievers in the experimental group. She said that both the high- and the low-achievers in the experimental group were eager to speak English in class; especially the low-achievers who never scored over 40 in the monthly examinations were enthusiastic to speak English in class. The high-achievers did not show signs of impatience because they had to work with low-achievers in the same groups. Instead, the high-achievers were motivated to explore English other than their textbooks. According to Ms. Lee, the high-achievers in the experimental group started to read some English newspapers or listen to some broadcasting EFL teaching programs, like *Let' s Talk in English*. According to Ms. Lee, the students in the experimental group were:

- Active to participate in group discussion and eager to share their opinions. The low-achievers who always failed the written tests in the monthly examinations were eager to speak English in class. Whenever they spoke, they could earn some points for their groups. They found self-esteem in themselves because they were able to contribute to their groups by speaking English. They were not able to achieve this part if taught otherwise. What' s more, the high-achievers were motivated to study English other than their textbooks. They [high-achievers] often asked me questions they

found in English newspapers or in *Let's talk in English*²⁰. They [high-achievers] began to go beyond the scope of their English textbooks. Sometimes they applied what they learned outside the classroom to their group performance in class. I guess it gave them sense of accomplishment. (Ms. Lee's oral reflection made on June 01, 2001)

From Ms. Lee's reflections, it seemed that both the high- and low-achievers in the experimental group were able to progress at their own pace and at the same time, helped one other grow and learn in their groups.

4.3.4 Results of Student Interview

According to the interview with four high-achievers and four low-achievers from the experimental group, the results explored further the reasons to account for the statistically significant gain in their oral performance and in the motivational questionnaire survey. As stated by the students in the experimental group, there were four categories of the effects of cooperative learning that contributed to the enhancement of their motivation toward learning English, which included: (1) the use of positive reinforcement techniques, (2) the techniques of building individual accountability, (3) supportive learning context, and (4) individual needs addressed in such learning context.

First of all, the students expressed positive feelings about cooperative learning because they enjoyed the team spirit that either helped them grow as persons or helped them become attentive in class. Both the low- and high-achievers all enjoyed cooperative learning to such an extent that some of them even wanted to implement cooperative learning in their class meetings. The informants reported that they

²⁰ *Let's Talk in English* is a broadcasting English teaching program for entry-level EFL learners in Taiwan.

wished that they were able to apply some of the techniques of cooperative learning like the Mountain Climbing Chart or the thank-you-note writing to other classes:

- I think we should also use cooperative learning in our class meeting. We should also sit in groups and have the cooperative learning structure and activities in our class meeting. It would be better if we could also have the Mountain Climbing Chart during the class meeting. I am really fond of the Mountain Climbing Chart.
(Subject 29, High-achiever)
- I liked the ‘thank you note’ activity very much. It was a great pleasure to be thanked and acknowledged by someone in class, even for a slight favor I used to look at my classmates’ drawbacks and shortcomings until our teacher asked us to write a little ‘thank you note’ at the end of each class. I had to try very hard to think about their strength and good points in the beginning But after I had been thanked for many tiny things I had done in class, I learned the tricksI think we should also try to write some ‘thank you notes’ in our class meetings. (Subject 27, High-achiever)
- I felt happy when one of my teammates thanked me for lending him my pen in his ‘thank-you-note.’ I had plenty of pens. It was no big deal to me. But, I was still flattered when he actually thanked me in class. I wish our Math teacher could do this too in his class.
(Subject 02, low-achiever)
- I think I will become a good teacher in the future because I could help my teammates memorize the vocabulary faster and more easily than our teacher. And I am often thanked by other group members in their “thank-you-notes”(Subject 04, High-achiever)

- I never realized that I could also contribute to my group by one way or another. I liked the Mountain Climbing Chart very much. I always paid attention to every opportunity that I might earn some points for our group. Even though my English was not good enough, I always raised my hand first when Ms. Lee asked us questions. I spoke English loudly and I did earn some points for our group. I felt that my classmates started to respect me. I hope that the other teachers who teach other courses could also encourage us in the same way as our English teacher does. (Subject E 03, Low-achiever)

Some students mentioned that learning in cooperative context restored their self-esteem and self-confidence:

- I was very happy that I could contribute something to my group. (Subject E 02, low-achiever)
- I think I become more confident through cooperative learning. I know that I can present with my group members in front of the whole class. I never realized that I was able to talk and to teach some new words to my classmates on the platform until this semester when our English teacher started this new way of teaching. I like it a lot. I used to consider myself an idiot who could never accomplish anything. (Subject 21, low-achiever)
- I felt more confident about myself after so many group presentations on the stage. I never realized that I was able to make my classmates laugh while explaining the vocabulary. I like to draw pictures for the English words. I think my classmates liked my drawing a lot. And I was happy that I was able to earn extra points

for my group because of my art talent. (Subject 33, low-achiever)

- I felt more courageous to speak English in class. I think I have become more fluent and more competent to express myself. I felt less nervous because I knew I was not alone in this class. I felt more courageous to talk, to explore, and even to make mistakes.

(Subject 27, high-achiever)

- My friends in other classes envied me for being able to read some English newspaper. Reading English newspaper in groups was not that difficult as they thought. Our recorder brought the dictionary to class every day and we liked to look up the new words. I like to learn some new words outside our textbook. But I don't think I will read any English newspapers without the help of my group members. (Subject 04, high-achiever)

Another important factor that might contribute to their motivation was that they felt freely to ask questions of their group members.

- I felt more comfortable clarifying some misconceptions with my group members now. I was too shy to ask our teacher any questions before. I used to keep all the questions in my mind until I was overwhelmed. But now with cooperative learning, I was able to clarify any questions I had in my group. English became less difficult to me. (Subject 21, low-achiever)
- It was easy for me to ask questions of my classmates instead of my teacher. I never asked our teacher any questions. But in fact, I did have a lot of questions. Now, sitting with my group members, there was always someone in our group that could solve my problems. I was not shy to ask my classmates questions.

Learning was not as threatening as it used to be when I was learning all by myself. (Subject E 33, low-achiever)

Last but not least, some students thought that cooperative learning catered to their distinct learning style and that helped them remain on task in class, especially the students with kinesthetic learning style. Students who used to have difficulty concentrating on the teacher's lecture could engage themselves on task with cooperative learning. Cooperative learning helped them concentrate because they were allowed to move around the classroom during the various in-class activities. And they were no longer required to sit still and listen to the teacher's lecture for as long as forty minutes. Some students mentioned that:

- Of course I like cooperative learning. I used to doze off when our teacher had talked for more than twenty minutes . . . With cooperative learning, our teacher did not talk all the time during class period. And she would ask us to do something else for a change. It was easier for me to keep awake with various activities going on in class, especially when our group needed to perform on that day . . . I liked to have chances to stand up and move around to the stage. The movement kept me awake. I seldom dozed off since our teacher asked us to study in groups . . . It did help me pay attention to what's going on in class. (Subject 29, high-achiever)
- I like cooperative learning because I was entitled to walk around the classroom when our group was in charge of the presentation. I was the observer who had to walk around the classroom and checked on each classmate's worksheet. I liked to move around. I guess I am the so-called hyperactive student. I just don't like to sit still for a long time . . . So, I like cooperative learning very much. I like to

see some change going on in the classroom. It was very boring sitting and listening to the teacher's lecture all the time like what we did last semester. I wish that we can study English this way in the second year. (Subject 34, low-achiever)

- Our teacher seldom scolded me this semester. I was scolded almost in every class before . . . Whenever I made some noise, our teacher would stop her lecture and asked me to be quiet. You know, it was very boring listening to the teacher talking and talking. I did not understand what she said. There was nothing I could do in class. When I got bored, I started flipping over my drawer, swinging my pen, playing with my lighter or anything I could get hold of. And then I was blamed for making big noise . . . Our classmates really made me laugh. I like the song making and the pictures they drew for the vocabulary. (Subject 02, low-achiever)
- I liked the Inside-Outside Circle very much. We got the chance to move clockwise while practicing the dialogues. It was fun and always made me laugh. I liked being able to move and to learn at the same time. I felt that our English class was dynamic, not static. I did not need to sit quietly in my own seat all the time. (Subject 04, high-achiever)

These students' reflections indicated that they really enjoyed learning in the cooperative context. They found strength from within their groups as they developed more and more self-esteem and self-confidence by being able to contribute at least something to their own groups. Strength also stemmed from their groups when they got help and support from their teammates.

4.5 Summary of the Results

In this chapter, both the quantitative and the qualitative findings were presented to answer the research questions on (1) the effects of cooperative learning on the improvement of the EFL learners' language ability in terms of the oral communicative competence and the school monthly achievement tests, (2) the effects of cooperative learning on the EFL learners' motivation toward learning English as a foreign language, and (3) the effects of cooperative learning on the high- and low- achievers in a heterogeneous class. The results were summarized as follows:

1. The experimental group scored significantly higher than the control group in terms of linguistic competence ($p=.00$). The experimental group also gained significantly in the intra-group analysis of linguistic competence ($p=.00$), while there was no significant gain identified in the control group ($p=.76$). In addition to the comparison of the total scores, each score from the five grading criteria was also compared for inter- and intra-group analysis. The experimental group gained significantly on all of the five grading criteria (appropriateness, vocabulary, grammar, intelligibility, and fluency) while the control group only gained significantly on the items of grammar and fluency.

2. The experimental group demonstrated better discourse competence by employing more discourse markers of openings, transitions, and pre-closings in their dialogues. Besides, the overall length of pause was shorter in experimental group than that in the control group.

3. The experimental group outdid the control group in strategic competence by showing more verbal and nonverbal strategies to fix the communication breakdown occurred during their oral performance.

4. The experimental group demonstrated better non-verbal competence by

displaying more eye contact and smile during their oral performance. In addition, there were 13 students in the experimental group who kept appropriate conversational distance within 60-90 centimeters while there were only seven in the control group that did so.

5. No significant differences were identified in the three school-wide monthly examinations between the experimental group and the control group. In other words, the implementation of cooperative learning did not reduce the students' academic achievements in the structure-based school monthly tests, as many teachers were worried.

6. The experimental group gained significantly in terms of motivational change toward learning English before and after the study. There was no such significant difference identified in the control group.

7. In addition to the whole-group comparisons, the 12 high-achievers and the nine low-achievers in both groups were also investigated on their performance in the three school monthly examinations and the oral tasks. The results showed that the high-achievers in the control group did not perform significantly higher than those in the experimental group in the structure-based school monthly examinations ($p > .05$). On the other hand, the high-achievers in the experimental group performed significantly better in the post-oral task than those in the control group ($p < .00$). Likewise, the low-achievers in the control group did not score significantly higher than those in the experimental group in the three monthly examinations ($p > .05$). However, the low-achievers in the experimental group did score significantly better than those in the control group in the post-oral test ($p < .05$). Such results suggested that both the high- and low-achievers in the experimental group progressed significantly in their oral communicative competence while maintaining the similar academic achievements in the school-wide monthly examinations.

CHAPTER FIVE

DISCUSSIONS, CONCLUSIONS, AND IMPLICATIONS

The results presented in Chapter Four suggest that the students studying in the cooperative context outperform the students in the control group who study English in the traditional method. The effects of cooperative learning seem salient in enhancing the EFL junior high school students' language learning, especially their communicative competence, and motivation toward learning English as a foreign language. The high- and low-achievers are able to grow at their own pace, and, at the same time, contribute to their peers' learning. The results yielded in this study will be discussed according to the research questions:

1. What are the effects of cooperative learning on the improvement of the EFL learners' language learning in terms of communicative competence and the school monthly achievement tests?
2. What are the effects of cooperative learning on the EFL learners' motivation toward learning English as a foreign language?
3. What are the effects of cooperative learning on the high/low achievers in a heterogeneous class?

Based upon the findings discussed, guidelines of implementing cooperative learning are thus proposed and conclusions are drawn. The pedagogical implications, limitations of the present study, and suggestions for further research are also included in this chapter.

5.1 Effects of Cooperative Learning and Language Learning

The significant gains of the experimental group on the interaction-based oral task supported Brown's (1994) and Kagan's (1995) views that cooperative learning was actually a practice that could put the communicative approach into action. Due to the socially oriented lessons taught and learned through small group interaction, the students in the experimental group were able to demonstrate better, and significantly better, linguistic competence, discourse competence, strategic competence, and non-verbal communicative competence than the control group. Such findings were congruent with Wei's (1997) claim that cooperative learning was considered the most and the best instructional format enhancing learner's communicative competence.

The possible reasons to account for the significant gains in the experimental group in terms of their improvement in the four aspects of the oral communicative competence could be synthesized into the following categories: (1) the increase of student talk through comprehensible input, interaction, and output; (2) the incentive structures of positive reinforcement; and (3) the supportive and communicative learning context. These three mechanisms of cooperative learning seemed to contribute to the students' oral communicative competence, as demonstrated in the results of this study.

In a cooperative learning context, there were many interactive tasks that would naturally stimulate the students' cognitive, linguistic, and social abilities. Cooperative activities tended to integrate the acquisition of these skills and create powerful learning opportunities. As Wei (1997) stated, interactions between more than two persons were the necessities for effective communication activities and oral practice.

The experimental group was endowed with more opportunities to actually

practice the target language in class through many of the student-centered activities. Almost in each lesson, the students were asked to practice and perform the dialogues in the textbook with their talk pairs who sat in front of them until they could talk freely without referring back to their textbooks. The frequent practice of the dialogues with talk-pairs and the Inside-Outside Circle might be an important factor contributing to the students' acquisition of oral communicative competence. And both the self-correction and the peer-correction occurred during the student-centered activities also contributed to encourage the active roles of the students.

The inter- and intra-group significant gains of the oral tasks in the experimental group, as shown in Table 4.3 and Table 4.4, corresponded to the three arguments suggested by Liang (1996): (1) group work helped students to overcome the anxiety of speaking a foreign language because speaking with a peer is less threatening than speaking to a teacher in front of the whole class; (2) group activities gave students more opportunities to use the target language; (3) working in a group could largely reduce the anxiety of speaking a foreign language in class. Thus, the quality of communication of the experimental group was better than that in the control group. And the amount of student-talk was further maximized by activities that involved pair work and group work, which engaged all the students in speaking.

Almost up to 80 percent of the class time in the experimental group was scheduled for activities that included a lot of student talk in the target language. And the student talk was done simultaneously so that almost all of the students were engaged in language production and practice. The student-centered method of cooperative learning helped to increase the active communication for the students in the experimental group.

The increase of student talk in the experimental group indicated that cooperative learning could foster language development through increased active communication

and frequent use of the target language for academic and social purposes (Cohen, 1984; Dörnyei & Malderez, 1997; Kagan, 1995). According to Wei (1997), many of the activities in a cooperative learning language class corresponded to those advocated in the communicative approach. Ghaith and Shaaban (1995) also argued that cooperative learning used in language teaching often “result in higher quality of discourse competence as the students better comprehend each other as well as take opportunities to practice their paralinguistic skills—gestures, facial, and shoulder expressions, and so on (p. 26).”

In other words, in a less threatening learning context as that of cooperative learning, the students in the experimental group were able to demonstrate higher oral classroom participation, which was related to their statistical significant gain in the language proficiency (Lin, 1993; Zhou, 1991; Zhou, 2002), and higher level of peer interaction, which was an essential feature of learning when the learners were in the action of interacting with people in their environment and in cooperation with their peers (Vygotsky, 1978). Such findings of the significant improvement of the students’ oral communicative competence, as shown in Table 4.3, were similar to Bejarano’s (1987) field experiment of the ESL junior high school learners in Israel who studied in cooperative learning performed better on overall English proficiency than the control group.

In addition to the learning of the verbal communicative competence, some non-verbal features of such competence also developed along with the increased amount of student talk. The non-verbal features could reduce or enhance the effects of verbal communication (Upshur, 1979). The non-verbal features of eye contact, smile, and proper conversational distance identified in this study corresponded to Upshur (1979)’s discussion of non-linguistic factors on second language performance tests. As Upshur (1979) observed, sometimes the non-verbal factors can affect the

results of verbal expressions, as discussed in the literature review in Chapter Two.

The experimental group had more opportunities to formally and informally interact with their teacher as well as their peers, and, therefore, had more chances to be corrected by their teacher whenever inappropriate behaviors occurred. With the frequent encounter of new talk pairs through the Inside-Outside Circle, it forced the students in the experimental group to use more facial expressions, hand gestures, or even body language to make them understood than those in the control group.

Being able to display eye contact and smile might be attributed to the reason that the students felt more secured and supportive learning with their peers. Role-playing might not seem as threatening as they experienced in the previous semester when they were isolated learners. The smile might also be an indicator that they started to enjoy English class or they felt more relaxed in the cooperative context. Maybe that was the reason why the experimental group displayed more eye contact and smile during the oral task. Smile could be an essential non-verbal language in communication, especially when some of the students forgot their lines during the oral task. Their partners' smile would be very encouraging and supportive at this critical moment.

It was interesting to note that when the students were able to express verbal apology to their partners, they were able to smile. Smile was the natural body language to accompany that verbal apology. Though unable to utter verbal apology, at least one student from the experimental group still managed to smile to reduce the awkwardness and embarrassment caused by his own silence. It seemed that most students in the experimental group were not totally frightened by the occurrence of communication breakdown. They were, at least, able to keep eye contact with their partners to maintain the communication.

Furthermore, the ratio of appropriate conversational distance was seven against

13 for the control and experimental groups, as shown in Table 4.14. That is to say, only seven pairs in the control group stood within 60 to 90 centimeters, but there were 13 pairs in the experimental group that did so. The most likely explanation could be that the students in the control group did not feel as comfortable talking to their partners as those in the experimental group. Therefore, the control group tended to keep farther distance than the experimental group.

The sense of appropriate talking distance might have gradually developed when the students in the experimental group were endowed with the opportunities to perform the group dialogues in the Inside-Outside Circle for about twelve times during the time span of the experiment. Usually after the students had mastered the dialogue from the textbook with their talk pairs in their own groups, Ms. Lee would ask about 12 or 18 students to the front to form an Inside-Outside Circle to perform the group dialogue without looking at their books. The pairs facing each other from the inside or the outside circle had to either talk from their memory or recreate their lines, if they forgot their own. After they finished the dialogue once, they moved one step to the right or to the left to face a new partner, depending on Ms. Lee's instruction. Each time they faced a new partner, they had to adjust the standing distance with the persons facing them. Ms. Lee would slightly push the pairs closer if she found them standing too far away from each other. From the group role-playing through the Inside-Outside Circle, the participants were exposed to frequent face-to-face interactions not only with their original conversation pairs, but also partners from other groups. Therefore, when they performed the oral task, the experimental group tended to naturally display the non-verbal aspects that they might have acquired from the frequent encounter of peer interaction.

Moreover, whenever the students faced new partners in the Inside-Outside Circle, they had to adjust not only the standing distance, but also the cooperative skills to

complete their task. Maybe that was why most students in the experimental group displayed more cooperative skills and efforts to maintain the communication, like reminding their partners, smiling to encourage, and being able to apologize when silence inevitably occurred.

In addition, the findings of the strategic competence identified in this study realized Wesche's (1985) criteria of performance test. According to Wesche (1985), the criteria used to evaluate oral performance should include adequate fulfillment of the task. The experimental group displayed better skills to fulfill their task than the control group. From the experimental group's reactions to communication breakdown, as shown in Table 4.12, it was obvious to observe that the cooperative learners, compared to the ones in the control group, tended to encourage the success of others and displayed more persistence in completing the tasks. Facing uncomfortable silence, only one out of eight students finally dropped the task in the experimental group, while six out of ten in the control group gave up the task. The persistence in completing the task might have stemmed from the notion of *sink or swim together* and *all for one and one for all*, which was prevalent in another cooperative method of Learning Together.

As discussed in detail in Chapter Three, the techniques used under *Learning Together* in this study included (1) listening to the tape and drawing the content in groups, (2) group summarizing of teacher's lecture, (3) group production and presentation of vocabulary cards, and (4) group song making and singing. Through the method of Learning Together, students were used to perceiving that they could reach their learning goals only if the other students in the learning group also did so.

There was a built-in concern for the common good and the success of others, as the efforts of others also contributed to one's own well-being. This inherent value of commitment to the common goal was displayed in the experimental group's effort to

remind their partners' lines so that they could complete their task, as shown in Table 4.12. There were five students in the experimental group who tried to remind their partners what to say while there was only one in the control group that demonstrated effort to rescue their partner when communication breakdown occurred. Apparently, the participants in the experimental group had acquired the cooperative skills that endowed them to find ways to promote, facilitate, and encourage the efforts of others.

With this inherent value of commitment to common goals, the participants who caused silence due to their own fault in the experimental group still hunted for ways to fix or repair the embarrassing silence by smiling, apologizing, or at least by maintaining eye contact, as illustrated in Table 4.13. Though unable to do anything verbally, they still tried to keep the communication open by other non-verbal strategies like smile and eye contact.

Moreover, the positive reaction to communication breakdown also showed that cooperative learning contributed to enhance the students' accuracy of perspective taking. Social perspective taking is the ability to understand how a situation appears to another person and how that person is reacting cognitively and emotionally to the situation (Johnson & Johnson, 1989a). Cooperative learning experiences here seemed to promote greater cognitive and affective perspective taking in the experimental group than did competitive or traditional learning experiences in the control group.

The opposite of perspective taking is egocentrism, the embeddedness in one's own viewpoint to the extent that one is unaware of others' points of view and of the limitations of one's perspectives (Johnson & Johnson, 1989a). As a sharp contrast to the cooperative behaviors of the experimental group, the control group displayed the egocentrism to a great extent.

The control group, taught in the traditional method, tended to quit the task when

they encountered communication breakdown. Six people out of ten simply dropped the whole task when silence occurred during their partners' turns, as shown in Table 4.12. Little sign of effort to repair the communication could be traced in the control group. It seemed that these students were not in the habit of facilitating and encouraging others, in order to complete a common task together.

More evidence showed in how the participants in the control group reacted to their own silence: six participants completely avoided further contact with their partners by looking at their own feet instead of their partner's eye, as illustrated in Table 4.13. This kind of avoiding attitude and inability to fix one's silence could be attributed to the traditional teacher-centered classroom. Students in the teacher-centered classroom tended to be passive recipients without much training and opportunities to solve problems on their own. As a result, whenever some unexpected problems occurred during their conversation, like the communication breakdown during their oral task, most of them did not know what to do.

The resigning attitude might be possibly caused by the passive and competitive learning climate, which was dominant in most traditional classrooms. When a situation was structured competitively, there was no correlation among participants' goal attainments (Johnson & Johnson, 1989). Each individual perceived that he or she could reach his or her goal regardless of whether other individuals had attained their goals or not. Thus, students tended to seek an outcome that was personally beneficial without concerns for others.

Students exposed to the traditional instructional method might also learn to value the commitment to one's own self-interest and ignore others' success. Because cooperation was not taught and encouraged, one's own success was viewed important while others' achievements was considered irrelevant and sometimes threatening. There was a built-in self-centeredness while ignoring the plight of others (Johnson &

Johnson, 1989). Because these students in the control group perceived that success was independent of others' contribution, they were not ready or not in the habit of helping when their partners were in need of them to complete their oral task.

Being unable to help out when their partners were in need, the students in the control group were also unable to fix their own silence. According to Table 4.13, only one student in the control group was able to smile and say "I am sorry," while six in the experimental group managed to reduce the embarrassment by smiling and saying "I am sorry." This also indicated that the teacher-centered instructional method did not bestow students with the problem solving ability that is highly valued in the current wave of education reform in Taiwan.

Such findings of the resigning attitudes demonstrated in the control group, as illustrated in Table 4.13, echoed Wei (1997)'s observation of college students in Taiwan. According to Wei (1997), college students are becoming more and more ego-centered and selfish without knowing how to get along with peers and work harmoniously with others due to an extremely competitive and defensive educational surrounding in Taiwan. The point is, the college students whom Wei (1997) observed could not possibly become self-centered due to college education. The problem of such undesirable behaviors identified in these college students must have rooted when they were as young as junior high school students, or perhaps even younger. If the purpose of education is to cultivate our students as whole persons with the ability to care, share, respect, communicate, and cooperate, as suggested in the Guidelines of NYJC, then, cooperative learning seems to be a better strategy than the traditional teaching method and should be considered to be implemented since elementary school.

As for the students' academic achievements in the monthly examinations, the results might be a relief for many teachers who were worried that cooperative learning

may hinder the students' progress in structure-based examinations. As shown in Table 4.15, the experiment of cooperative learning in Sunny Junior High School English course, however, did not show any decrease of the students' academic achievements in the school-wide monthly examinations. As a matter of fact, the experimental group performed slightly better than the control group in the school monthly examinations. This may prove that CL is not biased toward oral communication; it takes care of the four language skills as well as the grammatical competence.

Though the experimental group did not achieve significant gains in the achievement tests, they did perform significantly better in the analysis of the five grading criteria of the linguistic competence (appropriateness, vocabulary, grammar, intelligibility, and fluency), as illustrated in Table 4.9. In the inter-group comparisons on these five items in the post-oral task, the experimental group achieved significant gains ($p < .05$) on the grading items of (1) appropriateness, (2) vocabulary, (3) grammar, and (4) intelligibility. The only item that did not gain significantly was fluency, as shown in Table 4.9. The control group, taught in Grammar Translation, should have performed significantly better than the experimental group on the item of *grammar*. But the results of the analysis did not show such prediction, as illustrated in Table 4.9.

The possible reason to account for the insignificant difference on the item of fluency between the two groups was perhaps due to the silence occurred during the students' performance. According to the scoring rubric (Appendix E), fluency was graded mainly based upon the continuity of the students' utterances without halting and incoherent fragments. When communication breakdown occurred, the scores for fluency would be largely reduced. As there were eight occurrences of silence in the experimental group and 10 in the control group, the scores of fluency between the two

groups were then not significant. However, some linguistic behaviors were difficult to identify with the scoring rubric. Therefore, the method of content analysis was needed for further investigation on how the students fixed or repaired the communication breakdown, as illustrated in Table 4.12 and Table 4.13. Examining communicative competence from the strategic perspective, the experimental group performed more satisfactorily than the control group. Discussions of the strategic competence were already presented previously.

In sum, the experimental group gained significantly in the four aspects of the communicative competence and in the mean time, still maintained similar academic achievements as the control group in the form-focused monthly examinations. With such results, cooperative learning deserves more attention to be the enactment of the communicative approach in the current wave of educational reform in Taiwan.

5.2 Effects of Cooperative Learning and Student Motivation

As predicted, language achievements and motivation are closely correlated. The significant gain in the students' motivation toward learning English in the experimental group complimented the significant improvement in their language learning discussed above. Such results were consistent with a growing body of literature claiming the effectiveness of cooperative learning in boosting the learners' motivation (Chu, 1996; Liang, 1999; Lin, 1997; Tsai, 1998; Wei, 1997; Yu, 1995).

The results of the motivational questionnaire indicated that the experimental group gained significantly in their motivation toward learning English before and after the study ($p = .00$), as shown in Table 4.16. In the inter-group comparison with the control group, the experimental group also gained significantly ($p = .03$). Such outcome could be better explained through Dörnyei and Csizér's (1998) ten ways for ESL/EFL teachers to motivate their learners. The ten ways of motivating L2

learners proposed by Dörnyei and Csizér (1998) included (1) setting a personal example with the teacher's own behavior, (2) creating a pleasant, relaxing atmosphere in the classroom, (3) presenting the tasks properly, (4) developing a good relationship with the learners, (5) increasing the learner's linguistic self-confidence, (6) making the language classes interesting, (7) promoting learner autonomy, (8) personalizing the learning process (9) increasing the learners' goal-orientedness, and (10) familiarizing learners with the target language culture. The cooperative activities utilized in the experimental group seemed to echo all of the above-mentioned principles.

As discussed previously, the cooperative learning context that the experimental group was exposed to was pleasant and relaxing. The activities of Talk-Pair and Inside-Outside Circle were interesting. The learner autonomy and familiarity with the target language were enhanced through the group presentation of the vocabulary, the dialogue, and the sentence structure. Through the method of Learning Together, the students' linguistic self-confidence and goal-orientedness were increased. Using positive reinforcement in class, Ms. Lee developed very good relationship with her students. In such a cooperative learning context as the experimental class, motivationally appropriate feedback, praise, and rewards were generously granted through the incentive structure of positive reinforcement like the Mountain Climbing Chart and the writing of thank-you-notes.

Students needed to have their efforts at schoolwork recognized and rewarded by regular positive responses from others who were important to them. The immediate rewards that were most frequently offered to students to motivate them to do good schoolwork were the utilization of the STAD, through which every student was entitled to earn points for his or her group by making progress. Through such quiz taking method, the students frequently got praises and respect from peers for meeting the challenge of classroom assignments.

To create the right kind of teaching atmosphere was not an easy task. It needed a lot of thinking, restructuring and choosing the right materials as well as the right delivery instruments. In order to produce a learning climate orientated to arousing motivation, Dörnyei (1995) proposed ways to integrate intrinsic and extrinsic motivation in the class. Intrinsic motivation was related to internal rewards like self-satisfaction at performing a task, whereas extrinsic motivation was related to obtaining extrinsic rewards like marks and prizes. Intrinsic motivation was aimed at arousing natural curiosity and interest by setting optimal challenges in class, providing rich sources of stimulation, and developing students' autonomy. These concepts were very similar to Gardner's (1985) integrative and instrumental orientation of motivation. In the cooperative classroom as the experimental class, both the intrinsic and the extrinsic motivation were addressed.

Furthermore, the significant gains in the intra- and inter-group analysis of the motivational questionnaire in the experimental group met with the four sources for students to work hard in class (McPartland & Braddock II, 1992). According to McPartland and Braddock II (1992), all students need four sources of motivation to work hard at learning tasks: (1) opportunities for success, (2) relevance of school work, (3) a caring and supportive human environment, and (4) help with personal problems (McPartland & Braddock II, 1992). Both the Dörnyei & Csizér's (1998) and the McPartland & Braddock II's (1992) models of student motivation emphasized the importance of a caring, supportive, and relaxing human environment for the nurturing and development of students' motivation to learn.

As shown in the results of the quantitative analysis on students' motivational change discussed in Table 4.16, the motivation toward leaning English in the experimental group increased significantly. But the overall motivation remained almost the same in the control group before and after the study, as shown in Table

4.16.

In addition to the positive quantitative findings in the experimental group on the motivational questionnaires, the results of the teacher/student interview also supported that cooperative learning helped to enhance students' motivation toward learning English, even though they were taught in this method for only one semester. As the results shown in the student interview, cooperative learning not only contributed significantly to enhance the students' motivation, self-esteem, self-confidence, but also helped them remain on-task in class. Some students mentioned that learning in cooperative context restored their self-esteem and self-confidence because they could contribute to their groups one way or another. As some of the students reported in the interview, the cooperative learning rendered the overall learning experience more enjoyable and it developed their self-esteem as well as their ability to appreciate others.

The supportive human environment of a cooperative learning classroom could be built when students worked in cooperative teams, in which "all work for one" and "one works for all," and team members received the emotional and academic support that helped them persevere against the many obstacles they faced in school. As cooperative norms were established, students were positively linked to others in the class who would help them and depend on them for completing shared tasks. By becoming knowers as well as learners in a supportive atmosphere, English learners could establish more equal status relationships with their peers.

When the environment became more equitable, students were better able to participate based on their actual, rather than their perceived knowledge and abilities. Teamwork, fostered by positive interdependence among the members, helped students learn valuable interpersonal skills that will benefit them socially and vocationally.

Among many of the cooperative learning activities, they liked the Mountain

Climbing Chart the most for several reasons. First of all, they could see the reward of their effort immediately. The frequent move on the chart by their teacher always caught their attention. They watched closely for every opportunity that they could have to earn some points for their groups. This way, it also kept them awake in class. The visible reward on the chart served as a strong enticement to keep students' attention and motivation (extrinsic motivation).

Secondly, the way Ms. Lee moved the magnetic balls on the chart did not rely only on academic achievements. Instead, social cooperative behavior was also encouraged through the Mountain Climbing Chart. There were many ways for students to earn extra points on the chart. For example, the students could earn extra points on the Mountain Climbing Chart for simply being attentive to their task, or drawing pictures that helped their classmates to visualize the reading (intrinsic motivation).

Through the positive reinforcement of the Mountain Climbing Chart, there was a message communicated to the participants in the experimental group explicitly and implicitly: the positive teacher expectation. In other words, the students felt more confident because they could sense that their teacher believed that they all were able to learn English and everyone in the class was entitled to learn.

The Mountain Climbing Chart was especially important to low-achievers who never scored above forty in the monthly examinations. Even though some of the students' academic achievements were not very good, they could still earn some points for their groups by answering questions first or simply by following Ms. Lee's instruction. In other words, the Mountain Climbing Chart did not just give credits to those high-achievers who did well on written tests, but also provided equal opportunity of success for students with different talents and intelligences. Some students in the experimental group who could barely read or write even in Chinese

turned out to be surprisingly fluent in English oral proficiency whenever Ms. Lee asked them to answer some questions verbally. This suggested that cooperative learning be particularly valuable for medium- and low-achieving students.

Through the positive reinforcing method of Mountain Climbing Chart and many other activities mentioned earlier, many students in the experimental group were found to be more motivated to learn English, which was congruent with the statistical results demonstrated in the motivation questionnaires.

In addition to the positive reinforcement through the Mountain Climbing Chart, most of the students were also motivated to do their best in class because of the writing of thank-you-note at the end of each class. The appreciation of other students was recognized and shared in the whole class process at the end of each class period. Everyone was required to thank at least one person from his or her group and one person from the whole class for specific reasons during that class period. Depending on the time available, five or seven students were chosen to read aloud their thank-you-notes to the whole class. The rest of the notes were put on the bulletin board in the back of the classroom. It was easy for almost everybody to be thanked by others in each class.

Being *caught* while behaving well is the essence of positive reinforcement implemented in this study. When the participants were aware that their classmates were watching them for any tiny good behavior or tiny improvement as the source of appreciation, they would be highly motivated to behave as expected.

In addition to the Mountain Climbing Chart and the Thank-you-note that contributed to the enhancement of motivation, many of the student-centered activities that allowed students to move their bodies, like the Inside-Outside Circle, also appealed to students with different learning styles, especially that of the kinesthetic learners. Kinesthetic learners tended to have difficulty sitting still and remaining

attentive to the teacher's lecture for over twenty minutes. And that was the reason why most kinesthetic learners were blamed for making noise in class so often. As one of the students recalled in the interview, he was often asked to be quiet in the previous semester. He got bored at the teacher's lecture and started to make noise in class. As a result, he was scolded very often for making noise. It would be difficult to enhance someone's motivation toward learning if that person was always punished for something that he could not help, like the noise making of the kinesthetic learners mentioned in the student interview.

In the cooperative learning context, students were active participants instead of passive recipients and listeners to the teacher's lectures and explanation of grammatical rules. Through the student-centered activities, most, if not all, of the students were forced to speak, listen, read, and write some English that might hardly be possible otherwise in a traditional classroom.

This finding on the improvement of motivation toward learning English corresponded to Glasser's (1986) theory about the sense of belonging. Glasser identified the need to belong, as one of the chief psychological needs of all people. This was the need these adolescents in this study seek to satisfy at school and elsewhere in their interactions with others. If it is not satisfied within the academic program, then the students become alienated from the classroom. Some students found the sense of belonging through involvement in many of the cooperative activities. Once they found that they could actually involve and improve in class, their learning motivation would thus be boosted as indicated in the statistical analysis of the motivational questionnaire and the student interview.

The findings that supported the research questions in this study favored cooperative learning as a powerful instructional method to replace the long-existing Grammar Translation to teach English at secondary school in Taiwan. Taken that

cooperative learning could achieve the positive effects in language acquisition as well as enhancing motivation toward learning English within such a short period of time (one semester), more powerful effects could be thus expected with long-term implementation as one school year, or even throughout the three academic years at junior high schools.

Only with ongoing motivation to learn, can the language achievements be sustained. And only with undying motivation to learn, can life-long education be realized.

5.3 Effects of Cooperative Learning on High/Low Achievers

It is important to note that the high-achievers in the experimental group scored significantly better than those in the control group on their oral performance, as shown in Table 4.20 and Table 4.21, and performed as well in the written monthly examinations as the high-achievers in the control group, as shown in Tables 4.18 and 4.19. Such findings were compatible with the theory of the Learning Pyramid presented in Chapter Two of literature review. The high achievers in the experimental group spent considerable amount of time working with the low-achievers in the same group, which meant that the high achievers needed to explain ideas to their group members to enhance understanding and learning. By teaching their teammates, the high achievers benefited just as much as the low-achievers. According to the Learning Pyramid, the retention rate of the material learned through teaching others could be as high as 90 percent.

Likewise, cooperative learning also enhanced the low-achievers' language learning displayed in their oral performance. The low achievers in the control group did not score significantly better than those in the experimental group in the written monthly examinations. However, the oral performance of the low-achievers in the

experimental group exceeded that of the control group, as shown in Table 4.21.

In other words, both the high- and low-achievers in the experimental group outperformed their counterparts in the control group significantly in the oral performance, and yet, were able to maintain similar academic achievements throughout the whole semester, as shown in the results of the three monthly examinations in Tables 4.18 and 4.19. There was no significant difference identified in the scores of the three monthly achievement tests between the two groups. This may ease the concerns of many teachers and parents that cooperative learning might lead to the reduction of academic achievements.

The cooperative learning context did not only benefit the low-achievers, it also helped the high-achieving students to explore language learning beyond the limitation of their textbooks. Those high-achievers were encouraged to read English newspapers and listen to some broadcasting English teaching programs during the experimental time span. They were given plenty of opportunities to explain their ideas to their teammates and to lead the discussions. As the Learning Pyramid suggested, the retention rate of the material learned could be enhanced if students were able to teach others. The high-achievers in the experimental group were the ones who applied English learned from previous lessons or learning materials other than their textbooks to the oral performance, as indicated in the raters' interview.

In addition to the language achievements, both the high- and low-achievers in the experimental group expressed positive attitude toward learning English and the instructional method of cooperative learning. They seemed rather happy to learn English through cooperative learning because they were able to progress at their own pace and, at the same time, contribute to others' learning in such a supportive and encouraging learning context.

The improvement of both the high- and low-achievers in the experimental group

could best be explained from Vygotsky's (1978) zone of proximal development, Krashen's (1985) $i+1$ input hypothesis, Bandura's (1971) social learning theory, and the Constructivism (Yager, 1991).

According to Vygotsky (1978), all good learning was that which is in advance of development and involved the acquisition of skills just beyond the student's grasp. Such learning occurred through interaction within the student's *zone of proximal development*. Vygotsky defined the *zone of proximal development* as the discrepancy between the student's actual developmental level (i.e., independent achievement) and his/her potential level (achievement with help from a more competent partner). From the frequent interaction with their peers, the high- and low-achievers in the experimental group were able to fully develop their potential and thus move beyond their current development to the so-called $i+1$ (Krashen, 1985).

According to Krashen (1985), language acquisition took place during human interaction in an environment of the foreign language when the learner received language input that was one step beyond his/her current stage of linguistic competence (Krashen, 1985). Taken together, both Krashen's ' $i+1$ ' and Vygotsky's zone of proximal development could hardly be achieved without the help of peer interaction and cooperation.

Furthermore, the high and low achievers were able to progress at their own pace because, in Bandura's view, the acquisition of complex skills and abilities depended not only on the processes of attention, retention, motor reproduction, and motivation, but also on the learners' sense of self-efficacy and the learners' self-regulatory system. Immanuel Kant (Yager, 1991) further elaborated this idea by asserting that human beings were not passive recipients of information (Yager, 1991). Learners actively constructed knowledge, connected it to previously assimilated knowledge, and made it theirs by constructing their own interpretation (Brooks & Brooks, 1999; Cheek,

1992).

In a cooperative learning classroom, each individual was allowed to construct learning based on his or her past/current knowledge. That was why both the high- and low-achievers in the experimental group were able to progress at their own pace and, at the same time, contribute to their peers' learning. As shown in Tables 4.22 and 4.24, both the high- and low-achievers in the experimental group scored significantly higher on all of the five items of the linguistic competence, i.e. appropriateness, vocabulary, fluency, accuracy, and intelligibility, in the post oral task.

Such findings corresponded to a major theme in constructivism. According to Bruner (1973), learning was an active process in which learners constructed new ideas or concepts based upon their current and past knowledge (Bruner, 1966; 1973). The learners selected and transformed information. They constructed hypotheses and made decisions, relying on a cognitive structure to do so. Cognitive structure (i.e., schema, mental models) provided meaning and organization to experiences and allowed the individual to go beyond the information given to them (Bruner, 1973, 1990). So the high achievers were encouraged to explore English learning beyond their textbooks and the low achievers were not discouraged by the school-wide monthly examinations. Each individual was entitled to successful learning experiences in such a cooperative learning context.

However, as a sharp contrast to the improvements made by the high- and low-achievers in the experimental group, performance of the control group was not satisfactory. The high achievers in the control group scored significantly higher only on the item of grammar, as shown in Table 4.23. The learning outcome for the low-achievers was even worse. As a sharp contrast to the significant progress in all of the five aspects of linguistic competence of the low achievers in the experimental group, as illustrated in Table 4.24, the low achievers in the control group did not make

any progress at all. To make matters worse, their scores on the item of fluency even dropped significantly ($p < .00$) in the post oral performance, as shown in Table 4.25. Such results could be explained partially by reference to Vygotsky's theory of cognitive development.

According to Vygotsky (1978), an essential feature of learning was that it awakened a variety of internal developmental processes that were able to operate only when the learner was in the action of interacting with people in his or her environment and in cooperation with his or her peers. Therefore, when it came to language learning, the authenticity of the environment and the affinity between its participants were essential elements to make the learner feel part of this environment.

Unfortunately, these elements were rarely present in traditional classrooms. The basic premise of this theory was that development was social and knowledge was constructed by interaction of individuals with others and learning was the internalization of that social interaction. The students in the control group, without much opportunity to interact with their peers, tended to be limited in their language development, especially the low achievers who were easily neglected in a traditional classroom. Without such an interactive context, the zone of proximal development in both the high and low achievers in the control group was not fully developed. The results of the oral scores of the high- and low achievers in the control group confirmed numerous educational reports that pointed out that the solitary models of the traditional teaching method tended to make students overly passive and indifferent to what was being taught (Hamm & Adams, 1992; Liang, 1996; Wei, 1997).

Recognizing the individual differences and allowing individual growth in a heterogeneous language ability class also contributed to the enhancement of the students' motivational involvement in learning. Slavin (1995) indicated that most studies had found higher proportions of time on-task for students studying in

cooperative learning context than in the control group. The findings of the academic achievements of the high- and low-achievers in this study lent support to Slavin's (1995) and Cheng's (2000) studies that cooperative learning helped students remain on task and boost their motivation to learn.

Taken as a whole, cooperative learning answered the three research questions positively on the effects on EFL learners' language learning, motivation, and the various needs of the students with mixed levels of English proficiency. The findings of the present study, as discussed above, echoed the four advantages of group work proposed by Brown (2001). According to Brown (2001), cooperative learning, or group work, yielded four major advantages for English language classroom: (1) group work generated interactive language, (2) group work offered an embracing affective climate, (3) group work promoted learner responsibility and autonomy, and (4) group work was a step toward individualized instruction.

5.4 Proposed Guidelines for Implementing Cooperative Learning

The application of cooperative learning techniques to EFL teaching at secondary level in Taiwan is still in its infancy, even innovative to many teachers. Provided that cooperative learning can be a feasible alternative to the dominant teacher-centered lecturing on grammar and translation in EFL classrooms, as the results of this study demonstrated, specific guidelines for the implementation are thus proposed for teachers interested in innovating their current teaching methods.

The guidelines proposed in this study include two phases. The first phase is building groups of students into working teams, followed by a second phase with group assignments on presentations of vocabulary, dialogues, and sentence structures. There is no definite time for how long each phase might take. However, according to the researcher's experience in helping secondary teachers to implement cooperative

learning at junior high schools, the teacher might need the time before the first monthly examination to complete the teambuilding in phase one.

5.4.1 Phase One: Teambuilding

In order to make a group of students into cooperative teams, the first step during the first phase is the building of the individual accountability of each student so that the problem of free riders or dominant students who do all the work could be possibly avoided through the following activities:

A. Building individual accountability:

- Heterogeneous grouping based on different learning styles, academic achievements, and gender,
- Building of learner autonomy and self-regulation through the Ten Commandments (what the students should not do) and the Ten Commitments (what the students should do),
- Distinctive assignment for each group member to assume the roles of leader, checker, timer, recorder, reporter, and Quiet Captain,
- Positive reinforcement skills by way of the Mountain Climbing Chart and the writing of thank-you notes.

B. Teachers' changing roles

To ensure that each student is individually accountable to do his or her fair share of the group's work, teachers need to do the following to facilitate individual accountability of the students:

- Assess how much effort each member is contributing to the group's work,
- Provide feedback to groups and individual students,
- Help groups avoid redundant efforts by members,
- Ensure that every member is responsible for the final outcome,
- Check students' learning outcome randomly.

Another important suggestion to achieve individual accountability is the random assignment of checker in class, depending on the nature of the teaching activities. In addition to the regular role assignment, teachers may also randomly assign one student in each group to be the team recorder for that class period. Several times during the period - ideally, after no more than 15 minutes of lecturing - give the teams exercises or worksheets to do, instructing the recorders to write down the team responses. In longer exercises, circulate among the teams, verifying that they are on task, everyone is participating, and that the recorders are doing their jobs. The teachers may stop the teams after a suitable period (which may be as short as 30 seconds or as long as 10 minutes, depending on the exercise) and randomly call on students to present their teams' solutions. The exercises can range from short questions to extensive problem-solving activities in a variety of categories.

C. Suggested in-class activities

Activities that could be incorporated to maximize students' encounter with the target language and the face-to-face interactions in the first phase of implementation may include the following:

- Talk-Pair,
- Group summary,
- Inside-Outside Circle,
- Learning Together, and
- Student Teams-Achievement Division (STAD).

D. Procedures of STAD

There is basically a four-step cycle of STAD: (1) teach, (2) team study, (3) test, and (4) recognition. The implementation of STAD begins with the presentation of material, usually in a combination of teacher-centered lecture and group discussion. Students should be told what it is they are going to learn and why it is important.

During team study, group members work cooperatively with worksheets and answer sheets provided by the teacher. Next, each student individually takes a quiz.

E. Scoring system of STAD

There will be a scoring system of the improvement points that might range from 0 to 30 points and reflects degree of individual improvement over previous quiz scores. The teachers may score the papers or ask the students to exchange their papers. Each team receives one of three recognition awards, depending on the average number of points earned by the team. For example, teams that average 15 to 19 improvement points receive a GOOD TEAM certificate, teams that average 20 to 24 improvement points receive a GREAT TEAM certificate, and teams that average 25 to 30 improvement points receive a SUPER TEAM certificate. This way, the students can learn together as a group, but take the test individually. But, then, their individual scores can, at the same time, contribute to their group grade by how much improvement they have made on the test.

Improvement scoring is giving students points based on how much they improve, not just based on how well they do in comparison with other students. Improvement scoring is used so that students bring points back to the team based on how much they have improved over their usual level of performance, then each student has the potential of bringing maximum points to the team. When improvement scoring is used, teammates are pleased to work with those who need help the most (Kagan, 1994).

5.4.2 Phase Two: Group Presentations

All the activities mentioned above belong to the warm-up exploit before the actual launch of more serious cooperative tasks in the second stage. The preparation and warm up activities in the first stage of implementation might take about one month, depending on the teacher's skillfulness and the classroom context, before the

students acquaint themselves with the new teaching method and the new learning context. After sitting and working with group members for about one month, the students in cooperative learning context could be endowed more teaching and learning responsibilities by sharing the jobs in teaching vocabulary, dialogues, and sentence structures in their textbooks.

A. Syllabus of activities for group presentations

A carefully planned syllabus should be prepared by the teacher and given to the students after the first monthly examination. Scheduled activities for each group should be clearly and specifically stated in the syllabus. In addition to the oral presentation of the vocabulary, dialogues, and sentence structures, the students also have to design the worksheets to accompany their oral presentations. Models of worksheets should also be given as examples.

B. Time allocation for group presentation

The time allowed for each group presentations could be between ten to fifteen minutes, depending on the nature of the tasks. Three group presentations would be the maximum acceptable in each class period. Two group presentations for each class would be considered the most appropriate. The timer in each group should be responsible for the time control. Good timing will also be included as part of the evaluation.

C. Teachers' roles

When the groups start to assume more teaching and learning responsibilities, the teachers are not left alone. Instead, the teachers begin to assume roles like feedback givers, encourager, and facilitator. Usually right after each group presents their task, the students would expect immediate feedback, comments, corrections, and most important of all, the scores of their presentation from their teachers. There should be at least five to ten minutes for teachers to discuss the group processing with the class.

Most students will benefit to a great extent from the group processing time.

Besides giving immediate feedback after the group presentation, the teacher should randomly examine students orally by calling on one student to present his or her group's work to the teachers to the entire class. The Mountain Climbing Chart should be used as positive reinforcement to reward the student who could do the job well.

5.5 Conclusions

At the turn of the century, our country is striving to promote her competitiveness by reforming education, especially the English education in Taiwan because the teaching and learning of English in Taiwan has long been a low-rewarding task for both teachers and students (Wei, 1997). Wei (1997) remarks that "low achievement and declining motivation/interest among most learners have made teaching and learning English a nightmare in schools at all levels (p. 6)."

A possible strategy to address to the problems of low English proficiency and low motivation in EFL teaching would be the implementation of cooperative learning because cooperative learning methods hold great promise for accelerating students' attainment of academic learning, motivation to learn, and the development of the knowledge and abilities necessary for thriving in an ever-changing world.

However, like other innovations, techniques of cooperative learning need to be tailored to the cultural and linguistic context in which they are used. Designed and implemented by teachers who are loyal to the key elements of cooperative learning and dedicated to regarding diversity as a resource, cooperative learning can create supportive environments that will enable students to succeed academically, enhance their oral communicative competence, boost their motivation toward learning English as a foreign language, and improve their interpersonal relationships. Based upon the

results yielded in the study, several conclusions are drawn in response to the research questions of this study.

1. Cooperative learning is a feasible and practical teaching method that puts communicative approach into action. Such a student-centered teaching method helps improve the students' oral communicative competence of the target language, which includes the linguistic, discourse, strategic, and non-verbal competency because cooperative learning creates a more friendly and supportive learning environment within which students have more opportunities and enjoy more freedom to explore and practice the target language. Cooperative learning creates natural, interactive contexts in which students have authentic reasons for listening to one another, asking questions, clarifying issues, and re-stating points of view. Such frequent interaction among the learners, in turn, increases the amount of student talk and student participation in the classroom.

Cooperative groups increase opportunities for students to produce and comprehend the target language and to obtain modeling and feedback from their peers as well as their teacher. Much of the value of cooperative learning lies in the way that teamwork encourages students to engage in such high-level thinking skills as analyzing, explaining, synthesizing, and elaborating.

Interactive tasks also naturally stimulate and develop the students' cognitive, linguistic, and social abilities. By stimulating language input and output, cooperative strategies provide English learners with natural settings in which they can derive and express meaning from academic content (McGroarty, 1993; Swain, 1985).

2. The implementation of cooperative learning will not reduce the students' academic achievements in the structure-based school examinations, as many teachers are concerned. Many teachers are worried that cooperative learning may hinder their students' progress in structure-based exams. The experiment of cooperative learning

in Sunny Junior High School English course, however, does not show the decrease of students' academic achievements in the school-wide monthly examinations. As a matter of fact, the experimental group performs slightly better than the control group in the school monthly examinations throughout the whole semester. This may prove that CL is not biased toward oral communication; it takes care of the four language skills, especially the communicative competence.

Academic and language learning require that students have opportunities to comprehend what they hear and read as well as express themselves in meaningful tasks (McGroarty, 1993). Cooperative activities integrate the acquisition of these skills and create powerful learning opportunities. Such interactive experiences are particularly valuable for students who are learning English as a second language, who face simultaneously the challenges of language acquisition, academic learning, and social adaptation.

3. Achievements and motivation are closely correlated. Cooperative learning is a powerful teaching method that can boost the students' motivation through a supportive climate of caring and sharing in the classroom that makes English learning more enjoyable, lively, and encouraging, which, in turn, enhances the students' motivation toward learning English as a foreign language. In such a cooperative learning context as the experimental class, motivationally appropriate feedback, praise, and rewards are generously granted through the incentive structure of positive reinforcement like the Mountain Climbing Chart and the writing of thank-you-notes.

In a cooperative learning classroom, all students are exposed to a learning environment, which supports and encourages academic, personal, and social growth. Some students' motivation to stay in school and work hard at class work seems to be very responsive to the human climate of caring and support they feel from their teachers and peers.

The motivational system promoted within cooperative situations, as shown in the results of this study, includes intrinsic and extrinsic motivation, high expectations for success, high incentive to achieve based on mutual benefit, continuing interest in achievement, high commitment to achieve, and high persistence to complete a given task (Johnson & Johnson, 1994), as shown in the students' strategic competence illustrated in Table 4.12 and 4.13.

4. Cooperative learning is a possible teaching method that may address the various needs of the students with mixed levels of English ability in a heterogeneous class. Many scholars assert that cooperative learning is the best option for all students because it emphasizes active interaction between students of diverse abilities and backgrounds (Nelson, Gallagher, & Coleman, 1993; Tsai, 1998; Wei, 1997; Yu, 1995). Both the high- and low-achievers are able to progress at their own pace and, at the same time, contribute to their peers' learning.

As the constructivism suggests, learning is viewed as a self-regulatory process of struggling with the conflict between existing personal models of the world and discrepant new insights, constructing new representations and models of reality through cooperative social activity, discourse, and debate. The process of cooperative learning provides abundant opportunities for the learners to continually exchange information, activate background knowledge, and construct their own new knowledge. In such a learning context as the experimental class, the high-achievers are encouraged and motivated to explore more English learning other than their textbooks, and the low-achievers are able to enjoy the speaking and listening activities in such supportive learning climate. It is cooperative learning that allows the individual to go beyond the information given to them (Brunner, 1973, 1990) and move on to the zone of proximal development (Vygotsky, 1978).

As far as instruction is concerned, the instructor should try and encourage

students to discover principles by themselves based upon their own capacity (Bruner, 1966). Curriculum should be organized in a spiral manner so that students continually build upon what they have already learned (Bruner, 1966). The concept of spiral learning inherent in cooperative learning compliments the guidelines of English curriculum of the NYJC, which also advocates spiral learning (MOE, 2000).

5. Based upon the previous four conclusions above, it may be inferred that the characteristics of cooperative learning are compatible with the spirits of the NYJC. Therefore, cooperative learning is highly recommended to be the major instructional method in the current wave of educational reform in Taiwan. A number of the major issues addressed in the educational reform are aimed at making the classroom learning environment much more invigorating for all students. The emphasis on drill-and-practice of facts and formulas to pass multiple choice tests in the old education paradigm can be replaced by cooperative learning experiences that are based on higher order learning competencies such as communication skills, problem solving abilities, critical thinking abilities, and reasoning with evidence abilities. The traditional routines of teacher-lecture and student-listen can be replaced by cooperative learning activities where students take initiative and play active roles. The traditional dependence on class work and projects where students work on their own and compete for good grades can be transformed into cooperative learning where students work in teams to help one another achieve learning goals (Johnson and Johnson, 1987; Slavin, 1990).

On the whole, cooperative learning is a feasible teaching method with characteristics compatible with the current wave of educational reform, especially the aim to foster the ten basic competencies of our students. Cooperative learning does not only enhance the students' communicative competence and boost their motivation toward learning English as a foreign language, it also cultivates the students' overall

ability as holistic human beings with the facility of caring, sharing, respecting, and cooperating with others. Thus, cooperative learning is strongly recommended for EFL teachers in Taiwan in their English classrooms.

5.6 Pedagogical Implications

There are two major pedagogical implications arising from this study: (1) the importance of guiding the EFL learners to focus on linguistic forms within a student-centered cooperative learning context, and (2) the importance of teacher development in cooperative learning.

First of all, it should be noted that cooperative learning does not replace direct instruction completely in an EFL class (Cheng, 2000). As the present study demonstrated, Ms. Lee still employed some direct instruction to model correct input and form-focused instruction to draw the learners' attention to linguistic forms in the experimental group. The findings of the significant gains in the grading item of grammar in the experimental group echoed many researchers' claim that communicative instruction should involve some timely systematic treatments to draw the EFL learners' attention to linguistic forms to develop well-balanced communicative competence (Doughty & Williams, 1998; Lightbown & Spada, 1990; Long & Robinson, 1998; Skehan, 1996; Swain, 1985).

Teachers have to be very careful when using cooperative learning to teach beginning level EFL students because the students are not proficient enough to provide adequate input for each other (Cheng, 2000; Wong-Fillmore, 1985) if there is no form-focused instruction in the classroom at all. Timely form-focused activities and correction in context (Lightbown & Spada, 1990) contribute to the EFL learners' development of accuracy, fluency, and overall communicative competence, as shown in the findings of the students' oral performance discussed in section 5.1.

Secondly, in order to balance the form-focused instruction and the meaning-oriented communicative activities in a cooperative learning class as discussed above, the guidelines for implementing cooperative learning proposed in this study might serve as a handbook to design lesson plans and task-based activities. However, since the classroom is a dynamic context full of unexpected problems, professional development is thus vital to the implementation of cooperative learning (Cheng, 2000; Cohen, 1994; Lai, 2002; Yu, 1995).

To learn and employ cooperative strategies, teachers need access to extensive professional development including (1) the theory and philosophy of cooperative learning; (2) demonstrations of cooperative methods; and (3) ongoing coaching and collegial support at the classroom level. As Cheng (2000) mentioned, “real and lasting success with the approach [cooperative learning] requires in-class follow-up over time from peer coaches or expert coaches, administrative support, and teaching materials designed for cooperative learning (p. 193).” The effects of cooperative learning can be greatly enhanced when teachers have opportunities to work together and learn from one another. As teachers observe and coach each other, they provide essential support to ensure that they continue to acquire the methods and develop new strategies tailored to their own situations.

In order to take full advantage of teacher development that covers the three components mentioned in the previous paragraph, there are five misconceptions that need to be clarified to ensure the maximal effect of such teacher development. According to Johnson & Johnson (1994), there are generally five fallacies related to teacher education in cooperative learning that might end up with unsuccessful acquisition of the teaching techniques and finally infrequent or non-application of cooperative learning at all. The five misconceptions include:

- The first common myth about teacher education in cooperative

learning, especially for in-service teachers, is to present teachers with pre-planned lessons and worksheets (Johnson & Johnson, 1994) that they might bring to their own classroom for immediate application. This might be popular with overworked secondary teachers because it is timesaving. However the time saved is actually at the expense of teachers' development of a firm conceptual understanding of the big picture of how cooperative learning works.

- Secondly, many people believe in the effectiveness and efficiency of the so-called intensive workshop. They think that holding many course sessions over a short period of time, e.g. meeting six hours a day for five days, might fit with teachers' busy schedule of teaching and vacation plans (Johnson & Johnson, 1994). However, such intensive and sometimes massed practice could impede the retention of concepts. More spacing of sessions, e.g. two hours a week, gives teachers more time to think and try out new ideas (Jacobs, et al, 1995).
- The third illusion about carrying out a cooperative learning workshop is to use the so-called *cafeteria approach* (Johnson & Johnson, 1994), i.e. using many different cooperative learning techniques over a short time frame. Using a variety of methods over a short period of time might keep the sessions fresh and expose the teachers to a wide range of options. The chief drawback to the *cafeteria approach* is that the constant exposure to new techniques might deprive the teachers of the opportunity to master any one (Jacobs, et al, 1995). Therefore, for the purpose of mastery

learning of one major technique, the same method should be repeated for different activities until the teachers are familiar with the why and the how of that particular technique works.

- The fourth fallacy actually flows from the previous ones in Johnsons' view. In order to present a wide variety of techniques and pre-planned lesson plans, workshop and course presenters would lecture, describe, and model techniques for teachers but might allow little or no time for teachers to produce their own lessons (Johnson & Johnson, 1994). However, the essence of cooperative learning is learning by doing. Therefore, allowing time for the teachers to go through the actual process of experience is also important in the process of teacher development.
- And finally, the accumulations of the previous four fallacies lead to the fifth one. To overcome the initial teacher resistance to change from an old teaching paradigm to an innovative method, there is usually a temptation to present it as simple to learn and to utilize as possible. Actually, getting acquainted and becoming skillful at cooperative learning take time and effort. Success of change does not happen overnight. Promising the teachers with a rose garden within a short period of time could be deceiving and misleading. The Johnsons (1994) believed that effective use of cooperative learning is a complex skill which might take several years to master. Oversimplifying it might be popular in the short-term, but in the long run, it presents a false picture. The false expectation of cooperative learning might lead teachers to become frustrated and discouraged and finally give up on cooperative learning (Jacobs, et

all, 1995).

The above-mentioned five misconceptions about teacher development in cooperative learning are very important for educational authorities that plan to hold seminars or workshops for in-service teachers.

Last but not least, in order to sustain cooperative learning, teachers must also be learners who can work with colleagues to improve teaching and learning.

Attempting a new strategy is easier when there is collegial, administrative, and parental support. Teachers can discuss the understanding of cooperative learning strategies; share the burden of developing lesson materials; and provide advice for each other when implementing cooperative learning procedures. Collaboration of teachers' efforts for planning cooperative lessons can often create constructive results.

The teacher cooperation is as important as reinforcing cooperation among students. It is essential that teachers can establish goals in cooperative learning through the interdependence and interaction among teachers. Providing feedback about each other's teaching can help to improve teaching skills. Team teaching, establishing support groups in which teachers provide help and assistance to each other, and coordinating strategies for teaching difficult students are all examples of teacher cooperation. These efforts will immensely increase the teachers' enjoyment of teaching and working, as well as encouraging cooperation among students.

5.7 Limitations and Suggestions

Though some positive findings were identified in this study to claim the effectiveness of cooperative learning on the EFL junior high school learners' language learning and motivation toward learning English, some limitations of the present study might be noted before the results could be generalized.

Firstly, the samples of the participants were restricted to only two classes of the

first year junior high school students. Future studies on more student participants or more teachers implementing cooperative learning in more classes are recommended in order to generate more evidence on the effects of cooperative learning.

Moreover, the data collected for the analysis of the students' communicative competence was based on the design of two interaction-based oral tasks. Though four aspects of oral communicative competence were under investigation, the students' communicative competence in writing, reading, and listening were not measured in this study. Even if the school-wide monthly achievement tests collected in this study covered reading, writing, and listening, the content of those tests were more structure-based than communicative oriented. With time and funding permitted, future research might develop reliable and valid measurements to include the four language skills of reading, writing, listening, and speaking to examine the effects of cooperative learning on EFL learners' overall communicative competence.

Another suggestion for further study is about the teacher development in cooperative learning. Being limited to the scope of the research questions, which focused on the effects of cooperative learning in EFL teaching, this study did not investigate the possible factors that might affect the success of teacher development in cooperative learning.

As mentioned earlier, the researcher offered a 40-hour workshop of teacher development in cooperative learning to 12 teachers at Sunny Junior High School two years before carrying out this study to examine the due effects of cooperative learning in EFL teaching. Among the 12 participants in the workshop, Ms. Lee was identified as the most successful teacher to implement cooperative learning. The reasons why the other 11 participants were not as successful as Ms. Lee remained a myth, which was in need of further investigation. What are the possible reasons for some teachers to become successful and frequent users of cooperative learning, some

infrequent users, and some even non-users at all—even after going through the same process of teacher development? Further research is, therefore, suggested to investigate the factors related to the success of teacher development in cooperative learning.

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Appendix A: Teacher Training in Cooperative Learning

The 40-hour of teacher training in cooperative learning consisted of 20 sessions, scheduled every other week from September 1999 to June 2000. The participants learned cooperative learning via cooperative learning, which included (1) the presentation of theory and philosophy of cooperative learning; (2) demonstration of cooperative methods; and (3) peer teaching.

1. **Presentation of theory:** The teachers in the training program learned the theories of cooperative learning through reading the book by Kessler (1992), the articles by Kagan (1995), Mickan (1997), and McGroarty (1993). The theoretical background of cooperative learning was learned through actual cooperative learning methods like Jigsaw I (Slavin, 1990), Jigsaw II, Inside-Outside Circle, and TGT. The teachers learned about cooperative learning via actual cooperative learning methods in the first seven sessions of the workshop.
2. **Demonstration of cooperative learning methods:** After the teachers were familiarized with cooperative learning, the researcher started to model cooperative learning by showing the videotapes of her own teaching in college. In addition to showing the videotapes, the researcher also taught some lessons from the book of *Idioms Through Culture Skills* (Bennet, 1999), focusing on the four aspects of communicative competence, i.e. the linguistic, sociolinguistic, discourse, and strategic competences. The methods of TGT, Inside-Outside Circle, and Mountain Climbing Chart were utilized in the researcher's demonstration. There were four sessions of demonstration.
3. **Peer teaching:** The peer teaching started on the 12th sessions of the

workshop. The participants were grouped to peer teach. Each group was scheduled to teach one lesson of their own choice from the book *Idioms Through Cultural Skills* (Bennet, 1999). Through the peer teaching, the participants were encouraged to adopt or adapt the methods that they had learned from the workshop. Peer evaluation was carried out after the presentation. The researcher also provided feedback and suggestions for their future presentation.

Followed by the one-year workshop, there was a one-semester classroom observation, through which peer coach and expert coach were available to make the teachers' learning solid. As the teachers had opportunities to observe and coach each other, they could provide essential support to ensure that they continued to acquire the methods and developed new strategies tailored to their own situations. During the stage of classroom observation, an atmosphere of collegial trust and candor was developed through (1) clear observation criteria, (2) reciprocal, focused, non-evaluative classroom observation, and (3) prompt constructive feedback on those observations (Brown, 2001).

Appendix B: Perceptual Learning Style Preference Questionnaire

Adopted from Joy Reid (1995)

A (5 points)	B (4 points)	C (3 points)	D (2 points)	E (1 point)
Strongly agree	Agree	Undecided	Disagree	Strongly disagree

Questions	A	B	C	D	E
1. When the teacher tells me the instructions, I understand better.					
2. I prefer to learn by doing something in class.					
3. I get more work done when I work with others.					
4. In class, I learn best when I work with others.					
5. I learn more when I study with a group.					
6. I learn better by reading what the teacher writes on the blackboard.					
7. When someone tells me how to do something in class, I learn it better.					
8. When I do things in class, I learn better.					
9. I remember things I have heard in class better than things I have read.					
10. When I read instructions, I remember them better.					
11. I learn more when I can make a model of something.					
12. I understand better when I read instructions.					
13. When I study alone, I remember things better.					
14. I learn more when I make something for a class project.					
15. I enjoy learning in class by doing experiments.					
16. I learn better when I make drawings as I study.					
17. I learn better in class when the teacher gives a lecture.					
18. When I work alone, I learn better.					
19. I understand things better in class when I participated in role-playing.					
20. I learn better in class when I listen to someone.					
21. I enjoy working on an assignment with two or three classmates.					
22. When I build something, I remember what I have learned better.					
23. I prefer to study with others.					
24. I learn better by reading than by listening to someone.					
25. I enjoy making something for a class project.					
26. I learn best in class when I can participate in related activities.					
27. In class, I work better when I work alone.					
28. I prefer working on projects by myself.					
29. I learn more by reading textbooks than by listening to lectures.					
30. I prefer to work by myself.					

Scoring Guidelines







VISUAL	TACTILE
6--	11
10--	14
12--	16
24--	22
29--	15
Total x2=_____ (score)	Total x2=_____ (score)
AUDITORY	GROUP
1--	3--
7--	4--
9--	5--
17--	21--
20--	23--
Total x2=_____ (Score)	Total x2=_____ (Score)
KINESTHETIC	INDIVIDUAL
2--	13--
8--	18--
15--	27--
19--	28--
26--	30--
Total x2=_____ (Score)	Total x2=_____ (Score)
Major Learning Style Preference	38-50
Minor Learning Style Preference	25-37
Negligible	0-24

學習型態問卷調查 (Chinese Translation by Tsailing Liang)

	A	B	C	D	E
1. 透過老師的講解，我會學得比較好					
2. 上課時我喜歡可以親自動手來學習					
3. 如果有機會和其他人共事，我的工作效率比較高					
4. 和同學一起讀書時，我的學習效果比較好					
5. 上課時如果可以和其他人討論，我的學習效果會比較好					
6. 老師如果有寫黑板，我覺得對我的學習比較有幫助					
7. 我比較喜歡在上課中聽到別人告訴我如何學習					
8. 我喜歡在上課中老師可以讓我做點事情，而不是一直坐著聽講					
9. 相較於閱讀，我比較容易記住別人用說的事情					
10. 相較於口頭說明，我比較喜歡閱讀說明書，這會幫助我的記憶					
11. 我喜歡親手製作模型來幫助我的學習					
12. 如果有機會閱讀說明書，我會比光是用聽的容易理解					
13. 我自己讀書時，效果比跟同學一起研讀還好					
14. 我喜歡有機會可以在上課時畫字卡或是作報告					
15. 我喜歡上課時作實驗					
16. 我喜歡一邊讀書，一邊把書本的內容畫出來					
17. 老師在上課中的講解有助於我的學習					
18. 我喜歡獨自唸書					
19. 參與角色扮演時，我比較能夠了解課文的內容					

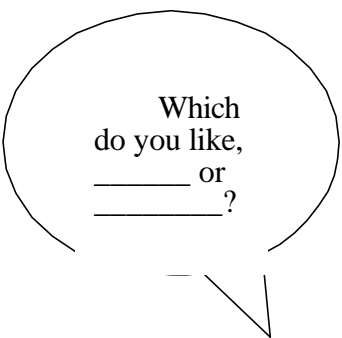
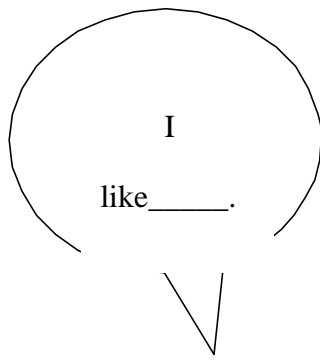
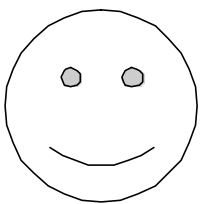
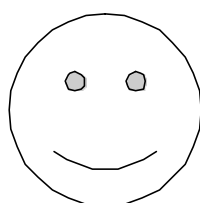
20. 我喜歡上課時聽別人講解					
21. 我喜歡和兩至三位同學一起完成作業					
22. 藉由重新整理學過的筆記，可以增進我的理解和記憶					
23. 我比較喜歡和別人一起讀書作功課					
24. 閱讀比聽別人講解更能幫助我的學習					
25. 我很喜歡製作小組表演用的道具					
26. 我喜歡上課時有一些相關的活動，而不只是坐著聽講					
27. 上課時，我自己寫工作單比跟同學討論還要有效率					
28. 我比較喜歡獨立完成作業或是老師指派的學習任務					
29. 我比較喜歡自己讀教科書，而比較不喜歡聽老師講課					
30. 我喜歡什麼事情都是自己獨立完成					

Appendix C: Mountain Climbing Chart

Mountain Climbing Chart						
Score	Rainbow	Yo-yo	Tiger	Lion	F4	Mayday
100						
95						
90						
85						
80						
75						
70						
65						
60						

- * The round balls under each group were magnetic balls that could be moved freely.

Appendix D: Interactive Worksheet of Dialogue with Cartoons

Group: Mayday	Leader: Reporter: Captain:	Timer: Recorder:	Checker: Quiet
Lesson: 7	1. Section: Dialogue #2		
<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  <p>Which do you like, _____ or _____?</p> </div> <div style="text-align: center;">  <p>I like_____.</p> </div> </div> <div style="display: flex; justify-content: space-around; align-items: center;">   </div>			
I want to thank _____ in my group because			

Appendix E: Scoring Rubric and Actual Scoring sheet of Oral Task

Scores Total: 100	Items and percentage
Appropriateness 20%	
0-5	Unable to function in the spoken language.
6-10	Able to operate only in a very limited capacity: responses characterized by sociocultural inappropriateness
11-15	Signs of developing attempts at response to role, setting, etc., but misunderstandings may occasionally arise through inappropriateness, particularly of sociocultural convention.
16-20	Almost no errors in the sociocultural conventions of language; errors not significant enough to be likely to cause social misunderstandings.
Adequacy of vocabulary for purpose 20%	
0-5	Vocabulary inadequate even for the most basic parts of the intended communication
6-10	Vocabulary limited to that necessary to express simple elementary needs; inadequacy of vocabulary restricts topics of interaction to the most basic; perhaps frequent lexical inaccuracies and/or excessive repetition.
11-15	Some misunderstandings may arise through lexical inadequacy or inaccuracy; hesitation and circumlocution are frequent, though there are signs of a developing active vocabulary.
16-20	Almost no inadequacy or inaccuracies in vocabulary for the task. Only rare circumlocution.
Grammatical accuracy 20%	
0-5	Unable to function in the spoken language; almost all grammatical patterns inaccurate, except for a few stock phrases.
6-10	Syntax is fragmented and there are frequent grammatical inaccuracies; some patterns may be mastered but speech may be characterized by a telegraphic style and/or confusion of structural elements.
11-15	Some grammatical inaccuracies; developing a control of major patterns, but sometimes unable to sustain coherence in longer utterances.
16-20	Almost no grammatical inaccuracies; occasional imperfect control of a few patterns.
Intelligibility 20%	
0-5	Severe and constant rhythm, intonation and pronunciation problems cause almost complete unintelligibility.
6-10	Strong interference from L1 rhythm, intonation and pronunciation; understanding is difficult, and achieved often only after frequent repetition.
11-15	Rhythm, intonation, and pronunciation require concentrated listening, but only occasional misunderstanding is caused or repetition required.
16-20	Articulation is reasonably comprehensible to native speakers; there may be a marked 'foreign accent' but almost no misunderstanding is caused and repetition required only infrequently.
Fluency 20%	
0-5	Utterances halting, fragmentary, and incoherent.
6-10	Utterances hesitant and often incomplete except in a few stock remarks and responses. Sentences are, for the most part, disjointed and restricted in length.
11-15	Signs of developing attempts at using cohesive devices, especially conjunctions. Utterances may still be hesitant, but are gaining in coherence, speed, and length.
16-20	Utterances, whilst occasionally hesitant, are characterized by evenness and flow hindered, very occasionally, by grouping, rephrasing, and circumlocutions; inter-sentential connectors are used effectively as filters.

Actual Scoring Sheets of Oral Task

Pair No.	Appropriateness 20%	Vocabulary 20%	Accuracy 20%	Intelligibility 20%	Fluency 20%	Total/Remark
1-30						
2-17						
4-19						
3-18						
5-20						
6-23						
7-34						
8-10						
9-33						
10-12						
11-29						
12-31						
13-14						
15-22						
16-21						
26-27						
24-25						
7-32*						

- * Student number 7 repeated his role twice with different partners.

Appendix F: Motivational Questionnaire²¹

各位同學，你們的回饋，對老師以後的教學有很大的幫助。能不能請你們認真且真實地回答下列問題？謝謝你們！每個問題都很重要，請你們依據內心深處的感覺，據實勾選。這個不是考試，也沒有標準答案，只有心中的感覺。準備好了嗎？開始了囉！

性別: 男 女 學號	總是如此	經常發生	偶爾如此	很少	從來沒有
1. 我覺得上英語課很無趣，簡直就快睡著了。					
2. 我迫不及待想上英語課。					
3. 我在上英語課時是很專心的。					
4. 我很喜歡在英文課時說英語。					
5. 看電影或電視時，我會注意聽學過的英文。					
6. 我覺得學習英語是一件很困難的事。					
7. 我覺得上英文課是一件很無奈的事。我又不想學，但是又不得不坐在教室裡面。					
8. 除了英文課上課時間以外，我會自己找時間再多充實課外的英文知識。					
9. 下課回家以後，我會花至少三十分鐘的時間自己進修英文的課外讀物，像是聽英文的廣播節目（如「大家說英語」）。					
10. 只要一下課，我就迫不及待想去開英文。學習英文實在是很痛苦的事。					
11. 我很希望能夠說一口流利的英文。我覺得我可以把英文學好。					
12. 遇到英文有不懂的問題時，我會很主動積極地去請教老師或同學。					
13. 一想到下一節要上英文課，我就開始胃痛（或是頭痛、心絞痛）。					
14. 就算有不懂的問題，我也懶得去理會。					
15. 我實在搞不懂，為什麼中國人要學英文？英文一點都不重要。要把英文學好，簡直比登天還難。					
16. 每次學習英文時，我都好快樂。					
17. 我現在很喜歡上學，因為可以上英文課。					
18. 我現在念英文，是因為我喜歡，而不是為了考試或分數。					

(English translation by Tsailing Liang)

1=always (5 pts); 2=often (4 pts); 3=sometimes (3 points); 4=seldom (2 pts); 5=never (1 pts)

Questions	1	2	3	4	5
1. I find English class very boring. I always feel sleepy in English class.					
2. I am looking forward to our English class.					
3. I am attentive to what the teacher says in English class.					
4. I like to speak English in English class.					
5. I will pay attention to the English I learned in class when I watch an English TV program or see an American movie.					

²¹ Copyright, 2002, by Tsailing Liang. If anyone wishes to use the motivational questionnaires (both English and Chinese versions), please contact Tsailing Liang at adliang@cc.ncue.edu.tw.

6. I think it is very difficult to learn English.					
7. I hate English, but I have no choice. I just have to sit in class without any choice.					
8. I like to study English outside the classroom.					
9. I spent at least 30 minutes on outside reading like, <i>Let's Talk in English</i> .					
10. I think learning English is really painful. I just can't wait to throw away my English books as soon as our English class is over.					
11. I think that I can learn English well, if I try hard enough.					
12. Whenever I have questions about English, I turn to my teacher or classmates for help actively.					
13. My heart or stomach aches whenever I think of having English in the next period.					
14. I don't care to find out the answers even if I encounter some problems or misconceptions in English.					
15. I don't know why we have to study English? English is not important at all.					
16. I am very happy whenever we have English class.					
17. I like to go to school because of English class.					
18. I study English because I like it, not for the sake of passing exams or tests.					

Appendix G: Questions for Semi-structured Teacher Interview

Part A: Questions for the rater interview

(English translation)

1. What do you think of the students' performance in general today?
2. Do you see any intra- and inter-group differences? If yes, what are they?
As an English teacher, what do you like the most in the oral performance of this class?
3. What bothered you the most in the students' oral task?
4. Did you notice any non-verbal behaviors in the students' performance that were important in face-to-face communication?
5. What do you think of this way of assessing students' oral proficiency? Do you think it is a valid and reliable way of assessment? Why or why not?

Part B: Interview Questions for Ms. Lee

1. What differences did you notice in the two classes in terms of their language learning and achievements? What about the high- and low-achievers?
2. What are the differences between these two classes in terms of their motivation toward learning English as a foreign language? What about the high- and low-achievers?

Appendix H: Questions for Semi-Structured Student Interview

(English translation)

1. What do you think of learning English in cooperative learning? Do you like it? Why? Or why not?
2. What are your favorite activities in a cooperative learning class? What are your least favorite activities? Why do you or don't you like them?
3. Do you think cooperative learning help in your learning of English as a foreign language? If yes, in what way? If not, please tell me your reasons.
4. How does cooperative learning help in your motivation toward learning English?
5. How do you like your future English class to be? What are your suggestions for future English class?